

VISION 2020 : AN AGENDA FOR SCHOOL AND MASS EDUCATION

REPORT OF THE TASK FORCE

**Department of School and Mass Education,
Government of Orissa**

2003

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Sector Study I

ELEMENTARY EDUCATION AND EARLY CHILDHOOD CARE AND EDUCATION IN ORISSA

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2003

"If you are planning for one year, plant rice; if you are planning for five years, plant trees; if you are planning for the future, educate your children"

A CHINESE PROVERB

CHAPTER I

INTRODUCTION

To serve the basic learning needs of all requires more than a recommitment to basic education as it now exists. What is needed is an "extended vision" that surpasses present resource levels, institutional structures, curricula, and conventional delivery system while building on the best in current practices.

World Declaration on Education for All (1990)

1.1 The Context :

Universalization of elementary education (UEE) has been a constitutional commitment for India. The founding fathers of our Constitution recognized UEE as an essential input for nation building. To put it differently, UEE is viewed as the basic building block for nation's development. The vision for UEE has been very explicitly reflected in the Article 45 of the Indian Constitution :

The State shall endeavour to provide within a period of ten years from the commencement of this Constitution for free and compulsory education for all children till they complete the age of fourteen years.

This vision embodied in the Directive Principles of State Policy, underscores two covert messages : first, the urgency of achieving UEE within the shortest possible timeframe (10 years) despite the enormity of the task; and second, the uncompromising commitment (unmatched by appropriate policies and resources), born out of euphoria and lofty idealism, to achieve UEE. This was, however, not unexpected and not without any rationale. The pressure for simplistic quantitative expansion was the result of thrust of two overarching convictions - a political one and an economic one - shared by virtually all nations, both developed and developing. The political conviction, simply stated, was that the best available way a democratically inclined state could overcome gross disparities rooted in past prejudices, socio-economic injustices and colonial subjugation was by a massive expansion of basic education. The economic conviction lent strong support to the first conviction and was itself reinforced by studies in the relatively new field of economics of education. These gave a scientific gloss to the view that national growth flowed from technological progress and increasing labour productivity which in turn flowed from progress in formal education.

This Constitutional commitment stipulating a ten-year timeframe to realize the avowed objective of universalizing elementary education, reckoned by all standards, has proved to be highly ambitious and unrealistic. This timeframe of ten years since 1950 was incorporated in Article 45 on the recommendations of the Special Committee under the Chairmanship of Shri B.G. Kher which set aside the relatively realistic and plausible proposition of the Post-war Plan of Educational Development (1944) to universalize elementary education for all children in the age group 6-14 in a phased programme spread over 40 years (1944-1984). The rigid insistence on the ten-year timeframe was based primarily on the perception that a period of 40 years was "too long a period" The

acceptance and incorporation of the ten year timeframe was dictated by the impulsive desire of the leaders : first, to meet the "mounting educational aspirations of parents and their children"; second, to operationalize the new stress of public policy on development of basic (primary) education as a preferred area for investment for human capital formation; and third, to increase educational participation rates as a compelling democratic imperative in the quickest possible time. In short, the timeframe provided in the Constitution was not realistically worked out, taking into account the complexity of UEE in a vast country like India with widely varying diversities, the enormity of the task, and a host of socio economic and cultural constraints that prevent the country from moving towards the intended goals of UEE.

The ambitious goals and the unrealistic timeframes for achieving UEE, reiterated at regular intervals, not unoften, as rhetorics, are evident from the continuing shifting of the dateline from 1960 to AD 2000, and from AD 2000 to AD 2010.

This has expectedly led to the non-attainment of the goals of UEE even after forty years of India's independence. The Committee on Review of National Policy on Education (1990) under the Chairmanship of Acharya Rammurty has, therefore, most appropriately observed :

The continued failure since independence to fulfil the Constitutional directive of providing education to all children up to the age of 14 years is a teasing reality

Highlighting the limited success of India's endeavour to achieve the Constitutional commitment, Dièze and Sen (1995) remarked :

One of the directive principles of the Constitution (Article 45) urges the state to provide free and compulsory education, up to the age of 14 by 1960. This was an ambitious goal, and the practical measures that were taken to implement it have fallen far short of what was required. To this day, compulsory education has not been actually introduced anywhere in India, even through state governments and even local authorities are empowered to make primary education compulsory. And the provision of educational facilities remains completely out of line with the stated goal of universal school education until the age of 14

Sounding a similar note, Govinda (1995) observed :

It is evident that the routine path adopted by us during the last four and a half decades cannot take us anywhere closer to this goal in near future. The task involved is of alarming proportion and demands radical solutions implement with commitment consistency and with trust in human capability

The following statement from the Ministry of Human Resource Development's (Department of Education) Annual Report (1993-1994) evidently shows the non attainment of the ambitious goals for universalization of elementary education in the country :

Despite expansion of education vast ground is yet to be covered for fulfilling the Constitutional mandate of UEE. Dropout rates are significant; retention of children in schools is low; waste is considerable. There are striking disparities in access to Elementary Education - disparities as between regions, rural and urban areas, boys and girls, the affluent and the deprived and the minorities and the others

India has, notwithstanding Drèze and Sen's observed inconsistencies, continued to pursue persistently her intended goals of UEE ever since Independence. This is very much evident from the impressive simplistic linear expansion of the primary education, making it world's one of the largest systems (Government of India : 1995)

The National Policy on Education (1986, and modified in 1992) prominently stands out as a landmark in India's movement for UEL. In reaffirming and reiterating her continued commitment to the Constitutional mandate, the NPE said :

It shall be ensured that free and compulsory education of satisfactory quality is provided to all children up to 14 years of age before we enter the twenty-first century

Significantly, the formulation of the policy was accompanied with a Programme of Action (POA) which clearly outlined the strategies and processes to be pursued to actualize the goals of UEE. The post-NPE period brought in a massive spate of programmes, based on a framework of partnership between central and state governments, under the centrally sponsored schemes.

One of the most significant developments was the World Conference on Education for All (EFA) held in March, 1990, in Jomtien, Thailand which adopted a declaration calling upon all member state and an international agencies to take effective steps for achieving by AD 2000. The Declaration put before it the following tasks for universalizing access and promoting equity (Article 3).

- Universalizing access and promoting equity;
- Focussing on learning;
- Broadening the means and scope of basic education;
- Enhancing the environment for learning;
- Strengthening partnerships

Following the World Conference on Education for All, the Delhi Declaration (1993) adopted by the nine high populous countries, including India, pledged that, by the year 2000, at the earliest possible moment

- We will ensure a place for every child in a school an appropriate education programme according to his or her capabilities, in order that no child be deprived of education for lack of a teaching learning material, or adequate space; we pledge this in fulfillment of our commitment under the Convention of the Rights of the Child, which we have ratified;
- We will eliminate disparities of access to basic education arising from gender, age, income, family, ethnic and linguistic differences, and geographic remoteness;

- We will improve the quality and relevance of basic education programmes by intensifying efforts to improve the status, training and conditions of teachers, to improve learning contents and material and to carry out other necessary reforms of our education systems;
- We will, in all our actions, accord to human development the highest priority at national and other levels, ensuring that a growing share of national and community resources is dedicated to basic education and improving the management of existing resources for education;

The Constitutional commitment received a renewed momentum, with backup support from the World Declaration on Education for All and further reaffirmed in the Delhi Declaration in the Conference of the Chief Ministers of all States and Union Territories on February 15, 1994. The Chief Ministers reaffirmed that :

- Highest priority would be given to primary and adult education
- Major efforts would be made to mobilize resources for education
- Optimal utilization of resources would be ensured
- Outlay for education would be increased from 3.7% to 6% of GNP
- Special attention would be focussed on seven high population, low literacy states which account for more than 70% of India's illiterate people.
- A spirit of democratic decentralization and community participation would become the basis for education development.

With the World Declaration on Education for All (1990) at Jomtien, Thailand calling for global partnerships in Education for All, ratified by 155 member states, the 1990s saw the Indian primary education system opening up to external assistance on a large scale. The District Primary Education Programme (DPEP), the single largest multi state programme under implementation since 1992, is addressed to achieving the goals of UEE : (i) universal provision and access, (ii) universal participation and retention, and (iii) universal achievement in terms of achieving minimum levels of learning at a substantially higher level. A few other significant internationally assisted programmes for basic education are the Lok Jumbish, Shiksha Karmi and the Joint GOI-UN System Education Programme

All these multi state supported programmes have focussed attention on decentralization, people's participation, teaching-learning supportive infrastructure building, development of innovative teaching materials, participative and interactive teacher training, enhancement of institutional capacities and reduction of spatial, gender and social group gaps. In essence, the overall strategy and approach of these projects gives priority to low literacy areas, girls and disadvantaged sections of society

The Constitution (Ninety-third Amendment (2001), declaring education as a Fundamental Right, despite its inherent inconsistencies, is a landmark development in the country's march towards UEE. The new Article 21A promises free and compulsory education for the 6-14 age group in such manner as the state may, by law, determine. The inclusion of this qualification or conditionality (that is, 'in such manner as the State may, by law, determine') the provision of Fundamental Right to Education has been objected to by many well-meaning MPs, educationists and social activist organizations. This apart, by excluding the early childhood care and education for the children up to six years of age, notwithstanding its criticality for child development (cognitive, emotional and physical) as well as the child's readiness for elementary education, the Amendment legitimizes the

existing inequity and discrimination in early childhood for at least half of the children in the 0-6 age group which will debilitate them for the rest of their life.

1.2 Concerns in Primary Education :

An analysis of what has been achieved and what remains to be achieved, the light and shade, success and failures brings out the following facts :

- Planning in general and educational planning in particular has largely been a 'top-down' rather than a 'bottom-up' exercise. In a vast country of India's size with wild variations, centralized and aggregated planning cannot reduce, if not totally doing away with gender, locale, social group specific disparities. Notwithstanding this stark fact, planning for UFE has largely been done at the national or state level. States, as units of educational planning, are too large and too heterogeneous for effective planning. In the process, contextualities have been ignored, resulting in the system lacking in relevance and utility. Evidently, the intensity of parental demand for primary education for their children is feeble.
- Aggregated planning and target setting that were being followed till late 1980s have a perspective that treats in equals equally. Districts within a state are at different levels of development. Even within a district, disparities are striking among gender, caste, and rural urban groups. Aggregated approach to planning for UFE has inevitably led to an intolerably iniquitous situation. Therefore, UFE will persist to be evasive if planning does not take care of those who need a focussed concern hitting the bull's eye.
- Primary education in India is predominantly a public enterprise with its total sustenance coming from a single source i.e., the State. This public character of primary education necessitates planning and public action to effect direction of change in this sector. A school is viewed by the community as government's school totally funded and owned by government. Thus, the community, the real stakeholder of the school system, remains indifferent and insensitive to the functioning of the local primary school absolving itself of any responsibility. The community school, on the other hand, takes cognizance of needs and expectations of people, who matter and matter-most. The school and the community remain as poles apart completely insulated.
- With adoption of the National Policy on Education and Programme of Action, 1986 and 1992, quality and equity concerns began to occupy the centre stage of primary education. The pre-NFE primary school classroom processes were predominantly characterized by non-interactive, teacher dominated, joyless and gender insensitive practices resulting in a lot of teaching but with little learning or comprehension. Hence, schooling for children remained, or an intolerable drudgery. Children used to be subjected to increased physical load of textbooks and the load of "non-comprehension". Hence, abysmally low levels of learner achievement.
- Planning in India has largely been sectoral. Sectoral planning has led to exercising bureaucratic control and establishing vertical linkages. The need for and importance of collaboration, convergence and coordination among other development departments and bringing together new partners was not given due prominence. A sector like basic education needs to be vitally linked with departments and services like health, labour, women and child development, rural development, Panchayati Raj, etc. Inter-sectoral and intra sectoral convergence and coordination creates synergetic ambience leading to increase

internal efficiency and effectiveness. A national concern like UEE, which interacts and interacts with other development departments and services, should not be left to education department only. The network of partnership needs to be extended further.

Absence of decentralized planning till late 1980s and early 1990s has, in fact, exacerbated regional, gender and social group disparities. Despite some efforts since late eighties onwards, acceptance of district as unit of planning has not emerged as a reality (except in DPEP districts) in the true sense of the term. Delegation of authority to district and sub-district level structures has not yet been translated into action. The major constraints to initiate planning at the district level are : (i) lack of resources base at the district level; (ii) lack of planning competencies, and (iii) absence of a planning machinery (Varghese : 1995). With this backdrop, suspicion is bound to be there with regard to planning and executing educational planning at the district and sub-district level. Nevertheless, if decentralized planning is what we are aiming at as the only alternative to achieve UEE, probably, planning for UEE should ideally be based on a new management culture : a culture of faith and freedom rather than on a culture of control and coercion. After all, one learns from one's mistakes.

In the context of launching the Sarva Shiksha Abhiyan (SSA), Dr. Murli Manohar Joshi, Minister of Human Resource Development brought to major inconsistencies in India's planning for UEE to sharpen focus. They are :

First, the mismatch between the articulated commitment and action : for instance, despite all governments articulated universal education for all as a necessity, overall came down, and within education sector, allocation to elementary education had dropped down to 34 per cent.

Second, increasing governmentalization and marginalization of community ownership of schools, despite repeated rhetoric for decentralization and devolution of authority and powers to people at the local level.

Drèze and Sen (1995) made the inherent inconsistencies and contradiction in India's planning for UEE explicit :

In short, the lamentable history of post independence education policy has suffered from diverse kinds of inconsistencies and contradictions, including (i) a confusion of objectives, (ii) inconsistencies between stated goals and actual policy, and (iii) a specific contradiction between stated goals and resource allocation.

What the country has so far achieved in terms of participation of children of the relevant age group in elementary education represents the easier part of the task. Whatever remains i.e., additional participation from social strata and regions and improved quality of learning acquisition and outcome, is admittedly more difficult and daunting. Therefore, the path that lies ahead in the march to UEE is more arduous; the journey ahead is a marathon calling for a higher intensity of effort and more systematic planning and implementation (Government of India : 1995). Since the World Declaration on Education for All (1990) at Jomtien Thailand, the international community and major UN agencies have developed a renewed interest in and commitment to accelerating the expansion of basic education for all. The World Bank and Department for International Development (DFID) supported District Primary Education Programme (DPEP) is an example of international commitment to the cause of UEE in India.

Against this background of these concerns, it appears to be pertinent to mention an alternative vision as espoused by the Lokshala Project for Universalization of Elementary Education in the Country. The alternative vision is as follows :

- Strengthening the Common School System as an essential means for both universalization and ensuring of equity and social justice.
- Taking an integrated view of eight years of elementary education from the standpoint of curricular reorganization, infrastructural planning and resource allocation.
- Emphasizing the holistic view of education and its transformative role.
- Striving for the fullest development of the human potential of the child, implying a shift from viewing the child merely as a 'national resource' or 'useful product'.
- Interweaving productive work and social action into the learning process and with the various disciplines of knowledge with the aim of making education socially relevant
- Forging dynamic linkages between the school and the community and vice versa.
- Evolving child centred pedagogy such that it gives ample scope for expression of locally meaningful manifestations, thereby promoting socio culturally diverse ways of perceiving education
- Using mother tongue as the medium of learning in the early primary stages, with provision for gradual switching over to the regional and link languages.
- Organizing effective programmes for wiping out the practice of child labour through both socio-economic and legal measures, while linking this endeavour with universalization of education; *enabling child to find meaningful vocations in life becomes a central concern of education.*
- Placing school at the centre-stage of all efforts to move towards UEE and not allowing it to be marginalized by parallel non-formal streams and literacy drives for children.
- Empowering the school such that it 'reaches out' to all children in a locality, including the 0-6 age group and the disabled children as well as those living in the so-called 'unserved' habitations; it must have the option, through adequate physical facilities and other resources placed at its disposal, of changing its timing or the locale of classes, recruiting and training local youth as teachers, reorganizing the curriculum and its transaction and adopting all possible creative ways of 'reaching out'; in other words, the structure and process of the school needs to be 'non-formalized'.
- Viewing Early Childhood Care and Education (including ICDS) as an essential component of UEE since it prepares young children for the school and helps in sensitizing the entire process of planning at the elementary level through its play way and child-centred approach, thereby preparing the school also to receive the children; it further enables the older children, particularly the girls, engaged in care of the younger siblings to attend school.
- Promoting convergence of services at the Block Panchayat level in order to eliminate the factors that perpetuate domestic chores, particularly in the case of the girl child; this will include provision of day-care and education for the children

in the 0-6 age group as well as provision of water, fuel and fodder within the habitation.

- Giving priority to programmes of empowerment of women in all aspects of socio-economic life with the aim of transforming the gender bias that hampers participation of the girl child in the educational process.
- Reviewing the evaluative parameters of education with the aim of eliminating their current bias against the qualities and orientations that are natural to the children of the weaker sections of society; the prevailing notions of merit, talent, competency and excellence would need to be transformed through sustained and indigenous research.
- Reorganizing the pre-service and in-service programmes of teacher education at the pre-school and elementary school levels, particularly in the DIETs; the teacher education curriculum needs to be changed with the aim of preparing teachers for the challenge of UEE as well as transformation of the social character of education.
- Catalyzing DIETs to draw their agenda from the disaggregated and diverse plans prepared by the schools and local communities, with responsibility for implementation lying entirely in the hands of the school staff and Village Education Committees (VECs).
- Involving village Panchayats, along with Block and District Panchayats, as also the school complexes in working out the designs, strategies and targets of universalization; the urban counterparts at the level of *Mohallas bastis* or Wards are to be similarly involved in the school system.

Further efforts would be made to develop district specific projects, defined responsibilities, definite time schedule and specific targets. Each district project will be prepared with the major strategy framework and will be tailored to the specific needs and possibilities in the district. Apart from effective UEE, the goals of each project will include the reduction of existing disparities in educational access, the provision of alternative systems of comparable standards to the disadvantaged groups, a substantial improvement in the quality of schooling facilities, obtained a genuine community involvement in the running of schools, and building up local level capacity to ensure effective decentralization of educational planning. This is to say, the overall goal of the project would be reconstruction of primary education as a whole in selected district instead of a piecemeal implementation of schemes. An integrated approach is more likely to achieve synergies among different programme components.

1.3 UEE in Orissa :

In the Indian context, State (Central and State Government) continues to be the major provider of education service to children. Within the overall national framework, state governments took up the extension of primary education with great energy and enthusiasm. Like other Indian states, Orissa made strenuous and concerted efforts to provide basic education facilities to its children. The extent of success in progressing towards the constitutionally mandated ambitious goal of UEE, it was confirmed, depended on the sustenance of the initial vigour and enthusiasm, political will and commitment, bureaucratic

mind set, management structure, policies and programmes and their implementation, state's state of economic development, inter-sectoral convergence and coordination, and the scale and intensity of public action.

The interconnections between literacy and 'development', defined in its broadest sense as expansion of 'human choices' is well-established. Literacy works as a powerful instrument of socio-economic transformation. Higher literacy levels is largely mediate socio-economic development.

Orissa was clubbed with eight other educationally backward state's of the country from the standpoint of its abysmally low levels of literacy, particularly female literacy rate and other key parameters. This is evident from the Table 1.1

Table 1.1
Literacy Rates in Orissa

Census	Literacy Rate (%)		
	Male	Female	Total
1951	27.30	04.50	15.80
1961	40.26	10.12	25.24
1971	44.50	16.29	30.53
1981	56.45	25.14	40.96
1991	63.09	34.68	49.09
2001	75.95	50.97	63.61

Source : Census of India

In terms of rank among the Indian states, Orissa's position is eleventh in the Census, 1991 and in the Census, 2001. Female literacy rates (1991) were deplorably low 9.01% in Nawarangpur, 11.69% in Malkangiri, 12.78% in Nuapada, 15.63% in Rayagada, 15.15% in Koraput, 15.28% in Kalahandi, 15.63% in Rayagada, and 17.44% in Gajapati.

The position, though improved in 2001, is all the same distressingly low. Female literacy rate in seven out of 30 districts is below 30 per cent (Nawarangpur : 21.02, Malkangiri : 21.28, Koraput : 24.81, Rayagada : 24.31, Nuapada : 26.01, Gajapati : 28.91, and Kalahandi : 29.56). Intra-district female literacy rates are still insignificantly low. Inter-district and intra-district disparities are glaring. Some of the factors responsible for poor female literacy rate are : first, gender-based discrimination even before a child is born; second, social and economic deprivation; third, low perceived benefits of pursuing education; fourth, low internal efficiency of the primary education system resulting in acquisition of fragile levels of literacy among those who complete primary education cycle; and fifth, incidence of high dropout.

Inequalities, in educational achievements (literacy rates) between males and females, between urban and rural areas, and between different social groups are gross and glaring. Moreover, when different sources of disadvantage are combined (e.g. the handicap of being female is added to that of belonging to scheduled caste and living in rural or backward areas), the literacy rates for the most disadvantaged groups come down to minuscule figures. This is evident from the figures presented in Table 1.2 and Table 1.3.

Table 1.2
Literacy Rates (per cent) in Orissa (1981, 1991 and 2001)

Areas	Census	Males	Females	All	Gender Disparity
	1981	53.54	21.99	37.77	1.4347
Rural	1991	60.00	30.79	45.46	0.9487
	2001	73.57	47.22	60.44	0.5580
Urban	1981	76.38	50.95	64.81	0.4991
	1991	81.21	61.18	71.99	0.3274
	2001	88.32	72.68	80.95	0.2152
All Areas	1981	56.45	25.14	40.97	1.2454
	1991	63.09	34.68	49.09	0.8192
	2001	75.95	50.97	63.61	0.4901
Rural - Urban Disparity :					
	1981	0.4266	1.3170	0.7159	
	1991	0.3535	0.9870	0.5836	
	2001	0.2005	0.5392	0.3393	

Source : Naba Krushna Choudhury Centre for Development Studies, Orissa (2003) : Orissa Human Development Report

Table 1.3
Caste and Sex-wise Literacy Rates (per cent) in Orissa (1971, 1981 and 1991).

Caste	1971				1981				1991			
	Male	Female	Total	Gender Disparity	Male	Female	Total	Gender Disparity	Male	Female	Total	Gender Disparity
Scheduled caste	25.98	5.17	15.61	4.0251	35.26	9.40	22.41	2.7511	43.03	17.03	30.19	1.5267
Scheduled Tribe	16.38	2.58	9.46	5.3488	23.27	4.76	13.96	3.8887	27.93	8.29	18.10	2.3691
General	49.35	20.37	35.02	1.4227	58.15	29.64	46.03	0.9487	63.50	39.54	51.77	0.6060
Total	38.30	13.92	26.18	1.7514	47.09	21.12	35.37	1.2296	52.41	28.83	40.80	0.8179

Source : Naba Krushna Choudhury Centre for Development Studies, Orissa (2003) : Orissa Human Development Report

The rural-urban, scheduled and non-scheduled social group and gender disparities are excruciatingly unbearable. This is very much perceptible in the disparity indices :

- Gender disparities (overall) have declined from 0.8192 in 1991 to 0.4901 in 2001 and from 1.2454 in 1981 to 0.8192 in 1991.
- While overall rural literacy rate in 2001 was 60.44, rural female literacy was almost one-third of it (21.99%)
- Similarly, as per the 1971, 1981 and 1991 Census, SC female literacy rates were 5.17, 9.40 and 17.03 per cent, the corresponding ST female literacy rates for ST group were 2.58, 4.7 and 8.29 per cent. Thus, caste disadvantage added to gender disadvantage further exacerbates the disadvantage
- Though gender and regional disparities have decreased between 1991 to 2001, still the disparities persist at a higher level

Thus, the feeble female literacy levels have debilitating effects on access to education for their children. With this kind of literacy scenario in the backward regions of the state, the stimuli of change have not produced the desired results because of socio

economic constraints, an outcome of ignorance and illiteracy. This, in less measure, has affected the development of education in the state.

Orissa does not favourably compare with other Indian major states in respect of a few selected indicators of human development. This is evident from Table 1.4.

Table 1.4
Selected Indicators of Human Development Orissa and Other Major States

	Orissa	Andhra Pradesh	Bihar	MP	West Bengal	Kerala	Maharashtra	Tamilnadu	Rajasthan	India
Total Population (millions) *	37	76	83	60	80	32	97	62	56	1027
Child Population 0-6 years (millions) *	5.2	9.6	16.23	10.61	11.13	3.65	11.18	6.81	10.45	157
Percentage to the total population	14.11	12.77	19.59	17.58	13.88	11.48	11.63	10.98	18.51	15.38
Birth Rate (per 1000) (1999)	24.1	21.7	31.5	31.1	20.7	18.0	21.1	19.3	31.1	26.1
Death Rate (per 1000) (1999)	10.7	8.2	8.9	10.4	7.1	6.4	7.5	8.0	8.4	8.7
Percentage of decadal growth of population (1991-2001)	15.94	13.9	28.43	24.34	17.84	9.42	22.57	15.74	28.33	21.34
Infant Mortality Rate (per 1,00,000 live births) (1999)	97	66	63	90	52	14	48	52	81	70
Maternal Mortality Rate (per 1,00,000 live births) (1998)	367	159	452	498	266	198	135	79	670	407
Life Expectancy at birth (years)	57.2	62.4	59.6	55.5	62.8	71.3	65.5	64.1	60.0	61.1
Income per capita at current prices (Rs.) (1999-2000)	9162	14715	6328	10907	15569	18267	23398	19141	12533	15562
Proportion of people living in poverty (1999-2000)	47.15	15.77	42.60	37.43	27.02	12.72	25.02	21.12	15.28	26.10
Literacy *	63.60	61.11	47.53	64.11	69.22	90.92	77.27	73.47	61.03	65.40
Female Literacy *	50.97	51.17	33.57	50.28	60.22	87.86	67.51	64.53	44.34	54.16
Percentage of children 5-14 age group working as child labour †	15		14	10					20	14

Source : Orissa Vision 2020 - An Agenda for Education : 2003

While analyzing regional inequities among social groups, Raza et. al. (1990) have rightly observed :

Social stratification plays a significant role in the development process. This is particularly true of educational development. Different social groups and different components of the same social group respond differently to development stimuli. This leads to inequities, for example, between scheduled and non-scheduled population or between scheduled males and females.

The relative educational backwardness, reflected in female literacy rates, of KBK districts and districts with higher percentage of Scheduled Caste and Scheduled Tribe population is due primarily to their lack of capability to take advantage of the development initiatives and stimuli.

Even after more than fifty years of Independence, Orissa continues to be in the bracket of eight traditionally educationally backward states as revealed from the Educational Development Index (EDI), developed by the Planning Commission, Government of India. The ranking of states in the EDI is given in Table 1.5 below.

Table 1.5
Educational Development Index, 1995-1996 (State-wise ranking)

Sl No.	States	Educational Development Index Value	Rank
1	Mizoram	1.559	1
2	Goa	1.522	2
3	Kerala	1.511	3
4	Sikkim	1.480	4
5	Manipur	1.454	5
6	Nagaland	1.426	6
7	Himachal Pradesh	1.382	7
8	Tripura	1.376	8
9	Assam	1.324	9
10	Tamilnadu	1.257	10
11	Meghalaya	1.200	11
12	Maharashtra	1.168	12
13	Punjab	1.141	13
14	Arunachal Pradesh	1.140	14
15	Gujarat	1.094	15
16	Karnataka	1.080	16
17	West Bengal	1.071	17
18	Haryana	1.067	18
19	Orissa	0.939	19
20	Madhya Pradesh	0.924	20
21	Rajasthan	0.890	21
22	Andhra Pradesh	0.861	22
23	Uttar Pradesh	0.859	23
24	Jammu and Kashmir	0.854	24
25	Bihar	0.781	25

Source : Planning Commission, Government of India (1999)

Note : EDI has been framed taking both inputs and outcomes. The input parameters include : (i) Investment in Education, and (ii) Availability of Educational Facilities and outcome variables. (iii) Literacy Achievements, and (iv) Universalization of Elementary Education

The relative educational backwardness could be viewed as a cause as well as an outcome of general backwardness measured by the Human Development Index (HDI). Despite the view that poverty, low per capita income and economic situation are less relevant to development of basic education (Weiner : 1991), development significantly contributes to quantitative and qualitative development to education. State's relative position in the HDI is given in Table 1.4

Another factor that acts as a drag on the educational and economic development of the state is high proportion of socio economically deprived and marginalized groups, viz., SCs and STs. The percentage of SC and ST population in different districts of the state are evident from Table 1.6.

Table 1.6
District-wise Percentage of Scheduled Caste and Scheduled Tribe
Population in the State : 1991

Sl. No.	Districts	Percentage of SC Population to Total Population of the District	Percentage of ST Population to Total Population of the District	Percentage of SC + ST Population to Total Population
1.	Balangir	15.39	22.06	37.45
2.	Baragarh	18.44	19.56	38.00
3.	Dhenkanal	16.03	12.69	28.72
4.	Gajapati	08.77	47.88	56.65
5.	Kalahandi	17.01	28.88	45.89
6.	Keonjhar	11.49	44.52	56.01
7.	Rayagada	14.07	56.04	70.11
8.	Sambalpur	17.07	35.08	52.15
9.	Boudh	19.64	12.92	32.56
10.	Kandhamal	18.21	51.51	69.72
11.	Koraput	13.41	50.67	64.08
12.	Malkangiri	19.96	52.36	72.32
13.	Mayurbhanja	06.99	57.87	64.86
14.	Nawarangpur	15.09	55.27	70.36
15.	Nuapada	13.09	35.95	49.04
16.	Sonepur	22.11	09.50	31.61
17.	Angul	16.82	11.68	28.50
18.	Balasore	18.57	10.57	29.14
19.	Bhadrak	21.71	01.69	23.40
20.	Cuttack	18.19	03.49	21.68
21.	Deogarh	14.60	33.31	47.91
22.	Ganjam	17.91	02.93	20.84
23.	Jagatsinghpur	21.72	00.61	22.33
24.	Jajpur	22.87	07.40	30.27
25.	Jharsuguda	17.15	31.88	49.03
26.	Kendrapara	19.83	00.40	20.23
27.	Khurda	13.62	05.14	18.76
28.	Nayagarh	13.78	05.96	19.74
29.	Puri	18.56	00.27	18.83
30.	Sundargarh	08.78	50.74	59.52

Source : Census of India, 1991

It is very much explicit from the Table 1.6 above that concentration of Scheduled Caste and Scheduled Tribe population in KBK group of districts and other backward districts is very high : Malkangiri (72.32%), Nawarangpur (70.36%), Rayagada (70.11%), and

Koraput (64.08%). In Mayurbhanja, Kandhamal and Sundargarh, the percentage of SC and ST population are 64.86, 69.72 and 59.52 respectively. The social system that created social distance between SCs and STs and non-scheduled population operates as a constraint on the universal spread of education.

Table 1.7
Percentage of Population Below Poverty Line

Sl. No.	States	Percentage below poverty line	Per capita Net State Domestic Product at current Price (Rs)
1.	Andhra Pradesh	15.8	14715
2.	Assam	36.1	9720
3.	Bihar	42.6	5540
4.	Gujarat	14.1	NA
5.	Haryana	08.7	21154
6.	Himachal Pradesh	07.6	15012
7.	Karnatak	20.0	16343
8.	Kerala	12.7	NA
9.	Madhya Pradesh	37.4	11244
10.	Maharashtra	25.0	23398
11.	Orissa	47.2	8733
12.	Punjab	06.2	23040
13.	Rajasthan	15.3	12533
14.	Tamil Nadu	21.1	19141
15.	Uttar Pradesh	31.2	9765

Source : Directorate of Economics and Statistics, Government of Orissa, 2001

There exists, as studies in India and abroad have shown, positive correlation between levels of poverty, literacy and education of children. India's human development trajectory is characterized by great diversity and deep disparities between states, districts and among social groups. Poverty of the state is likely to have a neutralizing effect on development of education.

Orissa has the highest percentage of its population below poverty line : almost half of its population. Even the BIMARU states (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) have fewer percentages of their population than Orissa. Percentage of people below poverty line, coupled with net state domestic product, amply demonstrates states deprivation on account of poverty. This has serious implications for development of basic education in the State.

Low literacy rates, particularly the female literacy, proportion of scheduled population, extent of poverty (measured in terms of percentage of people below poverty line and multiple educational disadvantages affect the quantitative and qualitative expansion of basic education). Education Deprivation Index (EDI), a composite index of percentage of out-of-school children and adult literacy rates, reflects the cumulative effects of different disadvantages. Table 1.8 depicts the education deprivation indices for 13 undivided districts of the state.

Table 1.8
Education Deprivation Index

Districts	Out of School (%)	Adult Illiteracy	E. D. Index*
ORISSA	26.89	47.17	74.05
Sambalpur	31.75	46.71	78.46
Sundargarh	38.72	40.34	79.06
Mayurbhanja *		59.49	59.49
Keonjhar	21.47	52.56	74.03
Balasore	14.06	36.61	50.67
Cuttack *	28.73	31.09	59.82
Dhenkanal	22.77	42.99	70.76
Boudh-Kandhamal	13.51	60.43	73.94
Balangir	24.90	57.22	82.12
Kalahandi	30.31	67.66	97.96
Koraput	36.92	77.41	114.33
Ganjam	33.64	53.83	87.47
Puri	43.35	30.93	74.27

* Education Deprivation (E.D) Index is the sum total of percentage of out-of-school children plus adult literacy rate

Note :

- (i) Adult illiteracy figures are for 2001 assuming that the extent of relationship between 1991 and 2001 is the same as 1981 and 1991
- (ii) Figures for out-of-school children in the 6-14 age group are for 1999
- (iii) Educational deprivation index is the sum of adult illiteracy per cent (15+ age group) and per cent of out-of-school children in the 6-14 age group
- (iv) * Mayurbhanja and the newly created Jajpur districts strangely retain a negative figure for out-of-school children in the 6-14 age group

Source : For out of school, DPEP District Cell, Department and Mass and Elementary Education, Government of Orissa ; For Adult Illiteracy, Census of India, 1981, Series - 16, Orissa, Part - IV, A, Social and Cultural Tables and Census of India, 1991, Series 19, ORISSA, Part - IV, A, Socio-Cultural Tables.

As could be observed, the extent of deprivation is inexorably high (114.33%) in Koraput, 97.96 per cent in Kalahandi, 87.47 per cent in Ganjam (including Gajapati district) and 82.12 per cent in Boudh - Kandhamal. Educational deprivation is the lowest in Balasore (50.67%).

The Ninety-third Amendment to the Constitution (2001) making right to basic education a Fundamental Right (Article 21A) requires the state to make necessary provisions as a basic obligation. The 73rd and 74th Amendments make the state to decentralize powers and authorities to the institutions of local self-government such as Panchayati Raj Institutions (PRIs) and urban bodies. The state has already delegated 11 subjects to PRIs. At an international level, basic education found a prominent place in the development discourse as a component of the Human Development Index (HDI). The latest Government of India initiative, viz., Sarva Shiksha Abhiyan (SSA) intends to universalize elementary education by 2010.

These national and international developments have, directly or indirectly, greatly impacted the policies and programmes of the country directed towards achieving UEE, a goal that continues to be elusive and a "teasing reality". To be specific, these development have led to a number of new initiatives such as :

- Building up, extending and developing partnerships among all-sub-sectors and forms of education, between education and other government departments, between government and non-government organizations, between government

and private sector, local communities, religious groups and families and going beyond national boundaries partnerships among nation states. New and revitalized partnerships at all levels lie at the heart of development of basic education.

- Transforming the status of UEE from merely a public sector and state supported activity to an enforceable legal and constitutional obligation.
- Moving away from a simplistic linear expansion of basic education system (access, enrolment, continued participation and completion) to qualitative renewal and transformation, actual learning acquisition and outcome.
- The central and state governments affirming and re-enforcing national resolve to UEE in the form of political commitment and political will, backed by appropriate supportive policies and financial wherewithal / provision.
- Reforming and reorganizing the system of basic education in the light of country's own experiences and insights and on the basis of critical appraisal of experiences and experiments of other systems across the globe.
- Recognizing the time-tested truth that education, more particularly primary education lies at the heart of development, overriding priority is being accorded to UEE with an unavoidable urgency to achieve the mandate. In other words, this realization has acted as an initiation to action.

To sum up, the pursuit of UEE in the context of national and international level recent developments has assumed critical importance and urgency. The country is, in fact, at an unusual period of opportunity and challenge, unprecedented in the pre-NPE decades. UEE coupled with threshold level literacy has become the central necessity for survival. Any delay brooked in achieving UEE is likely to cost the nation heavily. Hence, invitation for action now or never.

Taking a sanguine view, Singh (1999) observed :

.... with a clear vision, firm will, higher investments, greater dedication, rapid decentralization and increased people's participation, we would be able to fulfil our goal of providing satisfactory quality of education to all children in the country within the next decade"

1.4 The Study :

Visioning about the state of school education, whether in a short-term or long-term perspective, does not take place in a time and space vacuum. Future is an extension of the present, in the same way as the present is of the past. Thus, future of state of things cannot be conceived and envisioned in isolation and insularity of the present and the past. Tyler (1975), therefore, rightly observed that the future is likely to have many of the characteristics of the present, including many of the problems that we have dealt with in the past and are also concerned with now. Patrick Suppes (1975) also said : "to look at the future one must look at the present and at the past". Prediction is, in fact, lacks precision, exactness and certitude. Notwithstanding this uncertainty, anticipation of the state of art in the future and initiation of preparatory measures must be priority goals at every stage of educational planning and policy making. For it is the quality of education that stands between a society that will flourish and one that will decline, a society that will swiftly respond to the patterns and directions of change and one that will fail to test of resilience.

Predicting what is likely to happen, especially in education, is, indeed, a difficult exercise. Despite our abiding interest in decoding social signs, and our growing sophistication in interpreting their meaning, prediction is fraught with pitfalls. Prognostications do not always become prophecies. It is difficult to anticipate the total range of consequences that ultimately accompany any major social change. Forecasting future contours of change in school education say, 15 to 20 years ahead, is difficult but not impossible, with approximation, if not with exactness. The reasons are :

First, public institutions such as the school are susceptible to internal and external pressures. By responding to these pressures, school reflects rather than creates social trends. As these trends do not always evolve logically and systematically, they often are difficult to foresee

Second, the dynamics of social phenomena vary unpredictably across space and time. The social phenomena are complex and fluidity of the social situations makes things happen in an irregular and unsystematic pattern. This, therefore, makes prediction inaccurate and imprecise

Third, science and technology have never before demonstrated so strikingly the extent of their power and potential. Prospects for scientific development are exalting, impressive and at the same time terrifying. Things change at a fantastically quicker pace. This tends to compound the problem of identifying the contours of change

Fourth, the inherent inertia and rock-bound conservatism of education sector acts as an inhibiting force to respond to change stimuli from within the system or outside.

As the visioning about the future of school education is largely shaped by : first, the past and present experiences of success and failure; and second, dreams born out of hopes and expectations, it was planned to take up five studies on different sectors of School and Mass Education. The present sector study is : **"Elementary Education and Early Childhood Care and Education in Orissa"**

1.4.1 Objectives :

The objectives of the study are :

- To examine the overall development context in terms of human development index, percentage of people below poverty line, percentage of SC and ST population, and literacy rates that create enabling conditions for development of education in the state.
- To study the quantitative development of elementary education and early childhood care and education in the state in terms of (i) access and provisions, (ii) enrolment, and (iii) teachers.
- To examine the internal efficiency of the elementary education system of the state in terms of (i) dropout rate / retention rate, (ii) quality of teaching workforce, (iii) teacher training, (iv) curriculum renewal, (v) management of schools, (vi) repetition, (vii) teacher absenteeism, (viii) R and D in education
- To examine the quality of elementary education both in terms of 'input variables', 'process variables, and 'output variables' i.e., learner achievement.

- To identify the problems and issues with regard to various dimensions of elementary education and early childhood care and education.

1.4.2 Methodology :

It is said that you cannot reach a given historical objective by walking in the opposite direction and good ends cannot be achieved through inappropriate means. In order to examine the above dimensions of elementary and pre-school education in depth and details, normative survey method was followed. The details are :

1.4.2.1 Sources of Data :

It consisted of (i) primary sources, and (ii) secondary sources. The former consisted of responses to the questionnaire, for teachers, interview with parents, and classroom observation and ECs in action. The latter included records, documents, research studies, policy and programme statements, and other reference publications. While secondary sources provide a hard database on key educational parameters, the primary sources provided enough opportunity for deeper understanding and insights of the situation.

1.4.2.2 Instruments :

For collection of data from primary and secondary sources, formats, observation schedules and interview schedules were developed. Care was taken to facilitate data tabulation and compilation, ensuring objectivity and reducing extent of subjective bias and preferences. While developing instruments, a very extensive range of literature was thoroughly searched into so as to make them as adequate and comprehensive as possible. Besides, the language used was made comprehensible.

1.4.2.3 Analysis :

Data thus collected were subjected to both quantitative and qualitative analysis. Quantitative analysis were put in the form of tables with absolute numbers and percentages. The qualitative analysis was restricted to the rich wealth of data collected through questionnaire, observation and interview.

1.4.3 Limitations :

The analysis, interpretations and conclusions drawn therefrom were constrained by several limitations over which the investigator had very little control. These limitations are : (i) non-availability of data on certain key educational parameters such as GER, NER, repetition rate, attendance rate, etc ; (ii) mismatch between data collected from secondary sources such Government of India, Directorate of Elementary Education, Orissa Primary Education Programme Authority; and (iii) data that lack consistency, reliability and regency. However, care was taken to avoid conclusions drawn from such incomplete and inconsistent data.

1.5 Conclusion :

The Constitutional directive under Article 45, now modified to include education of children of 0-6 age group, Article 21A (added consequent upon the 93rd Amendment to the Constitution : 2001) declaring right to basic education as a Fundamental Right, the National Policy on Education (1986, modified in 1992), the World Declaration on Education for All (1990) and the Delhi Declaration (1993) have created an unprecedented ambience for universalization of elementary education. New partnerships have emerged, new resources have been tapped and new energies and ideas have been devoted to making education for all a reality. Significant progress towards UEE goals has been made. Enrolment has enormously accelerated, dropout rates have declined and availability of school places has increased.

Accompanying these quantitative gains has been a greater emphasis on the quality of education. Concerns for quality and equity have come to the centre-stage of education. Achievements during the last decade and a half give reason for optimism and reassurance. They provide no room for complacency. There is need for more forceful and concerted action, informed by sound research, information and analysis, with attention to results. Some of the stark challenges that stare at us include :

- A critical mass of out-of-school children, disadvantaged in more than one ways, stand beyond the ambit of schooling. They represent a hard core who must be reached out. The task is daunting. The challenge could be met by persistent efforts : doing different things and doing things differently.
- The glaring inequity in access, participation and achievement among gender and social groups (SCs and STs) is inexorably excruciating. The gaps need to be narrowed. Historical distortions are being compounded by deep rooted socio-cultural discriminations, resulting in failure to narrow the disparities.
- With unprecedented scale and pace of quantitative expansion, quality and relevance of education have taken a back seat. The "expanded vision" of basic education espoused by NPE and Jomtien Conference has often been reduced to a single emphasis upon putting more children into school : an essential step, but neither the first nor the last step toward achieving UEE.
- Resources for education have never been enough. The World Conference on Education for All has enlarged the resource base for basic education by opening national systems to international support. Government of India have committed to meet the costs of UEE. There is an urgent need for increased national and international resources for education, particularly for basic education.

To sum up, Singh (1999) observed :

Undeniably, we face a gigantic challenge to achieve UEE. Nevertheless, in the last fifty years we have expanded our base and built many assets to complete the unfinished task in the foreseeable future. We have a strong policy framework, significant political and administrative commitment and a national desire for UEE.



CHAPTER II

STATE OF PRIMARY EDUCATION IN ORISSA

Accompanying these quantitative gains has been a greater emphasis on the quality of education. Without educational content relevant to current needs, without the learning skills and new knowledge required for the future, and without efforts to improve learning achievement, access may lack purpose and benefit. Serious reflection, more rigorous planning and innovations in many countries have prepared the ground for important advances in the years ahead.

UNICEF, Newsletter 1997

2.1 Introduction :

The NPE (1986, and modified in 1992) clearly delineates three inseparably linked components of UEE, namely : first, universal provision and access; second, universal participation and retention; and third, acquisition of minimum levels of learning at a substantially higher and sustainable level. This concept provides a framework for assessing the extent to which the three variants of UEE - quantity, quality and equity - have been operationalized in the state. The situational analysis would help us in two distinct ways : (i) ascertaining the status of the state in terms of achieving the intended goals of UEE; and (ii) predicting the future of UEE, based on the past experiences and insights in combination with the vision and ideals of a vibrant and robust state. This exercise is informed by "the further back you look, the further forward you can see", an oft-repeated remark of Winston Churchill.

The situational analysis attempted in this section encompasses the following aspects of elementary education. The analysis has been specifically restricted to the post-NPE period, though in certain respects the analysis covers a larger canvas.

1. Quantitative expansion of the system for providing access to the children of the school-going age-group with focus on difficult-to-reach disadvantaged groups of children and girls.
2. The participation and retention of children in the school system to complete the cycle of elementary education.
3. The quality of elementary education taking cognizance of 'inputs' and 'processes' as proxy parameters and learner achievement as substantive indicator.
4. Impact of initiatives and interventions such as Operation Black Board, Centrally Sponsored Scheme for Reorganization and Restructuring of Teacher

Education, District Primary Education Programme (DPEP), Janashala Project and Sarva Shiksha Abhiyan (SSA).

5. Disparities and gaps in access, participation and retention, and levels of learner achievement among regions, gender and social groups.
6. Functioning of schools : management of schools, organization of instructional programmes, school-community partnership, language of instruction, internal efficiency and effectiveness, public action, academic supervision and monitoring, people's perception about schools, teacher absenteeism
7. Teacher motivation, mind set, and professional preparation and competence for making schools functionally effective
8. Pre-school education as a support system to UEE : its spread, coverage, content and process, management and its impact on UEE

2.2 Access and Provision :

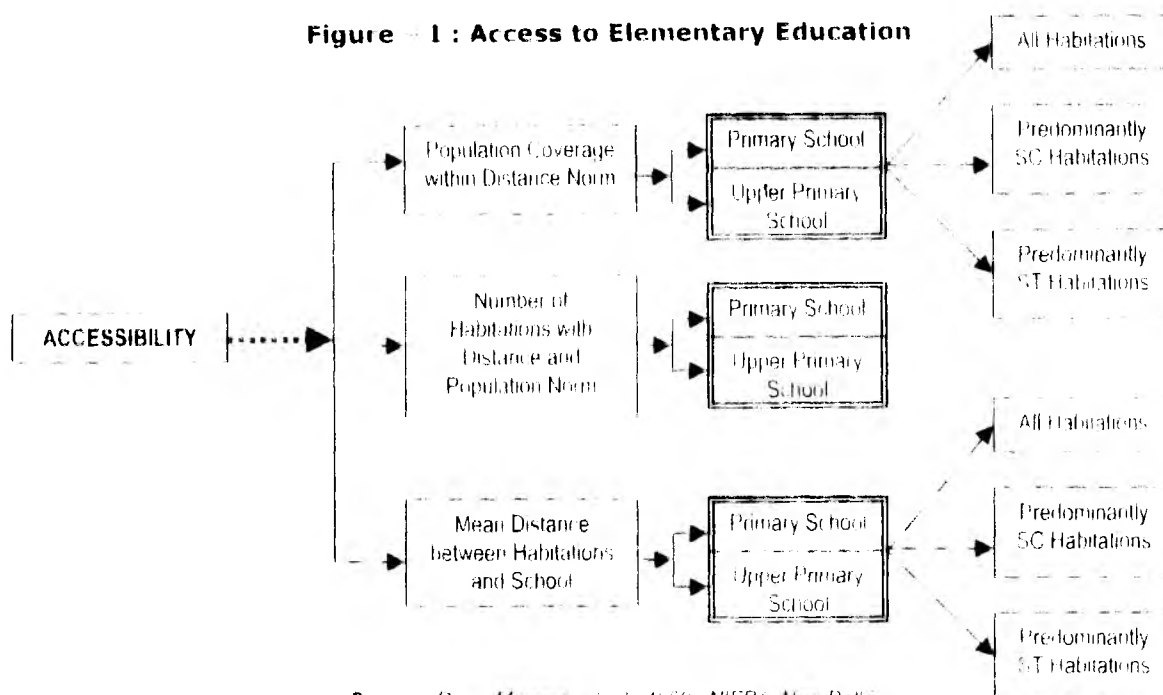
With the 93rd Amendment (2001) to the Constitution in force, it has become mandatory for the State (Central, State and Local) to provide children with basic schooling facilities in their neighbourhood. Enabling all children to complete elementary education of good quality is a central goal of the National Policy on Education (1986 and 1992). The speed with which it can be achieved will be determined by the success of the central, state and local governments in creating an accessible infrastructure for schooling, enhancing the demand for schooling, and increasing the efficiency of student flows (World Bank : 1997)

As would be evident from the discussion in this section, variations in performance in education in different states and within states among districts, social and gender groups, and educationally backward and advanced regions are stark and glaring. These variations are the result of differential access to education. Access to education is determined by the intervention of demand and supply of educational services and the learning process. Supply refers to adequate availability of quality schooling facilities. Demand for education is a function of : (i) perceived benefits education that accrue to its recipients and their families, (ii) quality and relevance of education services on offer, and (iii) direct costs to be borne and opportunity costs likely to be forgone. Drèze and Sen (1995) have observed :

An expansion of the quantity and quality of schooling facilities in India can be expected to lead, on its own, to a large increase in school attendance and educational achievements. Indeed, empirical studies suggest that popular demand for basic education in India is strong, at least strong enough to induce most parents to send their young children to school in situations where a free and well-functioning school is available close to their homes. One symptom of this strong demand for basic education is the fact that, when the local school functions poorly, parents often send their children (especially boys) to study in other villages with better schools, or in private schools where fees have to be paid. While the blame for low attendance levels is often put on reluctant parents, the inadequacy of the schooling establishment may well be the more basic failure.

The indicators and indices related to accessibility are presented in the following diagram :

Figure - 1 : Access to Elementary Education



Source : Raza, Moonshi et al (1990) NIEPA New Delhi

The state, like many other Indian states, experienced a massive quantitative expansion in terms of institutional proliferation, increased enrolment, enlarged teaching workforce, etc. Access to elementary schools is provided through primary and upper primary schools. The phenomenal expansion of the elementary school is evident from the figures furnished in the Table 2.1.

2.2.1 Expansion of Elementary Education System :

**Table 2.1
Growth of Primary and Upper Primary Schools in the State
(1947-48 to 2001-2002)**

Year	Number of ...		
	Primary Schools	Upper Primary Schools	Total
1947-48	6814	286	7100
1950-51	9801	501	10302
1960-61	21858	1307	23165
1969-70	26554	4047	30601
1978-79	34593	7150	41743
1988-89	39293	9125	48418
1990-91	41204	12483	53687
1997-98	42104	11510	53614
2000-2001	42104	11510	53614
2001-2002	42104	11510	53614

Source : Directorate of Elementary Education, Orissa, 2002

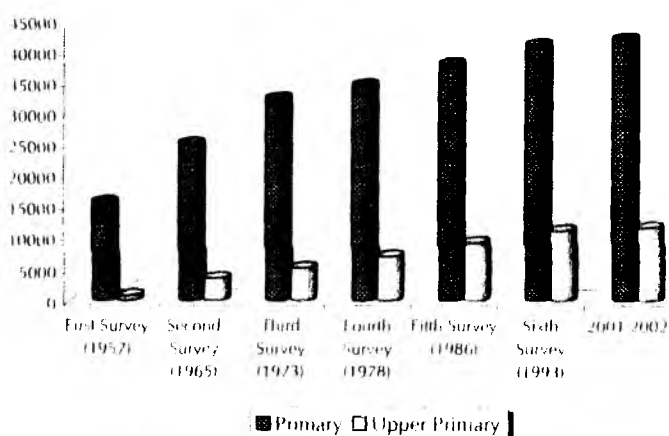
Table 2.2
Number of Primary and Upper Primary Schools

Surveys / Years	No. of	
	Primary Schools	Upper Primary Schools
First Survey (1957)	15547	789
Second Survey (1965)	25062	3582
Third Survey (1973)	32410	5275
Fourth Survey (1978)	34596	7150
Fifth Survey (1986)	38004	9082
Sixth Survey (1993)	41115	11022
2001-2002	42104	11510

*Sources : (i) All India School Education Surveys, NCERT
(ii) Directorate of Elementary Education, Orissa (2002)*

Data collected for different All India School Education Surveys : from the First Survey (1957) to the latest completed Sixth Survey (1993), presented in Table 2.2, show that the state has experienced a phenomenal expansion of its elementary education system

FIGURE - II : GROWTH IN NUMBER OF PRIMARY AND UPPER PRIMARY SCHOOLS IN ORISSA



Another way of looking at the development of elementary (primary and upper primary) education in the state is the comparative growth trajectory of primary and upper primary schools during two distinctly different periods, viz., 1947 to 1986 i.e. pre-National Policy on Education and 1986 to 2002 i.e., the post-National Policy on Education. The following patterns of growth emerge from Table 2.3

Table 2.3
Growth in the Number of Elementary Schools in Orissa (1947 to 2002)

Year	Primary	Upper Primary	Total (Primary + Upper Primary)
1947-48	6814	286	7100
1950-51	9801	501	10302
1960-61	21858	1307	23165
1970-71	26462	4193	30655
1980-81	35893	7958	43851
1981-82	36193	8107	44300

Year	Primary	Upper Primary	Total (Primary + Upper Primary)
1982-83	36193	8175	44368
1983-84	36193	8212	44405
1984-85	36193	8316	44509
1985-86	36993	8436	45429
1986-87	38004	8532	46536
1987-88	38793	8636	47429
1988-89	39293	8636	47929
1989-90	39593	9325	48918
1990-91	41204	9562	50766
1991-92	41204	9818	51022
1992-93	41204	10412	51616
1993-94	41604	10920	52524
1994-95	41604	11360	52964
1995-96	42104	11510	53614
1996-97	42104	11510	53614
1997-98	42104	11510	53614
1998-99	42104	11510	53614
1999-2000	42104	11510	53614
2000-2001	42104	11510	53614
Compound Rate of Growth (%)			
2001/1947	3.43	7.08	
1986/1947	4.39	8.86	
1990/1986	1.63	2.30	
2001/1986	0.68	2.02	
2001/1990	0.20	1.70	

Source : Tilak, GBJ. Education in Orissa, 2003

- During the pre-National Policy on Education, spanning across (1947-1986) period, the number of primary schools increased at a compound growth rate of 4.4 per cent per annum. Contrastingly, the rate of growth drastically fell to a bare 1.7 per cent during the post-policy period. This is not in consistent with the State Government's intended emphasis (GOO, 1997) on elementary education
- Similarly, the rate of growth of upper primary schools during the pre-policy was much higher than that of the post-policy period.
- That no new primary and upper primary schools has been opened after 1995-96. During the 1990s, the growth in the number of primary and upper primary schools is observed to be the lowest, despite State Government drastically curtailed expenditure on higher education on the plea that more expenditure is required on school education.

2.2.2 Schools by Management :

Looked at from the point of view of management of primary and upper primary schools, elementary schools are predominantly government managed. The distribution of such schools by management is presented in Table 2.4 and Table 2.5 and Figures III and IVs.

Table 2.4
Distribution of Primary Schools by Management

Sl. No.	Schools by Management	Number	Percentage
1.	Schools under Department of School and Mass Education -		
i)	Government Primary Schools	35339	85.45
ii)	Primary Sections in Upper Primary Schools (from Class I - VII)	4683	11.32
iii)	Primary Sections in High Schools (From Class I - X)	244	0.59
iv)	Primary Sections in Higher Secondary Schools (from Class I - XII)	27	0.07
2.	Primary Schools under SC and ST Development Department	1062	2.57
	Total Government Schools	41355 (98.22)	100.00
3.	Schools under Private Sector		
i)	Minority Managed and aided primary schools	273	36.45
ii)	Others (English Medium Schools, Saraswati Sishu Mandir etc. without receiving grant in-aid from Government)	476	63.55
	Total	749 (01.78)	100.00
	Grand Total	42104 (100.00)	

Source : Directorate of Elementary Education, Orissa : 2002-2003

Table 2.5
Distribution of Upper Primary Schools by Management

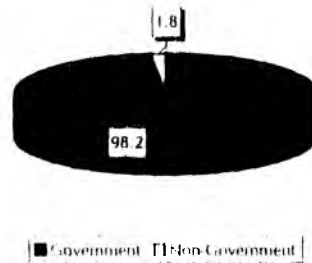
Sl. No.	Schools by Management	Number	Percentage
1.	Schools under Department of School and Mass Education		
i)	Government Upper Primary Schools	9677	84.07
ii)	UP Sections High Schools (from Class VI - x)	736	6.39
iii)	UP Sections Higher Secondary Schools (from Class VI - XII)	43	0.37
	Total (i+ii+iii)	10456	90.84
iv)	Aided UP Schools (Class VI - VII)	691	6.00
v)	Recognized UP Schools	214	1.86
	Total (iv+v)	905	7.86
2.	UP Schools under SC and ST Development Department	149	1.29
	Total	149	1.29
	Total (1+2)	11510	100.00

Source : Directorate of Elementary Education (2001-2002)

The following situation in respect of management of primary and upper primary schools of the state is evident from the figures furnished in Tables above :

- The state stands out as the single largest provider of schooling facilities : its share of primary and upper primary schools being 98.2 per cent and 92.14 per cent respectively
- Of the twin state players in elementary education, the Department of School and Mass Education is almost the singular provider of educational provision, with 97.43 per cent of primary schools and 90.84 per cent upper primary schools under School and Mass Education. The shares of the SC and ST Development Department being minuscule - 2.57 and 1.29 per cent respectively. This dualism in management of elementary schools stands as a major constraint for its effective and unified development in the state.
- The extent of private initiative is insignificant in elementary education : only 1.78 per cent at the primary and 7.86 per cent at the upper primary level.

FIGURE - III : PRIMARY SCHOOLS IN ORISSA BY MANAGEMENT (2001-2002)



primary schools and 90.84 per cent upper

FIGURE - IV : UPPER PRIMARY SCHOOLS IN ORISSA BY MANAGEMENT (2001-2002)

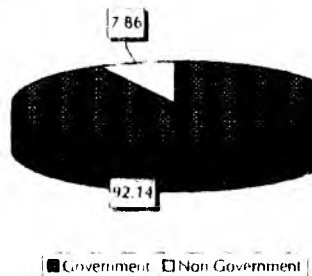
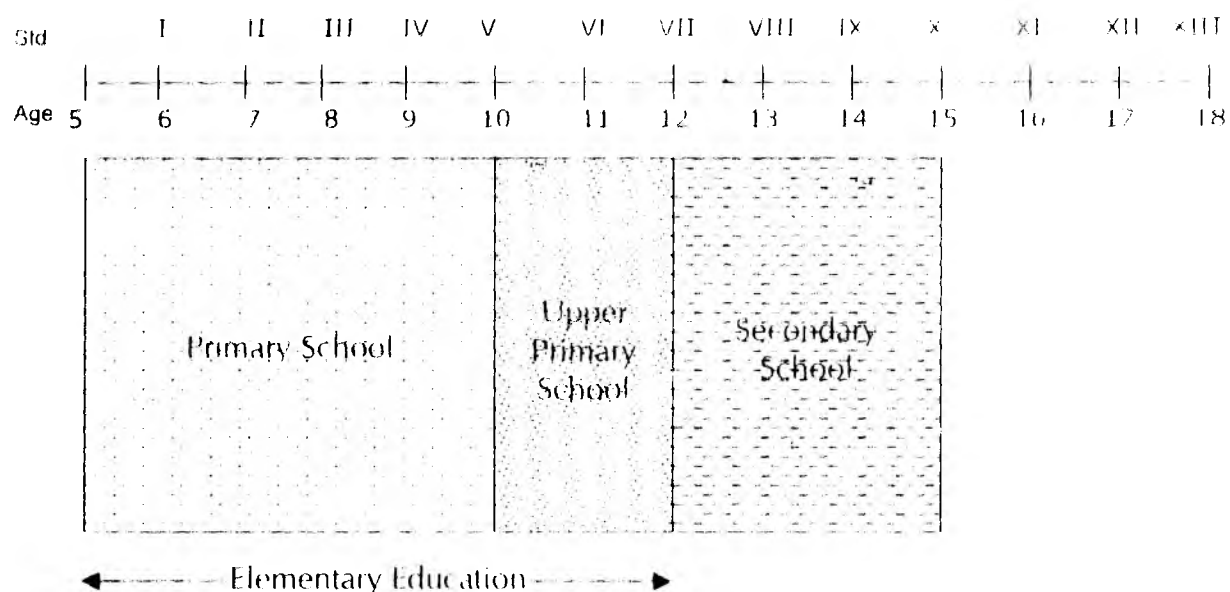


Table 2.4 and Table 2.5 make another aspect of primary and upper primary schools' management evident, viz., different combinations. They are : (i) independent primary / upper primary schools (Classes I to V), (ii) primary sections in upper primary schools (Classes I to VII), (iii) primary sections in high schools (Classes I to X) / upper primary sections attached to high schools (Classes VI to X), and (iv) primary / upper primary sections in higher secondary schools (Classes I to XII / Classes VI to XII)

Structurally, state's elementary education (five years of primary education and two years of upper primary education) is at variance with the national system of elementary education (five years of primary education and three years in upper primary education) as envisaged in the NPE (1986). Besides this, the secondary education in the state comprises three years of education from Class VIII to Class X. This distinction is evident from the Figure V.

Figure - V : Educational Structure in Orissa



2.2.3 Ratio of Upper Primary Schools to Primary Schools :

**Table 2.6
Primary and Upper Primary Schools in Orissa (2001-2002)**

Sl. No.	Districts	Number of ...		Ratio of UP Schools to Primary Schools	
		Primary Schools	Upper Primary Schools	2001-2002	Sixth Survey
A. DPEP Phase I					
1.	Baragarh	1353	404	3.54	3.84
2.	Balangir	2004	389	4.97	4.62
3.	Dhenkanal	1339	377	2.96	2.76
4.	Gajapati	813	108	8.68	10.33
5.	Kalahandi	1896	365	4.67	4.68
6.	Keonjhar	1841	631	2.86	2.74
7.	Rayagada	1323	186	7.98	8.94
8.	Sambalpur	1033	238	4.23	3.86
	Total	11602	2698	4.30	
B. DPEP Phase II					
9.	Boudh	554	111	5.32	5.12
10.	Kandhamal	1537	244	6.23	6.43
11.	Koraput	1911	236	7.85	8.99
12.	Malkangiri	792	103	8.72	9.96
13.	Mayurbhanja	2957	795	3.70	3.51
14.	Nawarangpur	1249	206	6.06	6.05
15.	Nuapada	611	166	4.40	4.90
16.	Sonepur	650	166	4.32	4.33
	Total	10261	2027	5.06	

Sl No	Districts	Number of		Ratio of UP Schools to Primary Schools	
		Primary Schools	Upper Primary Schools	2001-2002	Sixth Survey
C	SSA				
17.	Angul	1065	323	3.82	3.84
18.	Balasore	1961	917	1.98	1.81
19.	Bhadrak	1059	522	2.02	2.20
20.	Cuttack	2726	667	3.26	2.88
21.	Deogarh	452	113	3.54	3.65
22.	Ganjam	3035	695	4.22	4.30
23.	Jagatsinghpur	1025	421	2.80	2.60
24.	Jajpur	1308	678	2.23	2.17
25.	Jharsuguda	596	165	3.70	3.56
26.	Kendrapara	1255	583	2.45	2.36
27.	Khurda	1226	415	3.04	2.93
28.	Nayagarh	1479	274	3.01	2.89
29.	Puri	1443	479	2.99	2.86
30.	Sundargarh	2052	523	3.94	3.63
	Total	20682	6775	3.05	-
	Grand Total	42,104	11,510	3.66	-

Source Directorate of Elementary Education, Orissa (2001-2002) and All India School Education Surveys

Note : The OPEPA source indicates that during the year 2001-2002 total number of primary schools stood at 43,668 i.e. an increase by 1564 over 42,104 primary schools as reported by the Directorate of Elementary Education. Details are in Appendix - A

A close perusal of the figures furnished in Table 2.6 makes the following scenario evident :

- The total number of primary and upper primary schools in the state (2001-2002) stands at 42,104 and 11,510 respectively with an overall ratio of upper primary to primary schools of 3.66. Thus, there is an acute shortfall of upper primary schools relative to primary schools, the ideal approved ratio being 1 : 2. The shortage of upper primary schools restricts the flow / transition of primary school completers to upper primary schools.
- The overall proportion of UP schools to primary schools masks inter-district variations that are flagrant. The districts that are at a distinct disadvantage are : Malkangiri (8.72), Koraput (7.85), Kandhamal (6.23), Gajapati (8.68), Rayagada (7.98), Nawarangpur (4.06). These districts represent the groups of the proverbial KBK districts, barring Gajapati and Kandhamal districts with high concentration of tribal population. The regional diversities are sizeable. This regional variation in availability of upper primary schools tends to compound the other historical inequities.
- When the ratios of upper primary schools to primary schools in 2001-2002 are compared with those of the Sixth Survey (1993), almost a similar situation was found to exist. To put it differently, shortage of upper primary schools persisted over the decade.
- Among the 14 SSA districts, the coastal districts such as Balasore (1.98), Bhadrak (2.39), Kendrapara (2.45), and Puri (2.99) are relatively better placed in respect of ratio of UP schools to primary schools.

- In terms availability of primary schooling facilities as an indicator of access, percentages of population with access to primary education within the habitations and that of within one kilometer in eight DPEP districts are as low as in Rayagada (73.5, 85.3), Sambalpur (74.0, 89.5), Keonjhar (74.3, 92.4), Kalahandi (75.6, 91.9), Gajapati (76.1, 87.7), Dhenkanal (78.6, 94.6) and as high as in Baragarh (91.8, 98.5), and Balangit (91.5, 98.3) (Source : Agrawal, Yash : *Progress Towards Universal Access and Retention*, NIEPA, New Delhi, 2001).
- The extent of unmet need for primary and UP schooling facilities in the state is evident from the fact that 12,855 habitations are without primary schools within a distance of one kilometer and 16,317 habitations are not served by upper primary schools within a distance of three kilometers. The corresponding figures for the year 1999-2000 were 12,609 and 10,177 respectively (*Department of School and Mass Education, Government of Orissa, 2000*).

Perceptive observation, immensely supported by findings of empirical studies, makes it evident that mere expansion of schooling facilities will not automatically, particularly for the disadvantaged social groups, promote utilization of facilities created. The two-most common reasons for non-attendance and non enrolment reported in household surveys, in order of frequency are : first, the high opportunity cost of children's time (in terms of forgone earning in wage labour, forgone production in household activities, foregone help with minding younger children, etc.); and second, 'lack of interest in education'.

While costs of schooling are prohibitively expensive, 'lack of interest in education' on the part of the children on their parents is directly associated with the functioning of the school system.

Drèze and Sen (1995), based on findings of extensive village studies, have said :

That issue (non-attendance and non-enrolment) may be particularly relevant in the case of social groups for whom education has traditionally been considered unimportant. ...the old notion that education is not important for members of the 'lower' castes. Whatever survives of this notion cannot but affect (i) the educational aspirations of children from these castes, (ii) the parental and social support which they receive in pursuit of these aspiration, and (iii) the strength of public commitment to the promotion of education among these disadvantaged groups.

2.2.4 Alternative Schooling :

Despite availability of formal schooling facilities in more than 90.0 per cent of habitations, a sizeable percentage of children are out of ambit of formal schooling. What makes this situation more alarming and demands immediate attention is the fact that a substantial proportion of the out-of-school children are living in the areas where formal schooling facilities do exist. The formal school system has not been able to accommodate a large number of children. Only those children can come to school who fulfil certain conditions : who live in villages or habitations relatively large and compact; whose families are economically well to do; whose parents are aware and socially progressive, particularly in case of girls; who can speak the language used in schools and conform to its culture and "discipline". Broadly speaking, they are these children who live in small, scattered, remote habitations; who due to poverty, become working hands to supplement the slender income of the families; whose families cling to retrograde traditions and do not see the importance

of education; who belong to backward castes or communities and face discrimination in schools too. It is obvious that the opening of full-scale primary schools in the present form does not ensure full participation of such children. This calls for a serious search for alternative systems of education that can facilitate the participation of the difficult-to-reach sections of children

The variants may take various forms – alternative schools, Education Guarantee Scheme Centres, schools on wheels, etc. These variants are operative singly or in a mix under DPEP in different states. Table 2.7 and 2.8 present new primary schools, EGS Centres and alternative and innovative education centres opened and number of difficult-to-reach children enrolled in Phase I and Phase II DPEP districts.

Table 2.7
Number of New Primary Schools and EGS Centres Opened and Enrolment in DPEP (Phase - I) Districts

District	NPS Opened	NPS Enrolment	EGSC Opened	EGSC Enrolment	AIE (EGS UP) Centres Opened	AIE Enrolment
Baragarhi	90	2175	315	5910	153	3519
Balangir	51	2212	387	11267	239	5497
Dhenkanal	97	3628	264	9354	03	69
Gajapati	116	4044	395	11187	28	644
Kalahandi	31	1650	1285	51790	128	2944
Keonjhar	166	6188	82	2514	01	21
Rayagada	78	2989	656	20096	00	00
Sambalpur	01	4586	476	13380	97	2231
Total	734	27472	3860	125498	649	14927

Source : Orissa Primary Education Programme Authority, Bhubaneswar (2002)

Note : NPS : New Primary Schools, EGSC : Education Guarantee Scheme Centres, AIE : Alternative and Innovative Education

Table 2.8
Number of New Primary Schools and EGS Centres Opened and Enrolment in DPEP (Phase - II) Districts

District	NPS Opened	NPS Enrolment	EGSC Opened	EGSC Enrolment	AIE (EGS UP) Centres Opened	AIE Enrolment
Boudh	72	-	62	1751	10	230
Kandhamal	57	1739	336	13236	89	2047
Koraput	226	6780	214	6541	01	23
Malkangiri	81	-	155	5018	-	-
Mayurbhanj	200	3150	-	-	-	-
Nawarangpur	95	3088	448	14604	66	1518
Nuapada	44	1408	181	5430	19	437
Sonepur	55	1705	106	3598	43	989
Total	830	17870	1502	50178	228	5244

Source : Orissa Primary Education Programme Authority, Bhubaneswar (2002)

The following position obtains

- Out of 1564 new primary schools opened in Phase I and Phase II DPEP districts, 734 schools have been opened in the former group of districts as against 830 in the latter.
- In Phase I districts, 3509 EGS and AIE Centres have been opened with an additional enrolment of 1,40,425 difficult-to-reach out-of school children. Similarly, Phase II eight DPEP districts have altogether 1730 such schools with a net enrolment of 55,422 children.

These alternative variants of formal school system are essentially intended for children who are disadvantaged, as discussed earlier, in more than one ways. Committed to provide comparable quality of education notwithstanding these alternatives are widely viewed as "second rate" provisions for children who have been inflicted by multiple deprivations. Commitment to ensuring quality remains rhetoric if not supported by academic and financial investment. The general attitude towards education of these out-of-school children, belonging to deprived and marginalized sections of society, is guided either by apathy or by benevolence. The overarching mindset, overtly invisible but covertly deep-seated, largely influences policy formulation and investment decisions.

Interviewing experts, parents and teachers throws light on their perception about the alternative and innovative programmes. Table 2.9 evidently reflects this.

Table 2.9
Perceptions of Experts, Parents and Teachers about Alternative Schooling System
(N = 72)

A. Positive Perspectives :

a) Considering country's or state's financial state, these alternatives are the only options available to educate such out-of-school children	60 (83.3)
b) Starting with alternative provisions, the ultimate objective should be mainstreaming these children	70 (97.2)
c) EGS Centres should be seen as a very short-term strategy and should be converted into formal primary schools within a short time span of two to three years.	68 (94.4)

B. Negative Perspectives :

a) Alternative schooling systems are against the canons of equity and equality	72 (100.0)
b) They stand in sharp contrast to the national system of education (NPE - 1986) and the common school system (1964-66)	72 (100.0)
c) Quality-wise (Inputs - learning infrastructure, teachers, learning climate and time-on-task) these alternatives are poor, unacceptable	70 (97.2)
d) With globalization sweeping the world, these schools act as road blocks to quality	66 (91.7)

Note : Figures within parentheses represent percentages

2.2.5 Schools for Child Labour :

Weiner (1991) observed :

The government of all developed countries and many developing countries have removed children from the labour force and required that they attend school. They believe that employers should not be permitted to employ child labour and that parents - no matter how poor, should not be allowed to keep their children out of school. Modern states regard education as a legal duty - not merely a right - parents

are required to send their children to school, children are required to attend school and the state is obligated to enforce compulsory education. Compulsory primary education is the policy instrument by which the state effectively removes children from the labour force. The state thus stands as the ultimate guardian of children. Protecting them against both parents and would be employers.

At the root of child labour lie factors such as poverty, migration, gender discrimination, socio-economic disparities criminality and the mindset of people and policy makers. Child labour forms a sizeable segment of out-of-school or dropped out children who are, on account of several factors, denied access to primary schools. A number of measures could be initiated at the national, state and local levels to provide such children with access to education. These include :

- Making primary education universal, compulsory and free
- Facilitating access to schooling through allocation of additional resources.
- Providing incentives to parents to send their children to school
- Allocating greater resources to basic education
- Promoting public awareness of the value of education.
- Implementing child labour and compulsory education laws.
- Developing code of good practice for employers.
- Converging programmes and coordinating with allied departments and NGOs.

In Orissa, there are 18 National Child Labour Projects operating in eighteen districts. For the education of child labour, 682 special learning centres are functioning in the state. The number of child labours admitted in the special learning centres was 37,516 and the number of child labours mainstreamed to formal schools was 19,514. Table 2.10 presents the present scenario.

Table 2.10
Special Learning Centres in the NCLP Districts – Targets and Achievements
(as on 31.12.2001)

SJ. No.	Name of the NCLP District	Special Learning Centres sanctioned	Special Learning Centres Opened	Child Labour Admitted	Child Labour Mainstreamed to Formal Schools	Per cent of Col. 6 to Col. 5
1	2	3	4	5	6	7
1	Angul	20	20	1745	375	21.49
2	Balasore	40	40	2000	-	-
3	Baragarh	40	40	2000	500	25.00
4	Balangir	40	40	2000	1025	51.25
5	Cuttack	40	40	2000	-	-
6	Deogarh	40	40	2000	1069	53.45
7	Gajapati	58	60	3429	1003	29.25
8	Ganjam	36	33	1962	1362	69.42
9	Jharsuguda	55	49	2450	375	15.31
10.	Kalahandi	50	50	2500	1535	61.40
11.	Koraput	20	20	1000	1092	109.20
12.	Malkangiri	60	40	2000	2000	100.00

Sl No	Name of the NCLP District	Special Learning Centres sanctioned	Special Learning Centres Opened	Child Labour Admitted	Child Labour Mainstreamed to Formal Schools	Per cent of Col. 6 to Col. 5
1	2	3	4	5	6	7
13.	Nawarangpur	20	20	2000	1663	83.15
14.	Nuapada	20	20	1000	1060	106.00
15.	Mayurbhanja	40	40	2000	1063	53.15
16.	Rayagada	20	20	1998	1775	88.84
17.	Sambalpur	70	70	3500	2695	77.00
18.	Sonepur	40	40	1932	922	47.72
	Total	709	682	37516	19514	52.02

Source : Labour Statistics in India (2001), The Labour Commissioner, Orissa, Bhubaneswar

2.2.6 The Unmet Need :

In terms of distribution of un-served habitations, it could be seen DPEP Phase I and Phase II districts have around 55.0 per cent of total habitations un-served by a primary school. This is a major roadblock to UEE in educationally backward districts of the state as against this, the SSA districts, which include six relatively un-advanced districts that were to be included in DPEP (Phase II), share 45.3 per cent of un-served habitations. This is evident from Table 2.11.

Table 2.11
District-wise Number of Un-served Habitations for Primary Schools

Sl No	District	Number of.....	
		Habitations	Un-served Habitations
A. DPEP Phase I			
1.	Balangir	2328	148
2.	Baragarh	1712	123
3.	Dhenkanal	1841	306
4.	Gajapati	1817	564
5.	Kalahandi	3465	798
6.	Keonjhar	1730	116
7.	Rayagada	2963	1049
8.	Sambalpur	1968	504
	Total	17824	3608 (28.10)
B. DPEP Phase II			
9.	Boudh	1329	307
10.	Kandhamal	1792	100
11.	Koraput	1768	560
12.	Malkangiri	5430	752
13.	Mayurbhanja	2110	405
14.	Nawarangpur	1823	471
15.	Nuapada	3156	738
16.	Sonepur	870	78
	Total	18278	3411 (26.57)
C. SSA			
17.	Angul	2396	527
18.	Balasore	3816	465
19.	Bhadrak	2341	238

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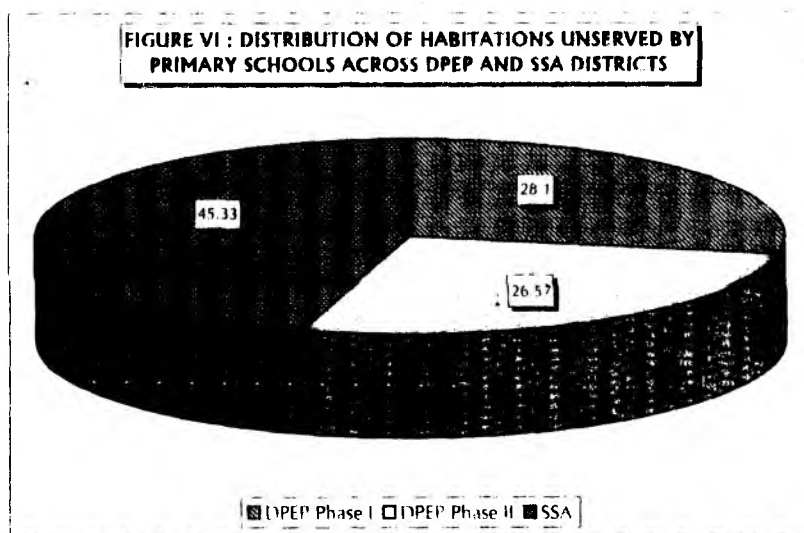
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Sl. No.	District	Number of	
		Habitations	Un-served Habitations
20.	Cuttack	2788	194
21.	Deogarh	865	249
22.	Ganjam	3680	501
23.	Jagatsinghpur	1962	136
24.	Jajpur	2408	152
25.	Jharsuguda	903	186
26.	Kendrapara	3238	541
27.	Khurda	3788	1169
28.	Nayagarh	1176	150
29.	Puri	2974	401
30.	Sundargarh	4711	911
Total		37046	5820 (45.33)
Grand Total (A+B+C)		73148	12839 (100.00)

Source : Directorate of Elementary Education (2002)

Figure VI below represents the share of DPEP Phase I, Phase II and SSA districts in the total number of unserved habitations.



An analysis of figures in Table 2.11 reveals that :

- Even the Phase I DPEP districts have 28.10 per cent of eligible habitations that are deprived of primary schooling facilities.
- Surprisingly, Khurda district with highest literacy rate (80.19%) has 1169 school-less habitations, constituting 31.00% of its total habitations. This reflects the extent of unmet need for basic education.
- Out of the total eligible habitations without schools, fourteen SSA districts have almost 46 per cent share. This is due partly to larger number of districts under SSA cluster and partly to large population in coastal districts.
- The availability of schools commensurate to the needs (population and distance norm) of the population is the fast necessary condition for educational

development in any region. Conversely non-availability of schooling facilities deprives children of their right to education and the development.

- The scenario with regard to number of habitations without primary schools during the Sixth Survey and during 2001-2002 has not changed. According to the Sixth Survey, the number of un-served habitations stood at 12,859
- The lowest number of un-served habitations was found in Sonepur (78) district. The district's position has remain unchanged since 1993 (Sixth Survey)

The magnitude of unmet need for primary and upper primary school places is evident from the estimates of following expert groups

- The state needs 50,098 primary schools by 2010 to provide schooling facilities to all children up to the age of 14 years. As against this, there are at present 42,104 primary schools and thus an additional number of 7,994 primary schools need to be opened (Tapas Majumdar Committee : GOI, MHRD, 1999).
- The Government of Orissa has set a norm of opening one upper primary school in every habitation having a population of 500 and within a distance of less than three kilometers to the children. Accordingly, there is a need to have 25,049 upper primary schools by 2001 in order to provide schooling facilities for all children of the age-group 11-14 years. The state needs, therefore, another 13,539 upper primary schools (Tilak, 2003).
- According to Government of India norms, there should be one upper primary school for every two primary schools. Assuming that the existing number of 42,104 primary schools is reasonably adequate, the state stands in need of 21,052 upper primary schools, as against 11,510 at present. At present, there is only one upper primary school for 3.7 primary schools.

2.2.7 Conclusions :

The necessary condition for the efficiency of the basic education system relates to geographical accessibility as well as availability of a school to the children of the relevant age-group. With the fulfillment of this necessary condition as the basis, one moves into the realm of identifying the sufficient conditions. Since schooling facilities have children as the target group and further, since the family plays a crucial role in the upbringing of the student in the school age-group, the accessibility of the school is of prime importance and physical access becomes crucial in determining whether or not a child joins school and is retained therein. Experience as well as empirical evidence show that the utilization of school facilities is subject to distance decay, whereby the nearer a person lives to this facility, the more likely it is that he or she will use it, assuming, of course, that there are no socio-economic barriers to access (Raza et. al : 1990)

From the discussion attempted in this section, the following conclusions could be drawn which are implicitly as well as explicitly indicative of needed interventions and strategies to be taken up at the highest, intermediate and grassroots level.

- Notwithstanding non-availability of data on enrolment by age, enrolment figures not distinguishing between children in the relevant age group and students who are average or underage and data not distinguishing between children who appear on school rosters and those who actually come to school, a substantial segment of children of school going age group remain un-enrolled. They largely represent difficult-to-reach groups who could only be reached through targeted and focussed strategies and interventions. More of the same will not do

- The ratio of upper primary schools to primary schools continues to be very high, particularly in KBK group of districts and other SC and ST dominated districts. The absence of required number of upper primary schools restricts flow of students from primary to upper primary schools, leading to non-completion of the full cycle of elementary education.
- Structurally, Class VIII is a part of secondary education in the state. This structural anachronism creates problems for children to complete eight years of elementary education. Neither does it legitimately form a part of secondary education in terms of curriculum continuum and evaluation.
- Apart from physical distance, socio-cultural distance between the scheduled and non-scheduled children prevents children of the former group from getting themselves enrolled and continued participation. This implies need for locating a school at a place that ensures its accessibility to the children from the SC and ST communities.
- Simple availability of a school, even within the habitation itself, does not ensure enrolment of all school age-children. From supply side perspective, interventions such as building enough schools and classrooms and hiring and deploying enough competent qualified and motivated teachers. In short, what is of paramount importance is making a full-fledged well-staffed and well-functioning school available in the village or its neighbourhood.
- The problem of accessibility could be effectively addressed through a number of demand-side interventions : improving the quality of schooling, enforcing compulsory attendance, and off-setting the cost of children's labour.
- Parental demand for schooling of their children is, to a large extent, dependent on their perceived benefits of education. This perception of parents depends, in turn, on their literacy levels. Therefore, feeble and fragile social demand for schooling in educationally backward districts with low female literacy levels is a major challenge to UFE. In view of this, short-term demand generation activities can be effective in raising enrolments.
- The problem of accessibility acquires significance in the case of habitations which are predominantly inhabited by the disadvantaged groups like Scheduled Castes and Scheduled Tribes. These habitations are generally isolated from the main settlement site. Thus, the children of these communities are handicapped in availing themselves of the schooling facility. The situation will improve only if these habitations are effectively converted by schools.
- Reaching those still out of reach does not mean merely expanding existing education system : it will mean designing and developing new models and delivery systems, tailored to specific groups, in a concerted effort to ensure relevant high-quality basic education for every child and adult.

2.3 Enrolment :

An analysis of figures in Table 2.12 reveals that :

- Even the Phase I DPEP districts have 28.10 per cent of eligible habitations that are deprived of primary school facilities.
- Surprisingly, Khurda district with the highest literacy rate (80.19%) has 1169 school-less habitations, constituting 31.00 per cent of its total habitations. This reflects the extent of unmet need for basic education.

Enrolment of students represent two important variants of schooling, namely the extent to which services created are utilized and in a way, the demand generated for

schooling. Table 2.11 depicts a brief trajectory of enrolment in primary and upper primary schools for the period, 1995-96 to 2002-2003

Table 2.12
Enrolment in Primary and Upper Primary Schools of Orissa
(1995-96 to 2002-2003)

Year	Enrolment (in lakhs)			
	Primary	% increase	Upper Primary	% increase
1995-1996	38.87	-	9.06	-
1996-1997	39.45	01.49	09.09	00.33
1997-1998	40.05	01.52	09.39	03.30
1998-1999	45.78	14.30	09.70	03.30
1999-2000	46.46	01.48	10.15	04.64
2001-2002	47.69	02.65	10.35	01.97
2002-2003	48.16	00.99	10.76	03.96

Source : Directorate of Elementary Education, Orissa (2003)

Overall enrolment of students in primary schools increased from 38.87 lakhs in 1995-96 to 48.16 lakhs in 2002-2003, registering an annual increase of 3.41 per cent. As against this, in upper primary schools growth in enrolment is relatively slow, a bare 2.68 per cent. Notwithstanding DPEP being implemented in eight districts and Joint GOI-UN System Programmes in 10 blocks and urban areas of the state during this period, rise in enrolment in primary schools has not been appreciably high.

Dis-aggregated figures for eight DPEP districts, with a wide-range of interventions put in, show that :

- Overall enrolment grew by 17.0 per cent, enrolment of ST children by 11.0 per cent during the period 1997-98 to 2001-2002 and that of girls by 17.0 per cent during 1998-99 to 2001-2002 (5.14 lakhs in 1998-99 and 6.0 lakhs in 2001-2002).
- Gender gaps in enrolment is conspicuously high in districts with higher proportion of ST population (Rayagada : 8.50%, Gajapati : 7.81%, Kalahandi : 7.24%, Keonjhar : 5.92%)

Source : Orissa Primary Education Programme Authority (2003)

- Split up by sex, girls constitute 45.43 per cent of total enrolment for the year, 2001-2002. The figures for eight DPEP districts (45.74%) do not favourably compare with state's overall position. In other words, gender gaps in enrolment still have its sway.
- The shares of eight first DPEP districts, eight second phase DPEP (DFID) districts and remaining 14 SSA districts in the total enrolment of the state (2001-2002) are 26.6%, 20.90% and 52.5% respectively.
- Looked from the perspective of composition of enrolment by scheduled and non-scheduled communities, it is found that the proportion of SC children is a little over one-fifth (20.49%) and that of ST children is almost one-fourth (24.99%) of the total enrolled children.
- Gender disparity in enrolment is evident across two levels of basic education - the percentage shares of boys and girls being : (6-11) age-group (56.34, 43.66),

(11-14) age group (56.24, 43.76) and (6-14) age-group (56.31, 43.69) This remains as a concern and challenge

It would be meaningful to examine the proportion (in percentages) of 6-14) age group children of different caste categories (SC, ST and General) by sex for 16 DPEP districts, data for which are available. Table 2.13 presents the position

Table 2.13
Enrolment Rate (Per cent) of Students in the age-group 6-14 years by Caste and Sex in DPEP districts of Orissa (1999-2000)

Sl. No.	District	SC			ST			General			Total		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1.	Baragarh	77.05	77.68	77.35	78.54	78.04	78.30	78.31	78.03	78.17	78.12	77.97	78.05
2.	Balangir	79.81	76.02	78.07	73.03	67.28	70.33	78.18	74.22	76.32	77.28	72.90	75.24
3.	Dhenkanal	87.29	84.70	86.11	76.51	73.87	75.35	93.05	92.97	93.01	89.98	89.46	89.74
4.	Gajapati	75.72	69.90	73.04	73.39	66.21	70.18	79.61	77.92	78.83	76.09	71.34	73.93
5.	Kalahandi	79.45	74.53	77.20	65.32	59.65	62.84	83.15	76.26	79.99	76.73	70.34	74.11
6.	Keonjhar	86.79	86.94	86.86	74.99	69.53	72.48	92.12	91.00	91.57	83.21	80.67	82.02
7.	Rayagada	70.58	60.79	66.07	80.56	72.70	76.84	80.56	68.77	75.16	73.66	63.78	69.10
8.	Sambalpur	84.46	83.07	83.82	81.91	78.63	80.36	77.38	76.69	77.05	80.68	78.62	79.70
9.	Boudh	91.34	83.82	87.78	84.44	75.06	80.05	92.65	88.05	90.46	91.49	85.74	88.76
10.	Kandhamal	87.64	82.03	84.98	81.60	71.48	76.82	88.72	83.72	86.32	84.77	77.04	81.10
11.	Koraput	73.38	63.16	68.67	59.38	44.55	52.67	78.40	72.99	75.86	68.61	58.36	63.90
12.	Malkangiri	84.95	78.63	81.97	60.99	49.00	55.53	82.53	74.45	78.76	71.13	61.72	66.79
13.	Mayurbhanja	85.24	78.38	82.02	74.87	61.61	68.78	89.24	86.91	88.13	80.09	71.08	75.89
14.	Nawarangpur	73.80	62.84	68.70	50.93	31.07	41.81	86.11	51.25	59.22	58.56	41.57	50.72
15.	Nuapada	83.41	74.08	79.06	75.80	60.96	68.89	81.39	71.72	76.82	79.67	68.23	74.31
16.	Sonepur	90.17	85.93	88.16	87.56	83.82	85.78	91.81	88.93	90.43	90.94	87.62	89.36
	Total	80.56	74.94	77.95	70.37	59.87	65.54	83.65	79.85	81.85	77.78	71.19	74.71

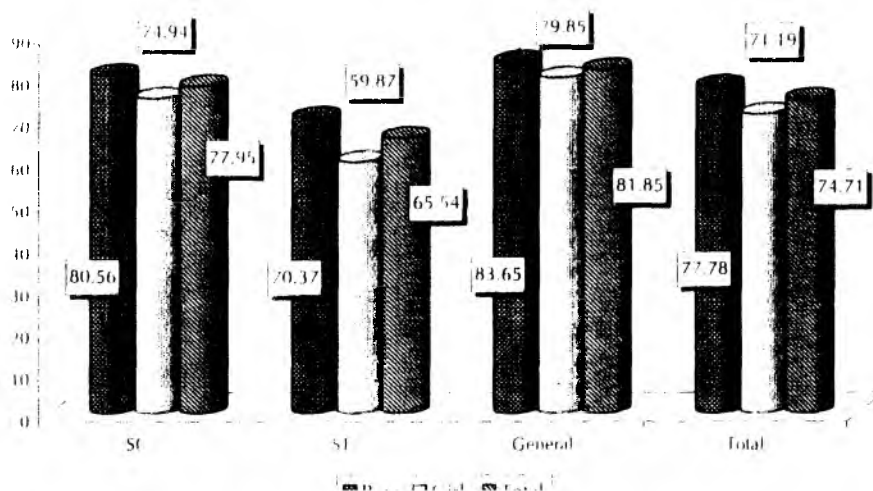
Note : SC : Scheduled Caste, ST : Scheduled Tribe

Source : Orissa Primary Education Authority, Bhubaneswar (2000)

An analysis of the figures in the Table 2.13 above makes the following facts evident :

- The overall percentage of students of the 6-14 age group enrolled in elementary schools is 74.71. Conversely, more than a quarter (25.29%) of the children of the relevant age-group remain un-enrolled. In case of girls, the extent of un-enrolled children is 28.71 per cent as against 22.22 per cent in case of boys.
- Dis-aggregated by caste categories, the rate of enrolment is the highest (81.85%) for general castes (77.95%). The scheduled tribes have the lowest (65.54%) enrolment rate.
- Disparities in enrolment rates in case of scheduled castes and general category children and marginal. However, disparities in case of scheduled tribe children is a cause of concern.
- There is a still a large proportion of children in the age-group 6-14 years who have not been enrolled in schools in the DPEP districts in spite of the implementation of District Primary Education Programme.

FIGURE : VII : ENROLMENT RATE (IN PERCENT) OF STUDENTS IN THE AGE GROUP (6-14) YEARS



Social group disparities, particularly gaps between scheduled tribe, and scheduled castes and general caste groups are excruciatingly distressing. The dysfunctional school system in the tribal regions coupled with the mind-set of the decision-makers tends to exacerbate the inequities. Some of the factors responsible for such an inequities situation for tribal children as reported by Tilak (2003) are : pervasive teacher absenteeism, psychological and social distance between teachers and the taught, lack of concern on the part of teachers for children, unsuitable school-timing, lack of involvement of parents in school affairs, etc.

Interview with parents, social activists and PRI representatives brings out the following reasons :

**Table 2.14
Perception of Respondents towards Education of Tribal Children**

Sl. No.	Stimuli	No. of respondents	Responses	Number / Percentage
1.	Why don't you send your children to school ?	35	<ul style="list-style-type: none"> ▪ Language of instruction is different from home language ▪ They (non-tribal teachers, supervisors etc.) think our children cognitively inferior ▪ Our children are first generation learners ▪ School curriculum, textbooks and curriculum transaction do not resemble our life and contexts ▪ Poverty prevents us from sending children to school ▪ Teachers rarely come to school and teach ▪ Schooling fails to equip our children with requisite life skills ▪ Schools are unisex. Therefore, we do not send our girl children to schools 	<ul style="list-style-type: none"> 21 (60.0) 30 (35.7) 33 (94.3) 29 (82.9) 20 (57.14) 30 (85.7) 27 (77.1) 28 (80.0)

Sl. No.	Stimuli	No. of respondents	Responses	Number / Percentage
2.	When will you enroll your children in school, retain them till they complete eight years of elementary education ?	35	<p>We will enroll our children in schools, if</p> <ul style="list-style-type: none"> ▪ A well-staffed and well functioning school is available in the habitation or in its immediate neighbourhood ▪ Meaningful teaching takes place in the school ▪ Opportunity costs are offset by development linked packages ▪ Separate schools with female teachers are available for our adolescent girls ▪ Tribal child's home language is used as language for instruction at least in early-stages ▪ School timing and holdings are synchronized with local circumstances - forest and agriculture operations and festivals ▪ School meal and teaching learning materials are provided 	<p>30 (85.7)</p> <p>27 (77.1)</p> <p>30 (85.7)</p> <p>35 (100.00)</p> <p>33 (94.3)</p> <p>27 (77.1)</p> <p>34 (97.14)</p>

Note : Figures within parentheses represents percentage

The responses reflected in Table 2.14 show the perceptions of tribal people about the school system, teachers and school activities. The enrolment of backward caste children is significantly affected by the number of animals at home, distance to forests and more so by the schooling factors. Poor economic status of the family, literacy among parents, high opportunity cost of these children (particularly of boys), lack of proper facilities and also inconvenient timings of the school are some of the important reasons for non-enrolment and discontinuance (Debi : 2002).

Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER) are indicators of age-specific groups of children who are enrolled in schools. In the year, 1998-99, GER for primary and upper primary levels were 94.91 per cent and 51.31 per cent respectively. For girls, the ratios were as low as 79.82 and 37.43 per cent. The performance of the state stands no comparison with a few other states as indicated in the Table below.

Table 2.15
GERs for Orissa in a Comparative Perspective (1998-1999)

Sl. No.	State	GER	
		Total	Girls
1	ORISSA		
	Primary	94.91	79.82
	Upper Primary	51.31	37.43
2.	KERALA		
	Primary	87.86	87.00
	Upper Primary	95.22	93.25
3.	KARNATAKA		
	Primary	107.90	104.38
	Upper Primary	66.08	61.06

Sl. No	State	GER	
		Total	Girls
4.	MADHYA PRADESH		
	Primary	108.35	96.46
	Upper Primary	62.25	48.09
5.	GUJARAT		
	Primary	112.22	100.70
	Upper Primary	65.39	58.00
6.	HIMACHAL PRADESH		
	Primary	92.10	88.29
	Upper Primary	84.08	79.72
7.	ANDHRA PRADESH		
	Primary	96.89	94.80
	Upper Primary	46.03	40.93

Source : Government of India. Selected Educational Statistics (1998-99)

However, GERs and NERs (2002) for eight DPEP districts show significant improvement in enrolment in eight DPEP districts. Notwithstanding non-availability of relevant data for remaining 22 districts, performance of DPEP districts is evidently indicative of a similar pattern with similar interventions under DPEP (Phase II) and SSA districts.

Table 2.16
GERs and NERs in DPEP (Phase I) districts : 2002

Sl. No.	Districts	GER	NER
1.	Balangir	108.76	85.35
2.	Baragarh	115.85	92.10
3.	Dhenkanal	114.39	94.09
4.	Gajapati	100.85	88.26
5.	Kalahandi	102.46	84.69
6.	Keonjhar	111.75	88.37
7.	Rayagada	108.16	89.43
8.	Sambalpur	107.48	91.22
	Total	108.71	89.19

Source : Orissa Primary Education Programme Authority, 2002

2.4 Out-of-School Children :

A World Bank report (1997) while making a critical appraisal of the Indian Primary Education System, observed that India's primary education glass is two thirds full, one third empty. The one third empty segment of the glass is represented by children who stand beyond the ambit of primary schools. They constitute a critical segment of the school-age children who are inflicted by multiple deprivations. UFE remains unachieved unless these difficult-to-reach children are brought to the fold of schooling.

Table 2.17 presents the size of age-specific school age children who need to be enrolled.

Table 2.17
Out-of-School School-age children in Orissa (2002)

Category of districts	Age specific Out-of-School Children								
	6-11			11-14			6-14		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
DPEP Phase I (08)	44986 (41.28)	63981 (58.72)	108967 (100.00)	66679 (78.15)	18643 (21.85)	85322 (100.00)	111665	82624	194289
DPEP Phase II (08)	77455 (39.94)	116468 (60.06)	193923 (100.00)	44057 (55.05)	40578 (47.95)	84635 (100.00)	121512	157046	278558
SSA (14)	138739 (39.63)	211304 (60.37)	350043 (100.00)	214337 (47.50)	236853 (52.51)	451190 (100.00)	353076	448157	801233
Total	261180 (40.00)	391753 (60.00)	652933 (100.00)	325073 (52.33)	296074 (47.67)	621147 (100.00)	586253 (46.01)	687827 (53.91)	1274080 (100.00)

Source - Orissa Primary Education Programme Authority, Bhubaneswar (2002)

An incisive reading of the contents of the Table 2.17 brings out the distribution pattern of age-specific out-of-school children.

- There are 12.74 lakh out-of-school children of (6-14) age-group, out of whom about 54.00 per cent are girls.
- Of these 12.74 lakh out-of-school children, primary school-age children constitute 51.25 per cent. Again, at the primary level more girls (60.00%) than boys are outside the school system.
- Contrastingly, less girls of upper primary school-going age-group are out-of-school. The percentages for boys : girls being 52.33 : 47.67. In DPEP Phase I eight districts a little over one-fifth of the out-of-school children are girls.
- Out-of-school children of all age-specific ranges i.e., (6-11), (11-14), and (6-14) of SSA districts are predominantly large, constituting 62.9 per cent of the total (6-14) age-group children. This is due possibly to three reasons : (i) larger number of districts (14) under the cluster of SSA districts, (ii) relatively large population, and (iii) non-implementation of special programmes like DPEP.
- Out-of-school children are required to be enrolled. They, representing an extensive range of, often minority, children, pose a formidable challenge to any attempt to bring them into fold of schooling. This difficult-to-reach segment of non-enrolled children include children of migratory parents, pavement dwellers, prisoners, construction workers, children with special needs, sex workers, child labour etc. The conventional supply system cannot meet their unmet demand for schooling. More of the same will not help. Those vulnerable groups could only be reached through non-conventional means.

Of these, disabled children, children who can take advantage of inclusive schooling constitute a critical group. The distribution of school-aged disabled children is given in Table 2.18.

Table 2.18
Out-of-School School-aged Disabled Children

Sl No.	District	Disabled children		
		6 to 11 years	11 to 14 years	6 to 14 years
A. DPEP Phase I Districts				
1.	Baragarh	2660	1234	3894
2.	Balangir	3953	1715	5668
3.	Dhenkanal	3762	2001	5763
4.	Gajapati	1155	602	1757

Sl. No	District	Disabled children		
		6 to 11 years	11 to 14 years	6 to 14 years
5.	Kalahandi	2569	1285	3854
6.	Keonjhar	7334	4309	11643
7.	Rayagada	4675	1088	5763
8.	Sambalpur	1461	638	2099
	Total	27569 (24.67)	12872 (26.49)	40441 (25.23)
B. DPEP Phase II Districts				
9.	Boudh	945	348	1293
10.	Kandhamal	1416	674	2090
11.	Koraput	2138	759	2897
12.	Malkangiri	2037	680	2717
13.	Mayurbhanja	5372	3208	8580
14.	Nawarangpur	3197	1963	5160
15.	Nuapada	1469	589	2058
16.	Sonepur	1154	357	1511
	Total	17728 (15.87)	8578 (17.66)	26306 (16.41)
C. SSA Districts				
17.	Angul	4114	2226	6340
18.	Balasore	5667	2250	7917
19.	Bhadrak	4219	1517	5736
20.	Cuttack	6629	3479	10108
21.	Deogarh	1381	502	1883
22.	Ganjam	9172	3181	12353
23.	Jagatsinghpur	4421	1789	6210
24.	Jaipur	5699	2639	8338
25.	Jharsuguda	1383	614	1997
26.	Kendrapara	5588	1506	7094
27.	Khurda	3775	1427	5202
28.	Nayagarh	3505	1752	5257
29.	Puri	5475	2408	7883
30.	Sundargarh	5406	1843	7249
	Total	66434 (59.46)	27133 (55.85)	93567 (58.36)
	Total (A+B+C)	111731 (100.00)	48583 (100.00)	160314 (100.00)

Source : Orissa Primary Education Programme, Bhubaneswar (2002)

Out-of-school children of (6-14) age group with special need constitute about 12.6 per cent of the total out-of-school children of the relevant age group. Of those, a little over one-quarter (25.23%) disabled out-of-school children are found in eight Phase I DPEP districts. In the context of DPEP coming to a close in the eight districts on June 30, 2003, the position is really discouraging. The fourteen SSA districts have about 60.00 per cent of the total out-of-school disabled children. Of the total out-of-school children (6-14) age group, the share of (6-11) age group is roughly 70.00 per cent. Therefore, this group poses a challenge to policy makers and implementers.

The National Policy on Education (1986 and 1992) recommended as a goal "to integrate the handicapped with the general community at all levels as equal partners to prepare them for normal growth and to enable them to face life with courage and confidence. Inclusive schooling, as opposed to special education for disabled children, intends that all children, irrespective of the nature and degree of disability should be

educated in general schools with normal children. Inclusive education is suitable on educational, social and moral grounds.

The out-of-school school-age disabled children must be brought to the fold of schooling of UEF is to be made a reality.

2.5 Teachers :

Teachers constitute, next only to students, the single largest input of the education system. The number of teachers, the teacher-pupil ratio, the share of female teachers and teacher qualification, professional preparation and competence provide a pointer to the quality of education imparted to the pupils. The Programme of Action (1992) views teachers as critical inputs :

The teacher performance is the most critical input in the field of education. Whatever policies may be laid down, in the ultimate analysis these have to be interpreted and implemented by teachers as much through their personal example as through their personal example as through teaching learning processes." (Para 22.1.1 p. 109)

Against this context, this section discusses the teaching workforce in position in the state in terms of its size, distribution, qualifications and teacher placement.

District wise number of sanctioned posts, teachers in-position and vacancies have been presented in Table 2.19

Table 2.19
Teachers in position in Primary and Upper Primary Schools of Orissa (2002-2003)

Sl. No.	Districts	Primary			Upper Primary		
		Sanctioned posts	Teacher in-position	Vacancies	Sanctioned posts	Teacher in-position	Vacancies
A. DPEP Phase I							
1.	Baragarh	3917	3383	534	851	815	36
2.	Balangir	5085	4588	497	1182	46	1136
3.	Dhenkanal	3173	2847	326	1074	110	964
4.	Gajapati	2291	1505	786	369	30	339
5.	Kalahandi	4444	4270	174	1003	881	122
6.	Keonjhar	5002	4225	777	1670	112	1558
7.	Rayagada	3203	2835	368	361	20	341
8.	Sambalpur	2626	2368	258	565	31	534
	Total	29741	26021	3720	7075	507	6568
B. DPEP Phase II							
9.	Boudh	1436	1261	175	283	-	283
10.	Kandhamal	3690	2915	775	682	34	648
11.	Koraput	4308	4001	307	524	26	498
12.	Malkangiri	1970	1775	195	235	24	211
13.	Mayurbhanja	7577	6234	1343	2199	256	1943
14.	Nawarangpur	2701	2327	374	504	100	404
15.	Nuapada	1810	1636	174	398	74	324
16.	Sonepur	1877	1744	133	482	60	422
	Total	25369	21893	3476	5307	574	4733

Sl. No	Districts	Primary			Upper Primary		
		Sanctioned posts	Teacher in position	Vacancies	Sanctioned posts	Teacher in position	Vacancies
C. SSA							
17.	Angul	3569	2982	587	965	109	856
18.	Balasore	4849	4312	537	2501	174	2327
19.	Bhadrak	3055	2804	251	1284	392	892
20.	Cuttack	5761	5119	642	2055	112	1943
21.	Deogarh	1015	1004	11	254	07	247
22.	Ganjam	8611	7366	1245	1976	324	1652
23.	Jagatsinghpur	3049	2638	411	1296	68	1228
24.	Jajpur	4243	4080	163	2066	45	2021
25.	Jharsuguda	1550	1487	63	444	43	401
26.	Kendrapara	3676	3027	649	1790	165	1625
27.	Khurda	3745	3160	585	800	168	632
28.	Nayagarh	2356	1848	508	755	182	573
29.	Puri	4277	3512	765	1324	118	1206
30.	Sundargarh	4942	4293	649	1371	140	1231
Total		54698	47632	7066	18881	2047	16834
Total (A+B+C)		109802	95540	14262	31263	28135	3128

Source : Directorate of Elementary Education, Orissa (2002-2003)

Government of Orissa have appointed Swachhasevi Shiksha Sahayaks (SSSs) against existing vacancies in primary schools. They are not regular teachers. The position with regard to SSSs engaged in different districts has been presented in Table 2.20.

Table 2.20
Engagement Position of SSSs in the State (as on 20.03.2002)

Sl. No.	District	Target	Engaged
DPEP Phase I			
1.	Balangir	351	327
2.	Baragarh	346	326
3.	Dhenkanal	324	253
4.	Gajapati	93	39
5.	Kalahandi	311	277
6.	Keonjhar	495	369
7.	Rayagada	143	108
8.	Sambalpur	204	169
Total		2267	1868
DPEP Phase II			
9.	Boudh	103	83
10.	Kandhamal	196	158
11.	Koraput	183	127
12.	Malkangiri	71	56
13.	Mayurbhanja	721	649
14.	Nawarangpur	159	132
15.	Nuapada	139	100
16.	Sonepur	159	159
Total		1731	1464

Sl. No.	District	Target	Engaged
SSA			
17.	Angul	284	218
18.	Balasore	841	646
19.	Bhadrak	511	351
20.	Cuttack	595	450
21.	Deogarh	105	76
22.	Ganjam	575	391
23.	Jagatsinghpur	389	275
24.	Jajpur	607	450
25.	Jharsuguda	150	108
26.	Kendrapara	504	337
27.	Khurda	360	277
28.	Nayagarh	250	202
29.	Puri	423	326
30.	Sundargarh	431	353
Total		6025	4460
Grand Total (A+B+C)		10,023	7,792 (77.74%)

Note SSS - Swachhasevi Shiksha Sahayaks

Source : Directorate of Elementary Education, Orissa (2002)

Thus, out of the targeted 10,023 SSSs to be engaged, 7,792 (77.74%) have been engaged. This has strengthened the teaching camps in primary school of the state.

An analysis shows that :

- Against 1,09,802 sanctioned posts in 42,104 primary schools, 95,962 teachers are in-position, leaving 13,840 vacant positions. The existing vacancies constitute 12.6 per cent of the total pool of sanctioned teachers. Positioning of Swachha Sevi Shiksha Sahayak in different districts is in Table 2.19.
- Similarly, in 11,510 upper primary schools, out of 31,263 sanctioned posts, 28,135 positions are filled up, representing almost 90.0 per cent of the sanctioned posts. Comparatively, upper primary schools are better placed in respect of size of teaching workforce.
- If sanctioned posts are considered against 42,104 primary schools, the overall average number of posts per school with five classes works out to 2.6. Position is still discouraging with regard to average number of teachers per school i.e. 2.27.
- In terms of percentage of female teachers in the total pool of teaching workforce, it is found that female teachers constitute one-fourth (25.02%) of the teaching workforce in primary schools.

District-wise percentage of female teachers in eight DPEP districts are : Baragarh (17.5), Balangir (20.9), Dhenkanal (34.1), Gajapati (21.9), Kalahandi (19.7), Keonjhar (23.2) and Sambalpur (35.6). In other words, except Sambalpur and Keonjhar, the percentage of female teachers is below the state average (**Source** : Agrawal, Yash : *Progress Towards Universal Access and Retention, NIEPA, New Delhi, 2001*)

- The percentage of single teacher schools in eight DPEP districts is indicative of the position in non-DPEP districts. The range extends from as low as 12.0 in Baragarh to as high as 54.7 in Gajapati with other districts - Kalahandi (15.8), Balangir (17.3), Dhenkanal (20.3), Sambalpur (27.1), Keonjhar (30.7) and Rayagada (39.4).

- Orissa is among a handful of states (others being Kerala, West Bengal, Assam and Bihar) where 10 years of schooling with two-year diploma in teaching is the prescribed qualification for recruitment as teachers in primary schools. In a comparative perspective 10 out of 15 major Indian states, viz., Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, and Uttar Pradesh have already raised the minimum qualification to twelve years. This is notwithstanding the fact that the Central Advisory Board of Education (CABE) and Parliament envisaged the raising of the general education level of teachers to twelve years of schooling. The National Council for Teacher Education (NCTE) have also prescribed this qualification (NCTE : 2001). The Baseline Assessment Studies (BAS) of DPEP districts show that a predominant proportion (more than 75%) of teachers have 10 years of general education. Almost all (98.8%) of teachers possess professional qualification in 2002 as against 88.0 per cent in 1986. Still then the state has about 10,000 untrained teachers in its elementary schools.

A related issue is : where are the teachers placed in urban or rural schools. One way of looking at this is to find out the number of teachers placed in well-located urban schools. As evident from the Baseline Assessment Studies and on-the-spot visit of urban schools across the state (*Appendix : B*), urban schools have, on an average, six to eight teachers irrespective of the size of enrolment. The phenomenon of 'deployed teachers' working in urban primary schools is a common feature across all districts. Positioning of disproportionately more teachers than what is required is due to extraneous factors - 'push and pull' teachers can exert.

It would be more revealing to look at the incidents of dropout in the various districts of the state by social group category namely, SC, ST and all community, further broken into boys and girls. The variations in dropout rates across the districts and across social groups by gender have been presented in Table 2.21.

Table 2.21
Average Number of Teachers in Urban Primary Schools

Sl No.	Districts	No. of Schools visited	Number of Teachers in position	Average No. of Teachers	Average Enrolment
1.	Koraput	12	72	6.0	203
2.	Malkangiri	04	26	6.5	190
3.	Sambalpur	07	53	7.5	196
4.	Keonjhar	05	37	7.4	210
5.	Cuttack	11	702	6.6	207
6.	Puri	06	45	7.5	209
7.	Ganjam	04	301	7.7	200
8.	Mayurbhanja	06	37	6.2	198
	Total	55	373	6.78	

2.6 Internal Efficiency :

Internal efficiency of an educational system relates and reflects how efficient the system is with regard to its mandated goals : increased retention or reduced dropout, substantially higher levels of learner achievement, increased attendance rates, etc. The internal efficiency of the system is largely dependent on the effective management of the system, putting all its resources - material and human - to meaningful optimum utilization. A few key parameters of the internal efficiency and effectiveness and dropout rate /

retention rate, levels of learner achievement and transition of students from one level to another.

The efficiency of the primary education system has been discussed in this section.

2.6.1 Retention / Dropout Rate :

Table 2.22 presents the prevalence of dropping out in primary and upper primary schools of the state.

Table 2.22
Extent of Dropout at the Primary and Upper Primary Level

Year	Dropout Rate (%)	
	Primary Level	Upper Primary Level
1995-1996	51.6	65.70
1996-1997	47.6	59.60
1997-1998	47.0	59.10
1998-1999	43.6	58.00
1999-2000	43.0	57.70
2000-2001	41.8	57.00
2001-2002	41.0	56.00

Source: Directorate of Elementary Education (2002)

- In spite of concerted efforts made for achieving UEE, the elementary education system is plagued by internal inefficiency. Implementation of DPEP, Operation Blackboard, SSA, etc. has not changed the scenario. Dropout rates for primary and upper primary levels are 41 per cent and 56.0 respectively.
- Inter-district variations in dropout rates are significant. The dropout rates in educationally backward districts and among disadvantaged social groups and girls are frighteningly high.
- However, Government of India statistics put dropout rate (overall) at 48.9 and for girls at 54.29 per cent (1998-99). Similarly, for elementary level the figures are 68.02 and 72.10 per cent respectively.

The issue of retention / dropping-out assumes critical proportions as we move from lower classes to higher classes. The extent of retention of children drastically drops down as the cohort of students moves up in the ladder. This is evidently visible from the Table 2.23.

Table 2.23
Class-wise Retention Rate (Per cent) of Students in Orissa, 1993

Class	Boys	Girls	Total
I	100.00	100.00	100.00
II	82.24	78.61	80.58
III	78.18	72.62	75.64
IV	66.40	59.39	63.20
V	53.44	46.71	50.14
VI	47.31	35.01	38.98
VII	34.71	32.61	36.47
VIII	31.85	23.75	28.15

Source: Sixth All India Educational Survey (1993)

Overall dropout rates do not reveal variations among different social groups (SCs and STs) and gender groups (boys and girls). Positive discrimination or affirmative action in favour of these groups of disadvantaged children is based on the inequities among them. Therefore, an analysis of a longer time series (from 1973 to 2000-2001) data with inter-group and gender specific variations would be more meaningful. Table 2.23 makes the variations evident.

Table 2.24
Caste-wise Dropout Rates of Students in Primary and Upper Primary Stage in different year in Orissa (%)

Year		Primary			Upper Primary		
		Boys	Girls	Total	Boys	Girls	Total
1973	All children	75.3	81.1	77.5	84.2	90.2	86.6
	SC	83.2	90.3	85.7	-	-	-
	ST	90.6	96.1	92.0	-	-	-
1986	All children	40.3	47.7	52.9	65.4	73.7	69.0
	SC	-	-	-	-	-	-
	ST	-	-	-	-	-	-
1993-94	All children	57.1	52.1	55.1	62.6	59.6	66.2
	SC	-	-	-	-	-	-
	ST	-	-	-	-	-	-
1995-96	All children	51.1	52.4	51.6	61.6	72.8	67.2
	SC	52.2	60.8	55.8	70.5	81.7	75.4
	ST	67.8	74.7	70.2	79.0	84.6	81.2
1996-97	All children	44.9	51.1	47.6	56.0	66.0	59.6
	SC	51.6	60.1	55.4	70.0	81.2	75.0
	ST	67.1	74.1	69.9	28.7	84.2	80.9
1997-98	All children	44.2	50.5	47.0	55.2	64.7	59.1
	SC	57.4	59.7	54.9	51.4	72.1	60.6
	ST	63.4	71.3	68.7	73.5	79.7	76.0
1998-99	All children	44.0	42.4	45.6	59.0	64.0	55.0
	SC	51.2	55.7	52.9	50.3	70.6	59.4
	ST	63.1	68.3	65.0	72.0	78.1	74.5
1999-2000	All children	43.5	42.2	43.0	53.6	63.8	57.7
	SC	51.0	54.9	52.5	50.0	70.2	59.0
	ST	63.0	67.9	64.7	71.7	78.0	74.0
2000-2001	All children	42.3	41.4	41.8	52.9	61.1	57.0
	SC	50.5	59.3	52.1	49.7	69.7	58.6
	ST	61.7	66.5	63.4	70.9	77.1	73.2

Source : Naba Krishna Choudhury Centre for Development Studies, Orissa (2003) : Orissa Human Development Report

Highlights :

- The overall dropout rates for primary level decreased from 77.5 per cent in 1973 to 41.4 in 200-2001 i.e., a 36.1 per cent fall. The scale of decrease in dropout rates is substantially higher.
- In case of girls, the decrease is more than 39 percentage points : from 81.1 per cent in 1973 to 41.4 per cent in 2000-2001. Overall dropout rate plummeted to 57.0 per cent in 2000-2001 from a height of 86.6 per cent.
- In 2000-2001, the overall dropout rates for SC and ST children at the primary level were 52.1 and 63.4 respectively. Similarly, for upper primary level dropout rates were fairly high : 58.6 and 73.2.

- Two distinct disadvantages, viz., social group and gender added together, dropout rates (primary and upper primary) assume frightening proportions for SC (59.3% and 69.7%) and for ST (66.5% and 77.1%)

These gross inequities in retention (converse of dropout) are the outcomes of the differential responses of social groups (SC and ST) and different components of the same social group (SC and ST males and females) to development stimuli.

Raza elucidating the nature of inequities in Indian schooling system stated :

Education has not only been the receptacle of these inequities but has also been a potent instrument of in-equalization. The distinction between mental and manual labour and consistent discrimination against the latter kept the toiling people out of the orbit of educational endeavour for millennia. Inequities in the sphere of Indian schooling are multi-layered - Scheduled as against the non-scheduleds, women as against men, rural as against urban, and backward regions as against the relatively developed. The spectrum runs from Scheduled women of rural settlements in backward regions to non-scheduled men of urban settlements in relatively developed regions.

Two most common reasons for non-attendance, non-retention or non-enrolment reported in household surveys are : *first*, the high opportunity cost of children's time (in terms of forgone earnings in wage labour, forgone production in household activities, forgone help with minding younger children, etc.); and *second*, 'lack of interest in education' (Drèze and Sen, 1995),

It would be interestingly to look at the response patterns of two distinct groups of respondents, viz., teachers as custodians and providers of instruction, and parents / community members as consumers of education service to a simple question : "Why do not a large number of children regularly attend classes and eventually dropout from schools" ?

Table 2.25
Reasons for Non-attendance and Dropping out from Primary Schools

Sex Responses	Order of Importance
Parents / Community Members (N = 55)	Teachers (N = 120)
<ul style="list-style-type: none"> Schools are, non-functioning or poorly functioning Non-availability of essential infrastructural facilities such as classrooms, toilets, teaching learning materials, etc. 	<ul style="list-style-type: none"> Poverty of parents Children are irregular in attendance being malnourished and ill.
<ul style="list-style-type: none"> Classroom teaching not child-friendly boring and heavily biased towards who perform well. 	<ul style="list-style-type: none"> Total absence of home support (academic) to children who come from poor families mostly first generation learners
<ul style="list-style-type: none"> Parental poverty and opportunity costs 	<ul style="list-style-type: none"> Non-availability of essential instruction supportive materials in schools
<ul style="list-style-type: none"> No linkage of the school with the parents 	<ul style="list-style-type: none"> Children from poor families are not good at studies
<ul style="list-style-type: none"> Teacher absenteeism in its different forms : total absence, teachers come late and leave early, teachers come and do not teach 	<ul style="list-style-type: none"> Sibling care by girls at home

Even though the causes cited by parents are mostly 'in-school' variables, the teachers cite variables that are 'out-school'. But an overwhelming large body of research

findings reveal that 'in school' variables are predominantly responsible for non-attendance, non-retention and non-completion of five years of primary education.

Against this scenario, it would be, however, interesting to look into the causes that contributed to the incidence of children dropping out from schools as reported in the National Sample Survey Organization (1998) Report. The findings of the former are reflected in Table 2.26.

Table 2.26
Reasons for Dropout and Never Enrolment in Schools in Orissa (1995-96)

Reasons	Dropout	Never Enrolment
No tradition in the family	0.1	0.9
Child not interested in studies	25.1	19.2
Parents not interested in studies	9.6	35.6
Inability to cope with or failure in studies	26.3	0.0
Unfriendly atmosphere at school	0.2	0.0
Education not considered useful	4.5	2.5
Schooling / higher education facilities are not available	0.6	5.5
Has to participate in other economic activities	0.5	0.4
Has to work for wage / salary	4.4	1.5
Has to look after younger siblings	0.4	0.0
Has to attend to other domestic activities	1.7	1.0
Financial constraints	17.1	16.2
Child has already completed the desired level	0.0	0.0
Awaiting admission to the next level	0.0	0.0
Others	9.4	17.3
Total	100	100

Source : Naba Krishna Choudhury Centre for Development Studies, Orissa (2003) Orissa Human Development Report

As could be observed 68.0 per cent of the children dropped out from the school due to (i) lack of interest in studies, (ii) inability to cope with or failure in studies, and financial constraints. Some important factors causing the dropout of children, particularly scheduled castes and scheduled tribe and girls include : (i) poverty and economic deprivation of families, (ii) high incidence of illiteracy and low perceived benefits of education, (iii) high opportunity costs of these children, (iv) socio-cultural constraints for girls to go to school, (v) poor health and nutrition status of the children, and (vi) lack of basic infrastructure in schools (UNDP : 2003). Besides the socio-economic and cultural factors that constrain retention of children in schools, a host of school-related factors push vulnerable sections of children out from schools. Among these factors, most relevant ones are the co-relevance of curriculum, teacher absenteeism, uncongenial school atmosphere, lack of teaching learning materials, uninteresting teaching methods, dearth of female teachers, lack of separate toilet for girls, etc. (Tilak : 2002).

In an interesting study of trends in enrolment and retention in Government and private schools, Singh and Sridhar (2002) found the reasons for dropout of students in government, private, private-recognized and private-un-recognized schools. Table 2.27 reflects the reasons of dropout.

Table 2.27
Reasons for Dropout by School Type (Percentage)

	Government	All Private	Private Recognized	Private Un-recognized	All Schools
Doing household work	49.38	42.11	50.00	20.00	48.00
Taking care of siblings	32.10	31.58	42.86		32.00
Parents not interested	32.10	36.84	50.00		33.00
Parents not educated	16.05	31.58	42.86		19.00
Has to be married	7.41				6.06
Help parents with their work	30.86	36.84	28.57	60.00	32.00
Cannot afford to send him / her to school	19.75	15.79	14.29	20.00	19.00
No female teachers in school		10.53	14.29		02.00
School things not suitable					
Irrelevant curriculum	8.64	5.26		20.00	08.00
No separate school for girls	1.23				01.00
Teachers' unethical practices	3.70				03.00
No teaching goes on in school	9.88				08.00
School located very far	6.17				05.00
Not safe					
Other responsibilities at home	15.00	36.84	28.57	60.00	19.19
Child not keeping good health	1.23				01.00
Teachers get their personal work done by students					
Has to work hard	7.41	31.58	37.10	20.00	12.00
Child not motivated	48.15	42.11	57.14		47.00

Source: Singh, S and Sidhar, K S (2002) : "Government and Private Schools: Trends in Enrolment and Retention", *Economic and Political Weekly*, Vol. XXXVII No. 41, October 12-18, 2002.

The causes of dropout as revealed from the study for schools in Uttar Pradesh also almost, without exception, hold good for Orissa. Four important factors which have serious implications are : (i) doing household work which is in direct conflict with studying in school, (ii) child not motivated on account of deprivation at school and in the family, (iii) parental reluctance to send children to schools, and (iv) costs of schooling not affordable. Tilak (2000) deciphering 'lack of interest' factor said that it could be attributed to a substantial extent to (a) the poor quality and quantity of physical and human resources available in schools and (b) poor quality of instruction, including the alienness and irrelevance of the curriculum on the one side, and (c) economic and other social factors from the side of the families on the other.

Premature withdrawal from schools is found to be caused due to the 'push' and 'pull' factors or 'in-school' and 'out-of-school' variables. However, many of these variables that influence the internal efficiency of the schools are 'inalleable' that could be manipulated by the management. In short, retention / dropping out from the school is a function of how well or how badly the school is managed. Dropping out from the school system is educationally, financially and psychologically degrading.

According to the Sixth All India Educational Survey (1993), about 50 per cent of children were retained in Class V, which implies half of the children dropped out before completing Class V. Gender disparity in retention is evidently perceptible : in case of boys, the retention rate was 53.44 per cent as against 46.71 per cent. Compared to primary schools, the retention rate was substantially less in upper primary schools, with a distinct advantage in favour of boys.

2.6.2 Repetition :

Together with non-enrolment and dropout, school repetition represents a major road-block to UEE. In spite of the pursuance of 'no detention' policy, grade repetition continues, visible or concealed, to affect our primary education system. Grade repetition could be viewed as an "internal solution" school systems have adopted to address the critical contemporary problem of non-learning or poor learning achievement. One of the major assumptions on which the phenomenon of repetition is based, viz., that repeating the same grade (for one, two or more years) will ensure learning has been disproved by most studies so far in both developing and developed countries.

Pedagogically, repetition is based on number of wrong assumptions : that the student that did not learn or did not learn enough will learn if he or she takes the same road again, the road that made him / her fail; that nothing was learned along the process and it is thus necessary once again; that knowledge and learning operate in a linear dimension, follow fixed routes, and derive from cyclic repenting and drilling. Socially, repetition reinforces the vicious circle of low expectations, low achievement, low self-esteem, and failure.

Repetition is, in fact, a critical indicator of the dys-functionality and internal inefficiency of the educational system. Contrary to this, the education community (teachers, parents, students, headmasters, policy makers) tend to accept repetition as "natural" and as an inherent component of school life. The extent and nature of repetition evidently reflect that effective learning does not take place in schools, which gets further compounded by the culture of isolation and insularity in which schools function. Ascertaining the scale and nature of repetition are constrained by non availability of reliable data.

Nevertheless, some data, however, imprecise and unreliable might be, for eight DPEP districts are available which have been presented in Table 2.28.

Table 2.28
Repetition in Primary Schools in DPEP districts (Per cent)

Districts	1998-99			1999-2000			2000-2001		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Balangir	12	14	13	11	12	12	12	13	13
Dhenkanal	1	1	1	8	8	8	11	11	11
Gajapati	0	0	0	4	5	5	5	6	6
Kalahandi	13	17	15	18	22	20	22	26	24
Rayagada	1	2	1	5	5	5	6	6	6
Baragarh	5	5	5	4	4	4	8	7	8
Keonjhar	0	0	0	15	16	16	20	21	21
Sambalpur	3	3	3	10	9	9	12	11	12

Source : Orissa Primary Education Programme Authority 2001

Despite the state policy of no detention at the elementary level and a host of DPEP interventions for effective teaching and learning and higher levels of learner achievement, repetition rates have not improved in some of the DPEP districts; or in fact, the situation deteriorated in many. The extent of repetition is very high in Kalahandi (24.01%) and Keonjhar (21.0%). In Balangir, Dhenkanal and Sambalpur districts, the rate of repetition is more than 10 percentage points. With this scenario in DPEP districts, it is plausible that extent of repetition in non-DPEP districts could be much higher. Some of the reasons, as reported by teachers and parents, of repetition are : (i) repeating a grade for more than a

year enables children to acquire the competencies which they failed to acquire, (ii) children's academic standards in different school subjects are so poor that only grade repetition could enable them to cope with their inability to learn; and (iii) sometimes parents insist on retaining their child in the same grade with the expectation that their children will learn

When asked "Who are the repeaters?" The respondents' replies are furnished in Table 2.29

Table 2.29
Profile of Repeaters

Sl No	Characteristics of Repeaters	Number / Percentage
1.	Mostly rural children	108 (90.00)
2.	Children of Public Schools	115 (95.83)
3.	Indigenous Population (mother tongue different from language of instruction)	90 (75.00)
4.	First generation learners (with illiterate / less educated parents, mothers in particular)	105 (87.50)
5.	Economically deprived sections	110 (91.67)
6.	Children without home support	100 (83.33)

(N = 120)

Note : Responses are not inclusive

2.6.3 School Facilities :

There exists a strong association between the availability (scale and quality) of essential school facilities and the school's internal and external efficiency, impacting enrolment, retention and learner achievement. The essential facilities that influence school's internal efficiency include : (i) adequate number of teachers in relation to students, represented by pupil-teacher ratio, (ii) safe drinking water, (iii) toilet facilities, (iv) separate toilet facilities for girls, (v) electricity connectivity, (vi) medical check-up for children, etc. In order to ascertain the availability of essential infrastructural facilities, it would be interesting to examine the availability of such facilities in eight second phase DPEP districts.

Table 2.30
Percentage of Schools with Various Infrastructural Facilities

Facilities	Districts							
	Boudh	Kandhamal	Koraput	Malkangiri	Mayurbhanj	Nawarangpur	Nuapada	Sonepur
School Bell	76.00	74.00	82.00	68.00	90.00	84.00	78.00	78.00
Mats and Furniture for Students	70.00	70.00	88.00	70.00	90.00	82.00	68.00	84.00
Chairs for Teachers	74.00	84.00	84.00	92.00	92.00	94.00	96.00	80.00
Tables for Teachers	12.00	20.00	6.00	16.00	16.00	20.00	20.00	12.00
Pin-up Board / Notice Board	70.00	92.00	90.00	78.00	92.00	88.00	84.00	82.00
Water Pitcher, Ladle and Glasses	48.00	46.00	44.00	50.00	78.00	36.00	40.00	42.00
Dustbin	12.00	16.00	14.00	14.00	18.00	6.00	8.00	14.00
Safe Drinking Water	48.00	80.00	62.00	72.00	56.00	56.00	66.00	64.00
Toilet Facilities	12.00	54.00	26.00	18.00	28.00	28.00	12.00	12.00

Facilities	Districts							
	Boudh	Kandhamal	Koraput	Malkangiri	Mayurbhanj	Nawarangpur	Nuapada	Sonepur
Separate Toilet facilities for girls	6.00	12.00	4.00	12.00	8.00	6.00		8.00
Electric connection for the school	8.00	10.00	14.00	10.00	14.00	14.00	8.00	12.00
Annual Medical Check-up for Children	50.00	38.00	66.00	62.00	36.00	38.00	50.00	46.00
Immunization	46.00	48.00	54.00	70.00	38.00	42.00	56.00	34.00
First-aid Kit	4.00	26.00	22.00	18.00	20.00	14.00	4.00	8.00

Source : Directorate of TE and SCERT, Baseline Assessment Study for Eight DPEP Districts (2001)

Poverty of schools in a few essential infrastructural facilities is evident from the table above. To illustrate a few :

- Almost 90.0 per cent of schools do not have electric connection, a facility considered to be essential for creating enabling conditions for learning and for use of electronic media in classroom instruction.
- Lack of toilets and separate toilets for girls is a major constraining factor for retention of girls in schools. While less than one fifth of schools had common toilets, toilets particularly for girls were almost non-existent.
- Tables for teachers to write on were available in only one fifth of schools of Kandhamal, Nawarangpur and Nuapada. The extent of availability was only six per cent of schools of Koraput district.
- The overall teacher pupil ratio though are as per national norms (1 : 40), large number of teachers in urban areas irrespective of sanctioned posts and size of enrolment is a concern. Dearth of teachers leads to multi-grade teaching. As many as 15.0 per cent of schools visited were virtually single-teacher schools despite the policy that single teacher schools do not exist.

2.6.4 Learner Achievement :

Concerted efforts made in different areas of UEE have resulted in a significant expansion of elementary education in the state. Our optimism in achieving UEE goals, however, gets progressively reduced as we move from access and enrolment to participation and retention and further to learner achievement.

With paradigm shift of focus from mere participation and retention to learner achievement, a number of initiatives have been taken up in the state for improving the quality of education. A few notable ones are : (i) Mid day Meal, (ii) Operation Blackboard, (iii) Laying down Minimum Levels of Learning, (iv) establishment of Districts Institutes of Education and Training (DIETs), (v) District Primary Education Programme (DPEP), (vi) UNICEF sponsored Joyful Learning and Aus-aid Project, (vi) Joint Government of India and UN System Project, and (vii) large scale teacher capacity building programmes by SCERT

Despite all these, improvement in levels of learner achievement at the elementary level spills over to the secondary level as evident from the abysmally low levels of performance in the High School Certificate Examinations. What Yash Pal (1990) observed still holds good : "A lot is taught, but little is learnt or understood". The burden of 'non-comprehension'; mediocrity and poor performances weighs heavily on children. 'Non-detention' policy, though it has outlived its historical necessity and has become irrelevant in

the present context, continue unabated. The core question that remains unanswered is : can quality of education improve if schools do not improve significantly ? Continuous child-friendly diagnostic and progress oriented evaluation, coupled with external testing, is possibly the only way to improve quality.

State's overall dropout position tends to conceal inter district variations that are excruciatingly deplorable, particularly in educationally backward districts. It is evident from Table 2.31 :

Table 2.31
District-wise Primary Dropout Rate (%) for the year 2001-2002

Sl No.	District	All Community			SC			ST		
		B	G	T	B	G	T	B	G	T
1.	Angul	30.9	40.6	35.4	36.8	52.8	44.0	44.9	65.9	54.4
2.	Balasore	19.8	17.9	18.8	23.6	23.2	23.4	28.8	28.8	28.9
3.	Baragarh	30.2	31.6	30.7	36.0	41.1	38.2	43.8	50.8	47.2
4.	Bhadrak	13.7	15.7	14.4	16.3	20.2	17.9	19.9	25.4	22.2
5.	Balangir	32.6	41.0	36.5	38.8	53.3	45.2	47.3	66.6	56.1
6.	Boudh	53.3	55.8	54.2	63.5	72.6	67.5	77.4	86.7	83.3
7.	Cuttack	19.2	19.5	19.2	22.8	25.4	23.9	27.8	30.4	29.5
8.	Deogarh	54.6	58.4	57.2	65.0	75.9	71.1	29.3	90.6	87.9
9.	Dhenkanal	31.5	33.0	32.1	37.5	43.0	39.9	45.7	50.8	49.3
10.	Gajapati	38.7	48.4	42.9	46.1	62.9	53.3	56.2	68.0	65.9
11.	Ganjam	12.3	20.2	16.0	14.7	26.3	19.9	17.9	25.3	25.6
12.	Jagatsinghpur	7.5	10.1	08.8	09.0	13.2	11.0	11.0	14.0	13.6
13.	Jajpur	19.8	21.5	20.8	23.5	28.0	25.9	28.7	33.0	32.0
14.	Jharsuguda	41.5	43.7	42.4	49.4	56.8	52.7	60.3	67.2	65.1
15.	Kalahandi	53.7	66.1	59.6	64.1	85.9	74.2	78.2	94.5	91.6
16.	Kendrapara	26.7	32.7	29.3	31.8	42.5	36.5	38.8	46.5	45.1
17.	Keonjhar	53.8	56.0	54.6	64.0	72.9	68.0	78.2	86.6	83.9
18.	Khurda	19.8	22.0	20.7	23.6	28.6	25.7	28.8	32.8	31.8
19.	Koraput	42.3	46.9	44.2	50.1	60.9	55.0	61.4	70.1	68.0
20.	Malkangiri	48.2	47.1	47.6	57.3	61.3	59.2	70.0	75.4	73.1
21.	Mayurbhanja	59.9	63.5	61.3	71.3	82.5	76.3	87.0	97.0	94.2
22.	Nuapada	46.6	58.5	51.8	55.6	76.0	64.4	62.8	95.0	79.5
23.	Nawarangpur	51.6	59.6	54.9	61.5	77.5	68.3	75.0	96.9	84.4
24.	Nayagarh	26.6	31.8	28.6	31.7	41.3	35.6	38.6	51.7	44.0
25.	Phulbani	47.4	54.4	50.6	56.4	70.7	63.0	68.8	88.4	77.8
26.	Puri	19.3	25.6	22.4	22.9	33.3	27.8	28.0	41.6	34.4
27.	Rayagada	40.1	47.1	43.0	47.8	61.3	53.4	58.3	76.6	66.0
28.	Sambalpur	48.0	54.7	51.1	57.2	71.1	63.6	70.0	88.8	78.5
29.	Sonepur	19.5	17.8	18.6	23.2	23.2	23.2	28.3	29.0	28.6
30.	Sundargarh	54.6	54.9	54.6	65.0	71.5	68.0	79.3	89.3	87.9
31.	State	42.0	40.0	41.0	50.0	52.0	51.0	61.0	65.0	63.0

Source : Directorate of Elementary Education, Orissa (2002)

The extent of variations are alarmingly large and it remains a challenge for allowing UEE as espoused by the NPE (1986 and 1992). For instance, the overall dropout rate is the highest (61.3%) in Mayurbhanja and lowest (8.8%) in Jagatsinghpur. As against the state average of 63.0 per cent dropout rate, for ST children, it is 94.2 in Mayurbhanja, 91.6 in Kalahandi, 87.9 in Deogarh and Sundargarh, 84.4 in Nawarangpur, 83.9 in Keonjhar, etc. Again in case of SC students, dropout rate is as high as 76.3 per cent in Mayurbhanja.

Mayurbhanja district, therefore, is the district that poses formidable challenge to UEE initiatives because of three distinct reasons : first, it is the largest district area-wise with inaccessible hilly terrains, second, high concentration of SC and ST population, and three, dropout rates are alarmingly high.

2.6.5 Teacher Absenteeism :

Lack of motivation and professional commitment produces poor attendance and unprofessional attitude towards students. One of the most visible manifestations of this is teacher absenteeism.

Teacher absenteeism can be broadly defined as the absence of teachers from effective or involved. This absence could range from physical absence of teachers from the school to non-participation or even half-hearted or haphazard participation in the teaching learning activities. Various forms of teacher absenteeism are : (i) complete absenteeism - complete unauthorized absence from school, (ii) partial absence - teachers come to school late and / or leave school early, (iii) disguised absenteeism - physically present but absence from instruction, and (iv) a kind of absenteeism in which teachers are away from the most important duty i.e., their preoccupation with non teaching government assignment.

Teacher absenteeism is particularly endemic in remote rural schools due to : first, low motivational level of teachers; second, schools are rarely supervised and even when visited, absentee teachers go unpunished; third, low attendance of students; fourth, lack of public action and pressure; fifth, lack of community involvement; and sixth, teachers commute a long distance.

The responses of the respondents to a question : "What possible measures could reduce the incidence of absence of teachers from schools ?" are as follows .

Table 2.32
Measures to Reduce Incidence of Teacher Absenteeism

Teachers (N = 60)	Non-teachers (N = 72)
a) keep teachers free non-teaching government duty (100%).	a) Make teachers come to school every day and make them to teach (100.0%)
b) Provision of essential support facilities in school to create enabling conditions for meaningful.	b) VECs and PTAs / MTAs to be made vigilant to ensure teachers' presence and participation in instruction (98.0%).
c) Post teachers in schools nearer to their place of residence (80.0%)	c) Punish and fine the absentee teachers (88.0%)
d) Create favourable working conditions to boost up teacher motivation (75.0%)	d) Dissociate teachers from non-teaching work (65.0%)
	e) Make school supervision frequent (60.0%)
	f) Mount public pressure and action (60.0%)

Note : Non-teachers include parents, students, VEC members, PRI representatives etc.

As could be seen, two of responses emerge : teachers as a group suggest improving schools' infrastructure and working conditions to help them to perform efficiently, and non teachers, on the other hand, suggest exercising strictest vigilance on teachers' regular attendance and performance.

Observation of schools in DPEP districts makes it abundantly evident that active VECs and PTAs / MTAs, public action triggered by a commitment to local schools, network of structures like Cluster Resource Centres (CRCs) and Block Resource Centres and a politically

conscious community have enormous potentiality to reduce the endemic phenomenon of teacher absenteeism

2.6.6 Public Action :

The scale and intensity of public action against educational deprivation enhances the internal efficiency of the education system. Indifference, inertia and inaction affects, on the other hand, adversely the functioning of schools. Public action and public pressure make schools function effectively. Therefore, the persistence of intense public action is a proxy measure of the internal efficiency and effectiveness of our public basic education system.

With the adoption of the 73rd and 74th Constitutional Amendments and incorporation of Article 21A in the Constitution, making Right to Education a Fundamental Right, any attempt on the part of government to absolve itself of its mandated role as the sole provider of basic education or non-functioning or poorly functioning primary schools are more likely to provoke public action of profound proportions. Informed and vigilant public can ward off inefficient functioning of schools. Tremendous potentiality of public action notwithstanding, unfortunately denial of access to good quality basic education has not always led to public action due probably to relatively low visibility of educational deprivation.

Highlighting the importance of public activism in ensuring positive functions, Dréze and Sen (1995) have appropriately observed

These positive functions include the provision of basic public services such as health care, child immunization, primary education, social security, environmental protection and rural infrastructure. The vigilance and involvement of the public can be quite crucial not only in ensuring an adequate expansion of these essential services but also in monitoring their functioning. Indeed the actual reach and effective quality of the services that are meant to be, in principle, available often depends a great deal on the information that the local community gathers and the extent to which it can get its voice heard. The shirking and absenteeism of village teachers, for example, are much more easily observed by the villagers themselves than by government inspectors and the search for redress can be more effectively achieved with local activism.

Grassroots level structures like VECs, PTAs / MTAs, PRIs etc. will, with being empowered, exert tremendous pressure on schools to function to meet people's expectations. Institutions and individuals perform to their fullest capability only under pressure.

2.6.7 Research and Development :

Research and Development are the life-blood of any enterprise, more so far education which for its survival has to respond to prospects of change and dynamics of development. It is widely recognized that the contribution of educational R and D to the improvement of practice is immense. When educational research is driven by a commitment to improvement, policy-makers and consumers want to know whether investment is well-judged. With such large sums of public funding being devoted to education, one might reasonably argue that we need evidence of what is happening in education (Calderhead :

1996). However, investment in R&D tends to be 'far lower' in education than in any other sector of comparable size.

Research findings should inform the educational policy, decision making and educational practices. Therefore, the investment in educational R&D demands reasonably, high returns. However, 'loss of confidence' in research as an instrument of change is an issue that requires to be restored and regained. There are two plausible reasons that have led to this 'loss of confidence': first, researchers' pre-occupation with research studies that are more academic in nature that lack relevance and utility; and second, a culture of isolation in which researchers operate without taking into cognizance priority areas where researches are required. What is required is to make the research system 'more efficient and effective in contributing to the knowledge base for policy-making and practice'. This will help focus attention on the future directions of the research agenda.

Researches for creation of knowledge base for policy-making in India got a fillip within the implementation of externally assisted projects and programmes like DPEP, Janashala Project. The Directorate of TE and SCERT, Orissa conducted the Baseline Assessment Studies (BAS), Mid-Term Assessment Survey (MAS), and Terminal Assessment Survey (TAS). Besides this, DIETs conducted a series of action research projects on DPEP which provided opportunities for mid-course corrective measures. Much, however, remains to be done to provide empirical base for educational change and reform.

2.6.8 Merger of Schools :

Functioning of primary schools and upper primary schools in the same campus with two headmasters and two sets of teachers is not uncommon in the state. They are found to work in total exclusion and insularity. Such schools are pedagogically, socially, administratively and financially expensive and ineffective. Recognizing the potential advantages of integrating such schools into a unified single elementary school, the Department has merged 2895 schools. The net outcome being having more teachers deployed to schools that need them the most. Academically, such merged schools are expected to be more effective. District-wise number of merged schools has been depicted in Table 2.33.

Table 2.33
Revenue District-wise Number of Schools Merged

1.	Angul	73	16.	Kendrapara	264
2.	Balasore	300	17.	Keonjhar	148
3.	Baragarh	67	18.	Khurda	85
4.	Bhadrak	243	19.	Koraput	03
5.	Balangir	47	20.	Malkangiri	18
6.	Boudh	05	21.	Mayurbhanja	206
7.	Cuttack	209	22.	Nuapada	-
8.	Deogarh	-	23.	Nawarangpur	10
9.	Dhenkanal	91	24.	Nayagarh	76
10.	Gajapati	04	25.	Phulbani	18
11.	Ganjam	168	26.	Puri	-
12.	Jagatsinghpur	169	27.	Rayagada	161
13.	Jajpur	256	28.	Sambalpur	53
14.	Jharsuguda	27	29.	Sonepur	33
15.	Kalahandi	32	30.	Sundargarh	90

Source : Directorate of Elementary Education, Orissa (2002)

It could be observed from the Table 2.28 that largest number of schools were merged in the coastal districts : Balasore (300), Kendrapara (264), Jajpur (256), Bhadrak (243), Cuttack (209), Ganjam (168) etc.

As against, in KBK group of districts the extent of merger was low.

2.6.9 School Supervision :

Empirical evidence shows that schools that are monitored frequently with a supportive and enabling frame of mind function effectively. Monitoring with a mission to help grow an institution is core to improvement. Primary schools are supervised by Sub-Inspector of Schools, District Inspectors of Schools. Of late, Department of School and Mass Education has added pluralism to supervision. Secondly, Training Schools, BRCCs and CRCs. At present, the state has 75 offices of DIs and 990 Sub Inspectors of Schools.

The reality is, however, is discouraging. As reported in BAS, hardly are schools visited. Wherever visited, supervision is consigned to a fault finding exercise with very little space for propping up morale and self confidence of teachers. Pro occupation of supervisory functionaries with a multiple non-academic government assignments keeps them away from their core responsibility. Besides, not infrequently, the educational supervisors are favourably disposed towards anything that is non-academic. This mind set eats into the very core of supervision.

The reasons for very infrequent and ineffective supervision is not difficult to find. One of the major constraints is exceedingly large number of schools per DI of Schools as evident from the Tables 2.34 and Table 2.35.

Table 2.34

District-wise Number of District Inspectors of Schools and Ratio of DIs to Schools

Sl. No.	District	No. of.....		
		DIs	School (Primary + Upper Primary)	Schools per DI
1.	Angul	04	1558	389.50
2.	Balasore	05	2732	546.40
3.	Baragarh	02	1833	916.50
4.	Bhadrak	02	1761	880.50
5.	Balangir	03	2322	774.00
6.	Boudh	01	702	702.00
7.	Cuttack	05	2844	568.80
8.	Deogarh	01	534	534.00
9.	Dhenkanal	03	1492	497.30
10.	Gajapati	01	1045	1045.00
11.	Ganjam	04	3631	907.75
12.	Jagatsinghpur	02	1600	800.00
13.	Jajpur	02	2194	1097.00
14.	Jharsuguda	01	776	776.00
15.	Kalahandi	02	2070	1035.00
16.	Kendrapara	02	1966	934.00
17.	Keonjhar	05	2438	487.60
18.	Khurda	02	1677	838.50
19.	Koraput	02	2089	1044.50
20.	Malkangiri	02	1021	510.50
21.	Mayurbhanja	05	3736	747.20

Sl No	District	No. of		
		DIs	School (Primary + Upper Primary)	Schools per DI
22.	Nuapada	01	897	847.00
23.	Nawarangpur	02	1455	727.50
24.	Nayagarh	01	1100	1100.00
25.	Phulbani	03	1765	587.70
26.	Puri	03	1911	637.00
27.	Rayagada	02	1668	384.00
28.	Sambalpur	03	1244	414.70
29.	Sonepur	02	937	468.50
30.	Sundargarh	03	2591	863.70

Source : Directorate of Elementary Education, Orissa (2002)

Table 2.35
Distribution of Revenue Districts and Education Districts by
Number of Elementary Schools per DI

Sl. No.	Range (No. of Schools)	Revenue Districts	No. of Education Districts
1.	500 or less	Angul, Dhenkanal, Keonjhar, Rayagada, Sambalpur, Sonepur = 06	19
2.	501 - 700	Balasore, Cuttack, Deogarh, Malkangiri, Phulbani, Puri = 06	19
3.	701 - 900	Bhadrak, Balangir, Boudh, Jagatsinghpur, Jharsuguda, Kalahandi, Kendrapara, Khurda, Mayurbhanja, Nuapada, Nawarangpur, Sonepur = 12	25
4.	901 - 1100	Baragarh, Gajapati, Ganjam, Jajpur, Koraput, Nayagarh = 06	12
Total		30	75

Source : Directorate of Elementary Education, Orissa (2002)

The number of schools per DI of Schools ranges from 389 in Angul to 1100 in Nayagarh.

The conventional line supervision system with DIs and SIs is being supplemented by supervision of elementary schools, by DIETs faculty, BRC Coordinators and CRC Coordinator. Besides this, VECs have come to play a critical role in school governance.

2.6.10 Time-on-Task :

The National Policy on Education (1986) in Part VII titled Making the system Work laid unqualified emphasis on performance, commitment and accountability

The country has placed boundless trust in the educational system. The people have a right to expect concrete results. The first task is to make it work. All teachers should teach and all students study. (Para 7.2 p. 20)

Implicit in this is an implication for teachers to teach effectively optimally utilizing the existing school day, providing enough opportunities to children to master the prescribed competencies. To put it differently what is required is high "time on-task" i.e., a large percentage of students' time is spent "engaged" in planned activities to master intended skills and competencies. In fact, time is the 'coin of the realm' in schooling. Far from being a

variable that is merely consumed or used up in the process of schooling instructional time has important, quantitative and qualitative dimensions and consequences for teaching as well as learning (Smyth : 1984)

Time in school learning is not a simple variable capable only of calibration. Rather, time in the context of schooling is far more complex. Time has a transactional quality for students and teachers – both are required to 'invest' time of learning is to occur. A wealth of empirical research findings have established beyond doubt the relationship between the more refined concept of time i.e., "engaged" time or "time-on-task" and student achievement. Establishing a relationship between time and student achievement, therefore, requires a much more proximal measure of time. Engaged time, or pupil on-task has long been viewed as such a variable, which could be controlled and manipulated by teachers. Because it refers to the amount of time during which students are actively involved in learning, rather than the time during which they are exposed to learning activities and materials, time-on-task has been regarded as useful proxy indicator of learning. There has been a long standing belief, prodigiously supported by a grant deal of empirical findings, that time-on task is a reliable predictor of student achievement.

The high engaged time or time on-task the students are genuinely involved in a learning task depends on – first, teacher's planning for the task; second, monitoring a variable such as student achievement with an in-class observational index; third, appropriateness and meaningfulness of learning experiences for children; and fourth, assigning out-of-school learning in the form of homework as an enhanced opportunity to learn.

Observation of classes in DPEP and non-DPEP districts is indicative of the extent of time-on-task for effective learning.

Table 2.36
Activities Students / Teachers Engaged in Classrooms
N = 32 (classes observed)

Activities	No. of classes activity practised
a) Non-maintenance of Lesson Notes	32 (100.0)
b) Teacher lecturing	11 (34.38)
c) Students reading textbooks	06 (18.75)
d) Students given to copy from textbooks / workout sums	10 (31.25)
e) Students sitting in groups without meaningful learning activity / task	03 (12.50)
f) Meaningful task activity students kept themselves engaged	02 (06.25)

Note : Figures within parentheses represent percentages of schools

It is evident from the table above that teachers mostly kept themselves confined to conventional transactional practices. Children were found engaged in meaningful tasks activities hardly in only six per cent of classes observed. This reflects the quality of classroom transactions. The implications that flow from this analysis are (i) available instructional time to be used effectively and meaningfully, (ii) extending the amount of time available for learning, and (iii) parents demanding the best schools can provide to their children in the form of quality education.

2.6.11 Private Tuition :

Prevalence of private tuition at the elementary school level is a serious malaise that besieges the system. This phenomenon has, over time, both in rural and urban areas, assumed sizeable proportion. Private tuition is resorted to as one of the terrible

consequences of poor quality of basic education. It also works as a substantial side contributor to the continuation of the present dismal state of primary education (Sen, 2002). Parents, rich or poor, are under compulsion to depend on private coaching for their children for two pressing reasons : (i) primary schools are non functioning with little meaningful and effective teaching-learning and thereby loss of trust in schools, and (ii) parents, confronted with an unprecedented competitive climate for their children have options to choose from. The extent and nature of private tuition, particularly at the basic education level, reflect the state of internal efficiency and effectiveness of the system.

Private tuition is almost universal. The differential socio economic status of parents leads to differential access to quality private coaching. This further accentuates the already existing disparities among social groups.

2.6.12 Curriculum Renewal :

Yesterday's curriculum is no longer valued in today's schools, let alone in the schools of tomorrow (Toffler : 1975). In order a school curriculum to be relevant, need-based and context specific, it cannot but respond to the patterns and directions of change occurring in the wider socio-economic system. To put it differently, no curriculum can relevant and updated and at the same time remains resistant to change.

Besides, 'irrelevance' and 'obsolescence', a curriculum may be stacked with indiscriminate piles of information and burdened by 'load of non-comprehension'. Both physical and cognitive load needs to be shed. Keeping all these and MLL's obsession with linearity of learning (an assumption proved to be wrong) in view, primary level textbooks have been renewed and revised. Now, there are only one textbook (integrating language, mathematics and EVS) for Class I, two textbooks (Language and EVS integrated and Mathematics) for Class II and three textbooks for Class III. Competency-based textbooks for Classes IV and V have been revised for introduction from the academic session, 2003-2004. Currently, the elementary education curriculum is being examined for renewal by the SCERT and OPEPA in the light of the National Curriculum Framework for School Education (NCERT : 2000).

2.6.13 Teachers' Training :

The training, status and motivation of teachers continues to be at the very core of educational concerns. While better and wider use of educational technologies complement teacher's classroom transaction but can never replace the essential role of the teacher as the organizer of the instructional process and as a guide and role model to the young. Teachers constitute the core players in the quality improvement reform in school education.

Teachers' competence and professional commitment determine, to a considerable extent, the quality of classroom processes and levels of learner achievement. In order to build up the capacity of teachers, both in content and pedagogy, massive inservice teachers training programmes have been taken up by SCERT and OPEPA through the network of DIETs with teachers trained in content enrichment and interactive and activity-based teaching, the quality of classroom processes has undergone substantial changes. This is evident from the findings of the Mid-Term Assessment Survey (2001). Government of India have been providing substantial support to Teacher Education programme. New structures like DIETs at the district level and BRCs and CRCs at the sub-district levels have developed as robust and vibrant institutional arrangements for continuous capacity building of teachers.

Besides this, the content and process of the pre-service two-year professional programme (CT) has undergone substantial improvement. In consideration of large number of vacancies in elementary schools, around 10,000 untrained teachers are being covered under Distance Education programme by SCERT for acquiring pre service training requirements.

2.7 Early Childhood Care and Education :

The National Policy on Education has accorded preeminent importance to Early Childhood Care and Education (ECCE). It views ECCE as a crucial input in the strategy of human resource development, and as feeder and support service for working women of the disadvantaged sections of society. It has also taken into account the holistic nature of ECCE and has pointed out the need for organizing programme for the all round development of the child. It specifically focussed on the need for early care and stimulation of children belonging to the vulnerable sections. The importance of community involvement has also been highlighted. Emphasis has been given to establishing linkages between Integrated Child Development Service (ICDS) and other ECCE programmes. The Framework for Action of the World Conference on Education for All (1990) in Jomtien has emphasized the expansion of early childhood care and developmental activities, including family and community interventions, especially for poor, disadvantaged and disabled children. Ahmed (1997) viewed early childhood development as a supportive strategy in the effort to universalize primary education. The young child needs the environment and the support for growth, development and psychological stimulation.

Early childhood care and development with its enormous potential and distinctive role in supporting active learning capacities and promoting the overall well-being of the child while increasingly recognized, remains seriously under-developed and under-supported in many countries (UNICEF : 1997).

Apart from the socialization process that early childhood education centres and programmes allow to begin, there exists a rich wealth of evidence which demonstrates that children who receive early childhood education are more favourably disposed towards school and less likely to dropout prematurely than those who do not (Unesco : 1996). The whole range of activities which foster and promote all-round balance development of the child in the age-group of 0-6 years in all dimensions - physical, mental, social, emotional and moral - have been collectively described in NPE (1986) as Early Childhood Care and Education (ECCE). Both care and education, are essential and inseparably linked.

Despite the undisputed significance of 0-6 age group for further development and growth of children, children of the age group 0-6 stand beyond the ambit of the 93rd Amendment (2001) of the Constitution, which makes education of children (6-14) a Fundamental Right. It was the National Policy on Education Review Committee (NPERC : 1990) which very powerfully recommended the inclusion of the education of children of 0-6 age group in Article 45 of the Constitution. It said :

The scope of the Constitutional directive (Article 45) of providing, within a specified timeframe, free and compulsory education for 'all children until they complete the age of fourteen years', should be enlarged to include ECCE (p. 113)

Emphasizing the criticality of ECCE for UEE, Godbole (2001) made it explicitly clear that "it will be an empty gesture to cover the elementary education of children only in the

age group 6-14 years in the list of fundamental rights and to leave the education and development of children below the age of six years for mention in the directive principles of state policy. Despite these concerns, the Centrally Advisory Committee on Education (1992) was evidently reluctant to expand the scope of Article 45 when it said : "The scope of Article 45 of the Constitution need not be enlarged"

What is of critical significance is the relationship between ECCE and UEE. The relationship relates to :

- Besides the 'in school factors' the factors intrinsic to the child himself / herself influence success in school : the psycho-social and physical readiness of the child to negotiate the demands of primary education.
- The child's status vis-à-vis both habit formation and active learning capacity is influenced, to a large extent, by what the child actually brings with him / her to schools in terms of pre-literacy skills, nutritional / health status, socio-economic background, extent of parental stimulation and overall home environment.
- ECCE significantly compensates for early environmental deprivation on the home front by providing an appropriately stimulating environment to the child. It facilitates the realization of the goals of UEE by helping children develop necessary readiness for school by developing necessary personal habits for effective adaption to school-based programme away from home and by developing in them certain pre-schooling, pre-writing and pre-number skills, concepts, and vocabulary which help them negotiate the primary curriculum better.
- ECCE indirectly facilitates the participation of the girl child, who is after not able to attend school because of household chores like care, through provision of substitute care for siblings.
- There is, supported by a number of empirical studies on ECCE a significant positive impact of ECCE on children enrolment, retention and quality of learning on a sustained and long-term basis.
- As 80 per cent of the brain development takes place during 3-5 age ranges health, nutritional and educational components need to be stressed and made available during the critical period.
- ECCE provides a stimulating play environment for intellectual linguistic, social, emotional and sibling physical development of the child.

The Committee for Review of National Policy on Education (1990) emphasizing the importance of ECCE observed :

"ECCE is of immense significance from two standpoints – universalization of elementary education and equality of opportunity for women. ECCE is linked both directly and indirectly to universalization of elementary education. Directly, it helps to prepare the young child for school and play way and other non formal methods can help to prepare the school to receive children. Indirectly, yet powerful ECCE, particularly for infants in the age group of 0-3 years, can enable girls, engaged in taking care of younger siblings, to attend school" (Para 5.1.3 p. 117)

Ahmed and Carron (1989) laying emphases on ECCE said :

"Access to appropriate early childhood care and education, especially for children of disadvantaged groups, is also of great significance in reducing the handicaps for these children as they enter primary education and face the world. The needs of disadvantaged children are not just of early childhood education. They are also victims of poor health and nutrition deficient home environment and the absence of intellectual and social stimulation."

2.7.1 Present Situation :

Schooling in Orissa usually starts with formal education imparted in primary schools at the age of 5+. There is a significant dropout in primary schools because the child in most cases is conditioned to home environment and reacts sharply to an alien environment, among several other factors. Childhood Care and Education would enhance school readiness and raise motivational levels of children for schooling, primarily when large majority of such children are culturally and socio-economically disadvantaged.

The total child population of the 0-6 age group in Orissa is 5.2 million, which constitutes 14.1 per cent of the state's population (Census : 2001).

Panda (1992), making a situational analysis of pre-primary education centres in their varied forms in the context of EFA, gave details of the spread of such facilities in the state.

Table 2.37
Access to Pre-Primary Education

Sl. No.	Coordination Agencies	Types of Programmes	Coverage
1.	ICDS, Government of Orissa through PR Department	Anganwadi Centres for 2-6 age group children and Advisory role to pregnant mothers	176 projects in 176 blocks with 17,190 centres
2.	Government recommended (Education and PR Department)	ECE Centres (Independent) for 3-6 age group	85 non-Government organizations covering about 2000 centres
	Government of Orissa, Education Department	Children independent centres	76 centres on experimental basis
3.	State Council for Child Welfare, Bhubaneswar	Crèches and Balwadis for 0-6 age group children	42 Crèche Units by Non-Government Organizations
4.	State Social Welfare Advisory Board, Bhubaneswar	Crèches and Balwadies for 0-6 age group children	About 400 units by Non-Government Organizations
5.	Director of Elementary Education (Recognition Authority)	Pre-school education sections attached to schools	104 private registered bodies

Source: Panda, K. C., *EFA in Orissa* (1992)

It would, however, be interesting to examine the position of ECCE as it obtains at present. The Integrated Child Development is by far the single largest programme and almost universal in its coverage. The ICDS programme encompasses the main components contributing to the human resource development, viz., health, nutrition and education of children below six years of age and expectant and nursing mothers. Launched in 1975, presumably as a consequence of the formulation / enunciation of the National Policy on Children (1974), in Subdega Block of Sundargarh district, the ICDS has been extended to 314 blocks and 12 urban centres by the end of 1995-96. The details have been furnished in the following Table.

Table 2.38
Coverage of Integrated Child Development Service (ICDS) in Orissa

Sl. No.	Block/Urban Areas	No. of Sanctioned.....		Operational	
		Projects	Anganwadis	Projects	Angnwadis
1	Blocks (Rural)	196	21415	178 (90.82)	19069 (89.05)
2	Blocks (Tribal)	118	11851	118 (100.00)	11851 (100.00)
3	Urhan	12	935	12 (100.00)	935 (100.00)
	Total	326	34201	308 (100.00)	31855 (100.00)

Source : Women and Child Development Department, Government of Orissa, 2002

It is evident from the Table 2.38 above that in terms of coverage of blocks under ICDS, it is universal. Out of 326 sanctioned projects, 308 projects are operative, which constitute 94.4 per cent. The following facts emerge from the analysis of the figures furnished in the Table :

- Out of 34,201 Anganwadis sanctioned for 314 blocks and 12 urban centres, 31,855 are functional. This represents 93.14 per cent of the total sanctioned Anganwadis. In other words, there exists an unmet demand. This is supported by research studies which say that the ICDS has not even touched the fringe of the problem.
- While in 118 tribal blocks, the sanctioned number of Anganwadis have been made functional, in rural blocks the shortfall is to the extent of 2336 representing more than one-tenth of the total.
- The average number of functional Anganwadis in 196 rural blocks, in 118 tribal blocks and 12 urban centres is 97.3, 100.4 and 77.9 respectively. This is indicative of the extent of the unmet demand for ICDS programme.

The ICDS is being managed by functionaries as reflected in the following Table.

Table 2.39
Project Management Staff Strength in ICDS Programme

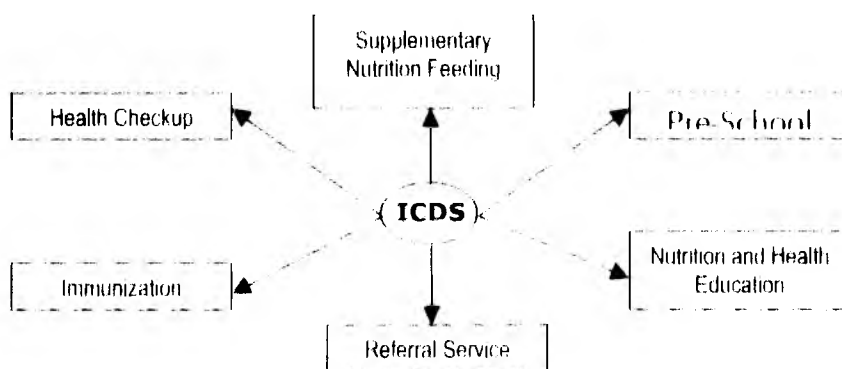
Level	Functionaries	Number
State Level	Project	24
	C.DPOs	326
Field Level	Supervisors	1742
	Statistical Assistants	281
	Anganwadi Workers	34201
	Anganwadi Helpers	34201

Source : Women and Child Development Department, Government of Orissa, 2002

At the lowest echelon, the ICDS is run by 34,201 Anganwadi workers, assisted by an equal number of Anganwadi helpers

The ICDS has a package of six services that are intimately inter linked and reinforce each other. The following diagram reveals that :

Figure VIII : Components of ICDS Package



All these packages help achieve the objectives of ICDS enumerated hereunder :

1. To improve the nutritional and health status of children in the age group of 0-6 years.
2. To lay the foundation for proper psychological, physical and social development of children
3. To reduce the incidence of mortality, morbidity, malnutrition and school dropout.
4. To achieve coordination of policy and implementation against various departments to promote child development.
5. To enhance the capability of the mother to look after the normal health and nutritional needs through proper nutrition and health education

The ICDS is a centrally sponsored scheme with 100 per cent assistance from Government of India. The World Bank assistance to 191 projects came to an end in December, 1997. The Government of Orissa and the CARE are supporting the supplementary feeding programme in operation under ICDS.

With the universal availability of ICDS interventions, ECE Centres and Balwadi Nutrition Programme run by Voluntary Organization have been phased out. At present in Orissa, there are no Balwadis or Pre-school Centres supported by Government. A close look at the functioning of the ICDS programme in the state, like in other Indian states and Union Territories, makes it evidently clear that despite its almost universal spatial spread and coverage, there is a critical mass of 0-6 age group children that is not covered under ICDS. Besides the coverage, quality of transaction and efficiency have enough scope for improvement. Pre-school component in ICDS package, it is widely held, is the weakest.

A very significant deficiency of the ICDS programme in general like many other programmes, Ahmed (UNICEF : 1997) brought out this inherent deficiency very succinctly :

The other constraint was to link young child stimulation and care with health and nutrition. As a programmatic approach, this has been talked about, but it has not been achieved in practice because of the sectoral nature of these programmes : programmes are organized sectorally, governments are sectoral, and we have not found a way to break these sectoral barriers.

Investment in ECCE represents an investment in developing human resources at a critical period in a child's life that yields dividends of profound magnitude to the recipient and his / her family as well as to the society. ECCE is, therefore, need to be viewed as the priority of priorities for achieving the goals of UEE as espoused in NPE (1986 and 1992).

2.8 New Programmes :

As has been discussed in Chapter I, the 1990s saw the primary education scene opening up to external assistance on a fairly large-scale. Possibly, as part of the commitments made by the international donor community at the Jomtien Conference, the country witnessed the emergence of a large multi-state programme for EFA (Govinda, 2001). A number of new programmes were launched in the state for achieving the UEE goals. These, in fact, marked the broadening and deepening of partnership for UEE. James D. Grant, former UNICEF's Executive Director rightly observed :

"We are, in the educational field at an unusual period of opportunity and challenge ... don't think we have had an equivalent opportunity for education in the last 50 years"

2.8.1 District Primary Education Programme :

The District Primary Education Programme (DPEP), a major internationally assisted programme, was launched in the state in the year 1996-97 in five districts, viz., Balangir, Dhenkanal, Gajapati, Kalahandi and Rayagada which was extended to three more districts : Baragarh, Keonjhar and Sambalpur in 1997-98 with support from World Bank, Government of India and Government of Orissa. This apart, another eight districts : Koraput, Malkangiri, Nawarangpur, Kandhamal, Mayurbhanja, Nuapada, Boudh and Sonepur have come into the fold of DPEP since 1998-99 with support from the Department for International Development (DFID), UK. Thus, in Phase I and II, 16 districts of the state are under implementation of DPEP.

In more than one ways, DPEP is unique and unprecedented. Some of the significant features of DPEP are :

- Decentralized planning : moving away from the Centre and State headquarters to district as the unit of planning and implementation. In other words, planning is 'bottom up' not 'top down'.
- Participatory planning : Planning is done at the local level with active and intense community involvement.
- A holistic approach : UEE in its entirety, not fragmented with inter-sectoral convergence.
- A 'matrix' of networking between district, state and national institutions as well as between educational management and social science institutions.
- Emphasis on capacity building : Capacity building a whole host of functionaries - teachers trainers, managers, supervisors etc. to perform their task efficiently and effectively.
- Focussed coverage : initially focussed on primary stage, with stress on education for girls and disadvantaged groups.
- DPEP is a 'home grown' programme intended to achieve in a contextual manner.
- DPEP belongs to the new generation of developmental cooperation and partnerships which emphasizes sustainability and equity.

In short, DPEP focuses attention on decentralization, people's participation, instruction of school buildings, development of innovative teaching learning materials, participative teacher training, enhancement of institutional capacities and improvement in learning levels.

The objectives of DPEP are :

- To reduce difference in enrolment, dropout and learning achievement among gender and social groups to less than five per cent
- To reduce overall primary dropout rates for all students to less than 10 per cent
- To raise average achievement levels by at least 25 per cent over measured baseline levels and ensuring achievement of basic literacy and numeracy competencies and minimum of 40 per cent achievement levels in other competencies by all primary school children
- To provide, according to national norms, access to all children to primary classes (I - V) i.e., primary schooling wherever possible, or its equivalent non formal education

DPEP intended to achieve the above objectives, include a wide range of interventions:

1. Community Mobilization and Participation

- Campaign with equity focus
- Devolution of power of communities
- Micro-planning / school mapping
- Use of media
- Setting up VEC, MTA, PTA
- Using existing structures / VEC

2. Planning Research and Evaluation

- Decentralized planning process
- Multi-stage appraisal of perspective plans and AWP & B
- Research inputs in planning / implementation
- Building research capacities at all levels
- International Research Seminars
- PROMOTE and INSPIRE schemes
- Evaluation of programme components

3. Improved Pedagogy

- Development of child-centred, joyful competency-based teaching-learning materials through participatory approach
- Renewed teacher training packages
- Distance Education Programme

4. School / Village-based Programmes

- Construction / Repair of school building and classrooms
- Provision of water supply; toilets for girls
- Teacher Grant (Rs. 500/- per annum per teacher)
- School Grant (Rs. 2000/- per school per annum) through VECs
- Provision of ECCE Centres

5. Institution Building and Building Capacity

- Setting up of VECs
- Setting up and operationalizing Cluster Resource Centres
- Strengthening of DIETs / SCERTs
- Setting of SIEMTs

6. Integrated Education for the Disabled

- Institutional networking
- Teacher training
- Personnel and Resource Centre at Block level
- National / State Level support system

7. Innovations

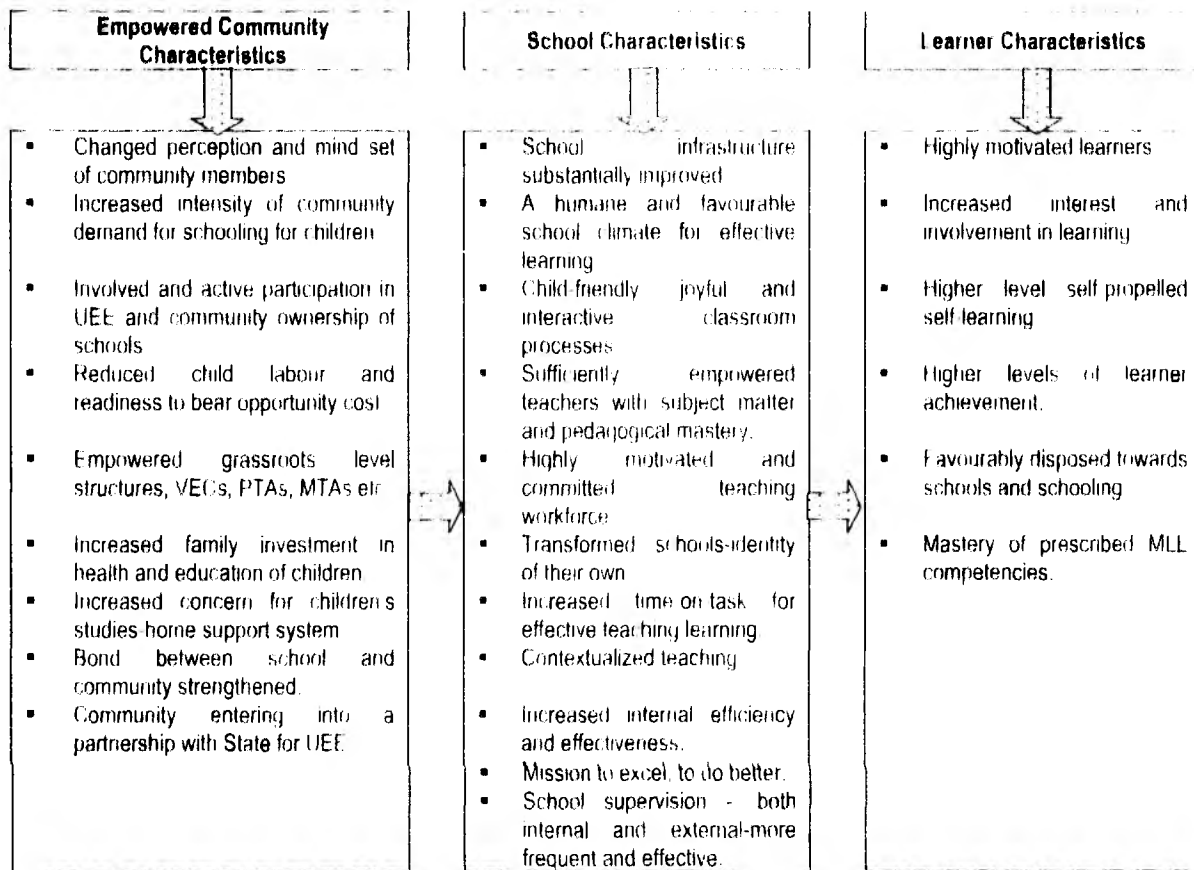
- Flexible timings
- Double shifts
- Ashram Schools
- Convergence
- New designs for civil works
- Remedial coaching centres
- Escorts to girls
- Para teachers
- Training in pedagogy, management etc

8. Monitoring and Supervision

- Quarterly PMIS
- Annual EMIS

With DPEP interventions system in DPEP districts is expected to be transformed as indicated in Figure VIII below :

Figure IX : Transformed Primary Education System under Impact of DPEP



Outcomes of the programme, to mention a few, as evident from PMIs and EMIs data and Mid-term Assessment Survey, are :

- Improved access, particularly for marginalized deprived gender and social groups through establishment of new schools. EGS Centres, Alternative and Innovative Education Centres, etc.
- An appreciably large reduction in gender and social group disparity in access, retention and learner achievement.
- Classroom processes have undergone a perceptible change - from teacher domination to learner-centred, from chalk and talk to active learner participation, from passive teaching to achieve learning, etc.
- Teachers are better equipped and sufficiently empowered both in content and processes of education.
- VECs, PTAs and MTAs made powerful and vigilant to ensure effective and efficient functioning of local primary schools - bringing authority and decision-making in support of educational goals closer to the communities.
- Higher levels of learner achievement, indicating improved quality of education.

2.8.2 The Lokshala Project :

The programme is a collaborative effort of five UN Agencies (UNICEF, UNDP, ILO, UNESCO and UNFPA) to provide programme support in a coordinated manner to on-going efforts of Government of India and Government of Orissa towards making primary education more accessible and effective for primary school-age children, especially girls and those from deprived communities (the poor, children engaged in labour) and disadvantaged social grouping (Scheduled Castes and Scheduled Tribes). The objectives of the Project are :

- Enhancing capacity for community participation in effective school management
- Improving the performance of primary school teachers in the use of interactive, child-centred and gender sensitive methods of teaching.
- Improving social conditions that affect the attendance performance of children through inter-sector development programmes.
- Enhancing the capacity of the tribal communities by incorporation of their cultural and traditional social features in schooling process
- Building the capacity of VECs and PRIs to manage schools on their own.

Popularly known as "Amo Skool", the Project is being implemented in seven blocks, viz., Nichantikoli, Mahanga, Nilgiri, Krishnaprasad, Brahmagiri, Puri Sadar and three urban stress : Cuttack, Bhubaneswar and Puri.

2.8.3 District Institutes of Education and Training (DIETs) :

The critical importance of teacher education in improving the quality of school education has been recognized by the Central Government. The National Policy on Education (1986) recommended the overhauling of the teacher education system and establishment of District Institutes of Education and Training (DIETs). In fact, DIETs prominently stand out as a major intervention towards primary education reform. DIETs were planned as the robust and the most vibrant district level teacher education institutions to usher in a sea change in the primary education scene through its training, extension and research activities.

DIETs were established to serve the cause of universalization of elementary education through its multiple activities. The broad mandate for DIETs implied that DIETs function in diverse areas - teaching, curriculum and material development, research and extension, planning and management. There are at present 17 DIETs in the state and 13 more are in the pipeline to be set up during the Tenth Five Year Plan (2002-2007). DIETs have played a major role in teachers' capacity building in DPEP and SSA districts and Janashala Project.

Table 2.40
Establishment of DIETs in Orissa

Phases	Year	DIETs established in districts
Phase I	1988-89	Dhenkanal, Kalahandi, Koraput, Mayurbhanja, Sundargarh (05)
Phase II	1990-91	Balangir, Cuttack, Keonjhar, Khurda, Phulbani, Sambalpur (06)
Phase III	1994-95	Balasore, Ganjam (02)
Phase IV	2000-2001	Baragarh, Gajapati, Puri and Rayagada

Source : Directorate of Teacher Education and SCERT, Orissa (2001)

2.8.4 Sarva Shiksha Abhiyan :

The Sarva Shiksha Abhiyan (SSA), in a sense, represents the latest and the all-subsuming initiative for universal elementary education in the country. The findings of assessments and other studies on Centrally Sponsored Schemes such as Operation Blackboard, Teacher Education Scheme, National Programme for Nutritional Support for Primary Education, Mahila Samaktya, Non Formal Education etc., as also externally funded projects like DPEP and Lok Jumbish have brought out the need for greater accountability to the community, re-looking at the curriculum to promote education for life, mobilization of resources with community ownership of schools, community aspiration for good education with willingness for one's own school-based abhiyan, teachers responsiveness to positive interventions in curriculum comparatively smooth flow of funds through societies as compared to government channels, sustainable financial support and, need to streamline the project activities along with mainstream programme and capacity building at all levels of planning, implementation and monitoring. All these evaluation studies have suggested need for effective decentralization with community ownership, sustainable financing, institutional capacity building at all levels, and most of all, an effective educational administration system. The SSA tries to build on this need (Sinha and Bose, 2000). The SSA provides an opportunity for the states to develop their own vision for UEE.

The SSA vision is to provide useful and relevant elementary education of satisfactory quality for all by 2010, bridging all social and gender gaps with the active participation of the community in the school affairs. The goals of SSA are :

- All children shall be in school, Education Guarantee Centre, Alternate School, 'Back to School Camp' by 2003.
- All children shall complete five years of schooling by 2007.
- All children shall complete eight years of elementary education by 2010.
- Focus on elementary education of satisfactory quality with emphasis on education for life.
- Bridging all gender and social stage by 2007 and at elementary level by 2010.

In Orissa, SSA is being implemented in 14 non-DPEP districts. Strategies for achieving the goal in SSA would emphasize :

- Institutional reforms in states
- Sustainable financing in partnership with states
- Community ownership of school based interventions through effective decentralizations.
- Institutional capacity building in communities, cluster resource centres, block resource centres and DIETs for improvement in quality.
- Improve mainstream educational administration by institutional reforms, infusion of new approaches by adoption of cost effective and efficient methods
- Community-based monitoring and full transparency.
- A community-based approach to planning with a habitation as a unit of planning
- A focus on the low female literacy districts and poor regions to provide support for primary education.
- Accountability to community
- A mainstreamed gender approach

- A focus on the educational participation of children from SC / ST, religious and linguistic minorities etc.
- A minimal-norm specific approach to school facilities and provisions for children.
- A holistic approach to a child, all habitation, and a school
- Sustained financial support to local communities for school-based activities and maintenance of facilities.

2.9 Conclusions :

The state has, over the past decade and a half, shed off the tag of proverbial 'educationally backward' states. The state of things has progressively improved. Notwithstanding impressive quantitative expansion of the elementary education system, the state has miles to go further. Quality of education, as envisaged in the NPE and mandated by the fiercely competitive global market continues to be elusive. The unreached out-of-school children to be brought into the fold of schooling, either through conventional channels or non-conventional. Inequities in its different forms - spatial, social group, gender etc. - in access, retention and achievement are to be reduced. Elementary Education should be the number one priority for investment. The base of the pyramid is required to be substantially strengthened. A few well-articulated reform and renewal initiatives such as DPEP, Joint GOI - UN System Project, UNICEF supported Aus-aid Project, SSA, Reorganization and Restructuring of Teacher Education hold rich prospects for development of elementary education in the state.

All these require a vision and a mission with an uncompromising and an undying conviction that the '**State Can Do**'.



CHAPTER III

QUALITY OF ELEMENTARY EDUCATION IN ORISSA

The concern for quality in education stems from the concern for improving the efficiency of the educational system. Quantity without quality is likely to defeat the very purpose of education. In fact, quantitative expansion should simultaneously take care of quality improvement. There is no contradiction between the demand for quantity and those for quality. The two can be handled together.

- Raza, Moonish (1990)

3.1 Introduction :

One of the major conceptual contributions of the National Policy on Education (1986, and revised in 1992) and the World Declaration on Education for All (1990), and later reaffirmed and reiterated in the Delhi Declaration (1993) is to define universal basic education (primary education) not just in terms of quantitative expansion but of actual learning achievement. To be more precise, the NPE (1986 and 1992) conceptualized UEE in the Indian context, along with access and retention in terms of "a substantial improvement in the quality of education to achieve essential levels of learning", thus providing a parameter for quantification.

Similarly, the World Declaration on Education for All (1990), while conceptualizing the "expanded vision" of basic education, stated forcefully :

The focus of basic education must, therefore, be on actual learning acquisition and outcome rather than exclusively upon enrolment, continued participation in organized programmes and completion of certification requirements. Active and participatory approaches are particularly valuable in assuring learning acquisition and allowing learners to reach their fullest potential. It is, therefore, necessary to define acceptable levels of learning acquisition for educational programmes and to improve and apply systems of assessing learning achievement (*Article 4 : Focussing on Learning Acquisition, p. 5.*)

Emphasizing the criticality of quality in education, particularly in elementary education, the foundation of the education system, Naik (1975) said : "..... of the three basic goals of education – quantity, quality and equity – quality is most central to education..... both quantity and equity are external to education while quality is totally internal, its very soul. Any education without quality is no education at all; it will not be able to fulfil its promises and will also do immense harm".

3.2 Concept of Quality In Education :

Despite the overriding importance attached to quality in education, there exists a great deal of confusion about the precise meaning and connotation of the term 'quality' in the context of education. Three different expressions, viz., 'quality', 'standards', and 'efficiency' are used, sometimes, as synonyms, conveying one and the same meaning. It would be useful to discuss the concept of quality in the context of education.

1. Generally, the phrase 'quality of education' implies standard and efficiency based, of course, on the context in which the term is being used. In general, quality of education is an umbrella concept which includes all those aspects of education which make it efficient and good. It includes availability of infrastructure such as buildings, teachers including trained teachers, and the quality of instruction, course syllabi etc." (Raza et Al , 1996)

With this perspective of quality, one cannot refer to quality of education without looking into the availability of these attributes of education. These conditions have a close link with quality. In fact, they are internal to education. all these represent 'overt' performance indicators of quality.

2. "The quality of education is defined by both the learning environment and student outcomes. A wide variety of policies and inputs, tailored to specific conditions, can bring about effective schooling. Although resource availability certainly affects quality, educational research and experience show that public sector policies and investment can influence the quality of education" (Verspoor : 1995).

This implies that education outcomes can be improved through four important actions : (a) setting standards for performance; (b) supporting inputs known to improve achievement; (c) adopting flexible strategies for the acquisition and use of inputs; (d) monitoring performance. In short, both 'inputs' and 'process' are central to quality in education.

3. Quality should be looked upon as a comprehensive or master concept. Considerations of the quality of an educational system will, therefore, involve a consideration of all these independent variables, viz., significance relevance, capacity, standards, and efficiency (Naik : 1975).

In an altogether different framework, Burnham and Danies describe initiatives and strategies that ensure quality (process and outcomes) of the education. Four areas of activity are :

1. **Mission :**

- the involvement of the whole school community in the generation of the mission;
- the integration of the mission statement into strategic and development planning;
- the use of mission statement in staff appointments, training and development and monitoring and review; and
- a focus on the mission as the benchmark for evaluation.

2. **Leadership :**

- greater emphasis on term structures and processes;
- the use of monitoring and coaching;
- the development of middle managers into subject leaders;
- greater involvement in the management of teaching and learning processes; and
- more time spent in review and evaluation.

3. Customer Focus :

- improved communication between school and home;
- greater involvement of parents in the learning process;
- wider use of surveys and reviews to formulate policy; and
- increased awareness of the importance of social as well as leading processes.

4. Quality Assurance :

- the development of staff which is proving significant;
- the development of cognitive and social skills enrichment programme;
- the use of performance indicators as benchmark; and
- the introduction of competencies for effective management.

Drawing parallel implications for quality in education from Deming (1986)'s 14 cardinal principles of Total Quality Management (TQM), Mukhopadhyay (2001) stated :

Table 3.1
Deming's Propositions and Implications for Education

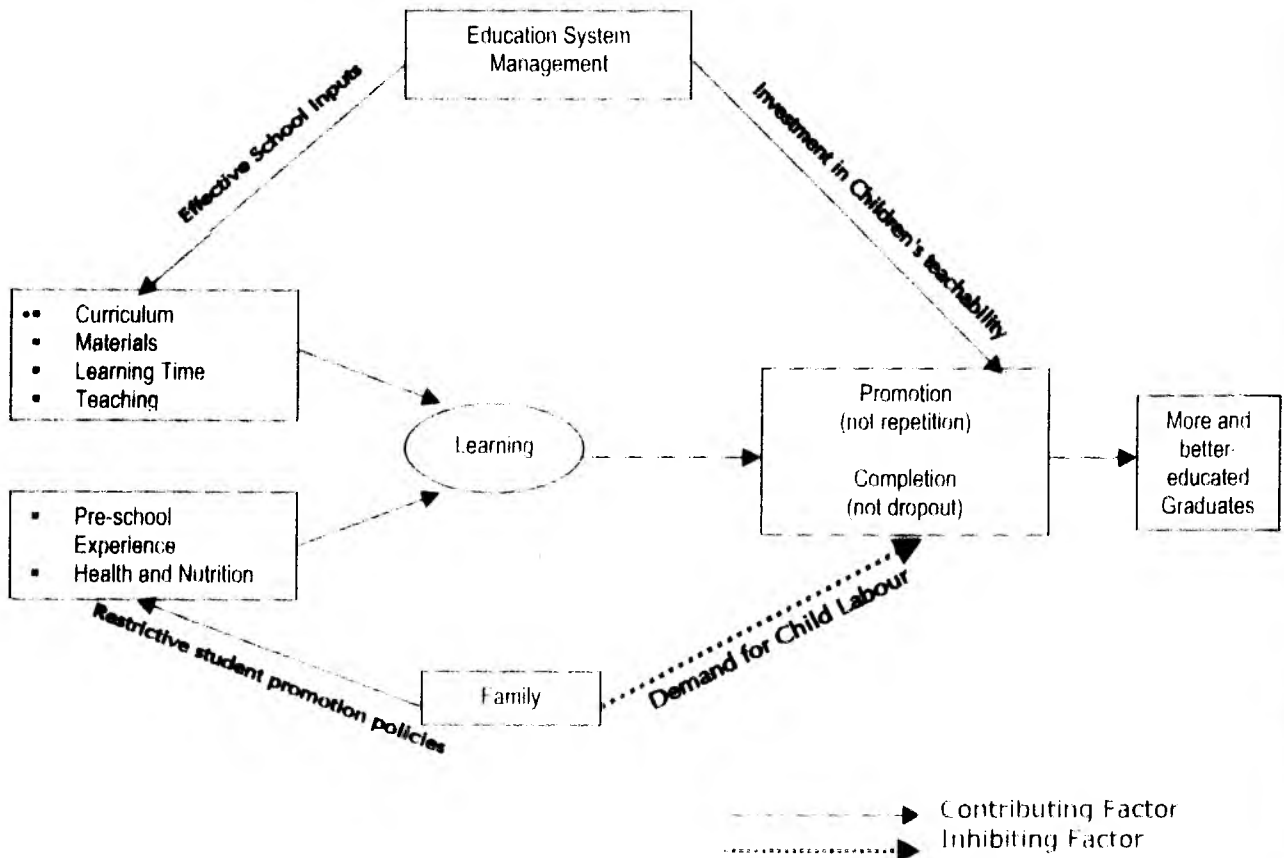
Deming's Propositions	Implications for Education
Create constancy of purpose for improvement of the product and service, with the aim to become competitive and to stay in business, and to provide jobs.	Even if the institutions do not need to become competitive and stay in business since it is seller's market, institutions ought to improve on a continuing basis because of explosion of knowledge and changing styles in learning. Institutions need to develop long and medium term perspectives for development and move towards that.
Adopt new philosophy	Quality is a continuous journey; make it part of the institutional mission. Educational implication is adoption of a new philosophy and consequent approach for holistic development of students e.g. building education on four pillars of learning (UNESCO, 1996).
Cease dependence on mass inspection to achieve quality	Replace external inspection by continuous internal mechanism of quality assurance.
End the awarding of business on the basis of price.	Opt for best available teachers and instructional resources for affordable price; not for the lowest price.
Improve constantly and forever the system of production and service, to improve quality and productivity, and thus to constantly decrease cost.	Constantly improve instruction, student assessment and management to improve quality and reduce the cost by reducing wastage.
Institute training on the job	Initiate school-based on the job training for teachers and staff.
Institute leadership	Decentralize responsibility and authority, and mentor leadership in staff.
Drive out fear so that everyone may work effectively for the company	Encourage teachers to innovate, assure them security and right to fail; celebrate successes as much as failures of innovative experiments.
Break down the barriers between departments	Create matrix structures in school with subject disciplines as departments and cross-departmental activities through inter-disciplinary task forces.
Eliminate slogans, exhortations, and targets, asking for new levels of productivity without providing the workforce with the methods to do the job better.	Replace sermons and slogans for quality with on the job training for quality improvement in whatever one does in the school to do it little better than before.
Eliminate work standards that prescribe numerical quotas.	Underplay numerical quotas of classes, student assessment. Build quality consciousness in each of the activities.

Deming's Propositions	Implications for Education
Remove the barriers that rob people of their rights to pride of workmanship.	Encourage and recognize innovation and uniqueness on the job, remove roadblocks and facilitate experimentation.
Institute a vigorous program of education and self-improvement	Develop an institutional mechanism whereby every staff charts out his / her own development path and method of achieving his / her goals.
Put everyone in the company to work to accomplish the transformation.	Involve every staff in visioning, setting out mission and goals, involve everyone in institutional diagnosis, planning and execution of improvement plans

Source : Mukhopadhyay M (2001) . Total Quality Management in Education, NIEPA, New Delhi

The impact of inputs that enhance quality ultimately depends on how well schools use the available resources. Effective schools transform their given inputs into student learning. Improving educational inputs reduces grade repetition and dropout rates. It enhances the internal and external efficiency of the school system. Figure IX gives an overview of the processes that links school inputs, learning, and primary school completion.

Figure X : A Model of Effective Schooling



Emphasizing the criticality of quality of basic education for self-sustainable levels of learning acquisition, Ahmed and Carron (1989) observed :

"A key element of the basic education should therefore be to replace the classical criteria of a given number of years of educational exposure with an objective measurement of performance levels . . . the achieve a minimum and defined performance level in literacy and numeracy skills with no reference to the number of years of school attendance. It would not matter how many years children spend or do not spend in school as long as they attain the required performance level"

Source : Ahmed Manzoor and Carron Gabriel, "The Challenge of Basic Education for All" *Perspectives* Vol XIX No 4 1989 pp 560-561

3.3 Quality of Elementary Education in Orissa :

An attempt has been made in this section to discuss the quality of the elementary education system of the state. While making an assessment of the qualitative improvement in elementary education, quality has been ascertained from these sets of parameters that are said to influence quality. They are : (i) the characteristics of factors / inputs that go into the system; (ii) the way the inputs are put into use; and (iii) the outcomes in terms of achievement. In fact, the 'inputs' and 'processes' are proxy indicators of quality that under ideal circumstances / conditions influence the quantum and quality of student learning

3.3.1 Teacher Qualification and Competence :

Teachers constitute next only to students, the single largest input of the education system. Teaching quality and teaching time are key determinants of student achievement. Teaching time is largely determined by teacher motivation, while the fundamental pre-requisites for proficient teaching are :

"... a broad grounding in the liberal arts and science, knowledge of the subjects to be taught, of the skills to be developed, and of the curricular arrangements and materials that organize and embody that content, knowledge of general and subject-specific methods for teaching and for evaluating student learning; and knowledge of students and human development (National Board for Professional Teaching Standards, 1989, p. 45).

Table 3.2 presents the general educational qualification of teachers of the state. This profile of teachers indicates, in a way, the adequacy or inadequacy of their preparation in the subjects they teach.

Table 3.2
No. of Teachers According to Educational Qualification

Districts	No. of Sampled Schools	Gender	Number of Teachers				
			Below Class X	Class X	+2	Graduate	PG
Boudh	50	Male	7	45	12	22	1
		Female	1	21	12	16	3
		Total	8	66	24	38	4
Kandhamal	50	Male	4	30	21	24	2
		Female	1	30	23	13	5
		Total	5	60	44	37	7

Districts	No of Sampled Schools	Gender	Number of Teachers				
			Below Class X	Class X	+2	Graduate	PG
Koraput	50	Male	3	27	26	20	2
		Female	1	12	18	17	6
		Total	4	39	44	37	8
Malkangiri	50	Male	0	30	26	27	1
		Female	0	17	17	18	1
		Total	0	47	43	45	2
Mayurbhanja	50	Male	4	36	20	26	0
		Female	2	19	14	24	4
		Total	6	55	34	50	4
Nawarangpur	50	Male	4	44	16	19	2
		Female	1	40	14	21	2
		Total	5	84	30	40	4
Nuapada	50	Male	8	49	21	07	2
		Female	2	25	08	06	1
		Total	10	74	29	13	3
Sonepur	50	Male	8	52	24	17	4
		Female	0	16	22	06	2
		Total	8	68	46	23	6

Source : Baseline Assessment Study (2001), IE and SCERT, Bhubaneswar

As could be seen from the Table 3.2, the percentage of under-qualified teachers in eight Phase II DPEP districts is very negligible. However, the Baseline Assessment Study (1997) for Baragarh, Keonjhar and Sambalpur revealed that the percentage of under-qualified teachers were relatively high : 13.2, 15.7 and 15.8 respectively. Experience shows that such teachers lack general academic preparation.

In case of eight Phase II DPEP districts, teachers with matriculation qualification constituted 42.7 per cent of the total sampled teachers. Compared to the minimum qualification prescribed for recruitment for primary school teachers in other major Indian states, Orissa has a lower entry qualification i.e., 10 years of school education along with West Bengal. This is again, NCTE raising the mandatory general education qualification to (10+2) years, notwithstanding. This apart, most states, including the 10 largest states (Andhra Pradesh, Gujarat, Haryana, Karnatak, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamilnadu and Uttar Pradesh) have raised the general education requirement for teachers from 10 to 12 years schooling in response, to CABE, recommendations. As a determinant of teachers' effectiveness, this qualification certainly on the lower side.

Teachers' inadequate general academic preparation is reduced to further inadequacy in consideration of the upgradation of primary school curriculum and non existence of provision for subject teachers. The extent of disadvantage with teachers (due to inadequate general academic preparation) working in low literacy districts affects quality of teaching. Preponderance of teachers with 10 years of schooling is reflective of state's teacher effectiveness

Table 3.3
No. of Teachers According to Educational Qualification

State	10 years or less	12 years	College
Assam	80	16	05
Haryana	83	09	07
Karnataka	56	28	16
Kerala	46	35	19
Maharashtra	80	07	13
Madhya Pradesh	20	44	36
Orissa	66	11	23
Tamil Nadu	46	35	19
Total	60	23	17

Source: World Bank Staff calculations based on data from NCERT, NIPPA and New Concept, 1995

This is very much evident from the performance of teachers in tests in Language and Mathematics intended for Class V students, which is presented in Tables 3.4 and 3.5 below:

Table 3.4
Achievement of Primary School Teachers in Language

Districts	80% and above	60% to 79%	50% to 59%	30% to 49%	29% and less	Total (N)	Mean (%)
Balasore	11	17	37	12	00	72	57.19
Kendrapara	10	24	20	22	04	80	57.75
Nuapada	00	04	30	22	09	65	41.30
Sonepur	02	08	21	13	01	45	47.33
Koraput	00	04	16	28	12	60	39.00
Rayagada	01	03	24	24	08	60	43.23
Kandhamal	00	02	19	17	02	40	38.78
Mayurbhanja	03	04	23	32	08	70	44.69
Nawarangpur	01	02	18	30	14	65	37.14
Malkangiri	00	01	16	33	05	55	33.57

Table 3.5
Achievement of Primary School Teachers In Mathematics

Districts	80% and above	60% to 79%	50% to 59%	30% to 49%	29% and less	Total (N)	Mean (%)
Balasore	08	07	35	20	02	72	56.40
Kendrapara	10	06	39	22	03	80	56.71
Nuapada	02	03	25	24	11	65	46.75
Sonepur	01	04	23	15	02	45	45.36
Koraput	01	06	18	20	15	60	41.17
Rayagada	01	05	20	21	13	60	42.96
Kandhamal	01	03	15	11	10	40	40.75
Mayurbhanja	04	07	18	31	10	70	46.29
Nawarangpur	02	05	26	23	09	65	43.87
Malkangiri	00	04	17	22	12	55	40.83

The following conclusions could be drawn :

- The mean percentage scores of teachers of educationally advanced districts such as Balasore and Kendrapara in Language were 57.2 and 57.8 respectively. To put it differently the sampled teachers who took the test intended for Class V students could not answer roughly 40 per cent of questions or answered incorrectly. In Mathematics, teachers' performance was still worse : mean percentages of scores being 56.4 for Balasore and 56.7 for Kendrapara.
- Viewed from the levels of achievement, in Language a bare of 15.3 per cent of teachers of Balasore district and 12.5 per cent of teachers scored 80 per cent or more i.e., mastery level. In mathematics the performance was more distressing. As expected of teachers, all teachers would have answered all questions correctly.
- The mean percentages of scores in Language and Mathematics were as low as a little over one third (33.6%) and 40.8 respectively in Malkangiri.

All these show the extent of lack of knowledge of teachers in two core subjects that have high predictive value for performance in other school subjects.

Teachers with a wide repertoire of teaching skills are clearly able to teach better than those with a limited repertoire (Fuller : 1987; Haddad : 1985). Proficiency in teaching means a teacher is competent in the subject matter and understands how to transmit knowledge effectively. The pedagogical skills include classroom management and organization appreciation of each student's characteristics and pre-conceptions, formal and informal evaluation of students, personal reflection, and critical, self-analysis (Shulman : 1987).

A look at the composition of trained teachers in eight Phase II districts brought out that, on an average, 15.6 per cent teachers possess B.Ed. (Secondary) qualification. These teachers, in the absence of two-year primary teacher training qualification, find it extremely difficult to face issues such as multi-grade teaching shall classes, bi-lingualism, non-subject specialization etc. Such teachers are not professionally prepared the challenges of primary classes.

The quality of teachers, as reflected in their performance, depends on the quality of : (i) candidates who come to teacher education institutions, (ii) pre-service teacher training programme, (iii) in-service training they are exposed to, and (iv) self-study by teachers. The performance of untrained inservice teachers who enroll themselves in pre-service C.T. Course has been consistently very poor. This is due primarily to their poor general academic preparation. As per a recent estimate there are 10,000 such teachers in the teaching workforce

3.3.2 Teacher Motivation :

Motivated teachers are committed and perform better. A number of factors have been linked with high teacher absenteeism and low motivation among teachers. Most important are poor working conditions, low perceived status, and limited opportunities for career advancement and promotion (Lockheed and Verspoor, 1991).

It would be worthwhile to examine the potential of the "Orissa Elementary Education / Method of Recruitment and Conditions of Service of Teachers and Officers" Rules, 1997 to infuse motivation and work ethics in teachers. Implicit in the Rules is the importance of

motivating and inspiring teachers to perform and excel. The promise and prospects of vertical mobility is overtly visible in the Cadre Rules as reflected in Table 3.6

Table 3.6
Elementary Education Cadre Rules, 1992

Levels	Posts	Cadre
Level V	Posts of Assistant Teachers of Government Primary Schools and Assistant Teachers of Government UP Schools	District Cadre
Level IV	Posts of Headmasters / Headmistresses of Government primary schools	District Cadre
Level III	Posts of : Headmasters / Headmistresses of Government UP Schools Sub-Inspectors of Schools (Block Education Officers)	District Cadre
Level II	Posts of Deputy Inspectors of Schools	State Cadre
Level I	Posts of District Inspectors of Schools	State Cadre

Source : Department of School and Mass Education, Government of Orissa (1992)

Under the most favourable situation, a primary school teacher could move from level V to level I, but in reality is a remote possibility for two inconsistent provisions : first, the only criterion for promotion is seniority, performance not given premium to in sharp contradiction with NPE's espousal "incentives for good performance and disincentives for poor performance", and second, the level I posts are being filled up by direct recruits (OES Class II) and promotees of secondary cadre, blocking the pathway to promotion.

Besides this, the working conditions under which primary school teachers work, particularly in remote rural and inaccessible tribal areas sap their motivation and enthusiasm. For instance, dearth of required number of teachers, non-availability of classrooms, residential facilities, non-availability of furniture etc. have debilitating affects on their morale and motivation. This shall be discussed in a later sub-section.

3.3.3 Learner Achievement :

What children learn and at what level they learn of the prescribed curriculum is one of the significant overt indicators of the quality of schooling. Learner achievement is an outcome of a number of independent variables - 'in-school' and 'out-school'. The poor quality of primary education is evident from learner achievement established by the Baseline Assessment Study for eight DPEP districts of the State (SCERT : 2001).

a) Achievement in Language :

Table 3.7
Achievement of Class IV Students in Languages

District	N	Mean	Mean %	SD
Boudh	612	35.57	50.81	12.79
Kandhamal	640	36.86	52.66	10.29
Koraput	516	33.94	48.48	13.47
Malkangiri	518	39.69	56.70	13.14
Mayurbhanja	706	38.62	55.18	10.93
Nawarangpur	670	34.09	48.70	10.68
Nuapada	474	32.61	46.59	14.01
Sonepur	841	27.53	39.33	12.37

language brings out

districts range from
Anigiri, with other

7)), SI (37.44 to

7) per cent mark in
poor levels of

ainment (80% or
(50% to 59%),
revealing than the

Language

Total	
N	%
419	8.01
126	20.59
127	20.75
150	40.85
60	9.80
10	4.69
168	26.25
155	24.22
58	40.31
109	4.53
11	7.95
9	19.19
5	16.47
12	41.09
9	15.31
5	14.48
12	27.41
44	20.08
5	31.85
2	6.18
7	8.07
2	27.20
10	26.91
8	35.13
1	2.69
	3.43
1	20.00
7	20.45
1	47.61
	8.51

District	
Nuapada	80%
	60%
	50%
	30%
	20%
Sonepur	80%
	60%
	50%
	30%
	20%

Source Directorate

Highlights :

- The p insigni of dist
- In iter (27.41 Nawar (9.51
- Very (27.77

b) Achievem

Achievem primary level, hia

District
Boudh
Kandhamal
Koraput
Malkangiri
Mayurbhanja
Nawarangpur
Nuapada
Sonepur

An analysis of the mean percentages of achievement scores in Language brings out the findings :

- The mean percentages of achievement scores in all the eight districts range from the lowest of 39.33 in Sonapur to the highest of 56.7 in Malkangiri, with other districts lying within this range.
- In case of caste categories, the ranges are : SC (35.53 to 53.87), ST (37.44 to 54.48), and Others (40.71 to 63.66)
- The mean percentages of achievement scores is a little over 50 per cent mark in Boudh, Kandhamal, Mayurbhanja and Malkangiri showing poor levels of achievement.

Levels of achievement in terms of reaching the criterion level of attainment (80% or above), mastery level (60% to 79%), border lines of mastery level (50% to 59%), moderate level (30% to 49%) and poor level (29% or less) are more revealing than the mean percentages of scores. These have been presented in Table 3.8.

Table 3.8
Gender-wise Percentage of Achievement of Class IV Students in Language

District	Range	Boys		Girls		Total	
		N	%	N	%	N	%
Boudh	80% or above	29	6.76	20	10.93	49	8.01
	60% to 79%	77	17.95	49	26.78	126	20.59
	50% to 59%	78	18.18	49	26.78	127	20.75
	30% to 49%	192	44.76	58	31.69	250	40.85
	29% or less	53	12.35	07	3.83	60	9.80
Kandhamal	80% or above	17	40.05	13	5.91	30	4.69
	60% to 79%	96	22.86	72	32.73	168	26.25
	50% to 59%	95	22.62	60	27.27	155	24.22
	30% to 49%	190	45.24	68	30.91	258	40.31
	29% or less	22	5.24	07	3.18	29	4.53
Koraput	80% or above	13	3.63	28	17.72	41	7.95
	60% to 79%	54	15.08	45	28.48	99	19.19
	50% to 59%	68	18.99	17	10.76	85	16.47
	30% to 49%	165	46.09	47	29.75	212	41.09
	29% or less	58	16.20	21	13.29	79	15.31
Malkangiri	80% or above	23	6.91	52	28.11	75	14.48
	60% to 79%	81	24.32	61	32.97	142	27.41
	50% to 59%	82	24.62	22	11.89	104	20.08
	30% to 49%	126	37.84	39	21.08	165	31.85
	29% or less	21	6.31	11	5.95	32	6.18
Mayurbhanja	80% or above	16	3.39	41	17.52	57	8.07
	60% to 79%	106	22.46	86	36.75	192	27.20
	50% to 59%	140	29.66	50	21.37	190	26.91
	30% to 49%	191	40.47	57	24.36	248	35.13
	29% or less	19	4.03	00	0.00	19	2.69
Nawarangpur	80% or above	14	2.89	09	4.86	23	3.43
	60% to 79%	82	16.91	52	28.11	134	20.00
	50% to 59%	102	21.03	35	18.92	137	20.45
	30% to 49%	248	51.13	71	38.38	319	47.61
	29% or less	39	8.04	18	9.73	57	8.51

District	Range	Boys		Girls		Total	
		N	%	N	%	N	%
Nuapada	80% or above	34	9.47	08	6.96	42	8.86
	60% to 79%	53	14.76	21	18.26	74	15.61
	50% to 59%	54	15.04	16	13.91	70	14.77
	30% to 49%	155	43.18	47	40.87	202	42.62
	29% or less	63	17.55	23	20.00	86	18.14
Sonepur	80% or above	10	1.56	14	7.00	24	2.85
	60% to 79%	40	6.24	40	20.00	80	9.51
	50% to 59%	71	11.08	37	18.50	108	12.84
	30% to 49%	316	49.30	80	40.00	396	47.09
	29% or less	204	31.83	29	14.50	233	27.71

Source Directorate of TE and SCERT, Orissa, Bhubaneswar (2001) Baseline Assessment Study for eight DPEP districts

Highlights :

- The percentage of students achieving near criterion level of achievement is insignificant in Sonepur (2.85) and is highest (14.48) in Malkangiri. In KBK group of districts they are 3.43 in Nawarangpur, 7.95 in Koraput, and 8.86 in Nuapada.
- In terms of mastery level performance, the districts in order are : Malkangiri (27.41%), Mayurbhanja (27.2%), Kandhamal (26.25%), Boudh (20.59%), Nawarangpur (20.45%), Koraput (19.19%), Nuapada (15.61%) and Sonepur (9.51%).
- Very poor levels of performance i.e., 29 per cent or less are found in Sonepur (27.71%), Nuapada (18.14%), Koraput (15.31%)

b) Achievement in Mathematics :

Achievement of Class IV students in Mathematics, another major subject at the primary level, has been presented in Tables 3.9 and Table 3.10

Table 3.9
Achievement of Class IV Students in Mathematics

District	N	Mean	Mean %	SD
Boudh	612	15.65	39.12	8.43
Kandhamal	640	16.85	42.13	7.32
Koraput	516	16.05	40.12	7.79
Malkangiri	518	18.62	46.56	8.78
Mayurbhanja	706	17.30	43.26	6.44
Nawarangpur	670	14.21	35.51	5.97
Nuapada	474	13.38	33.44	7.67
Sonepur	841	12.10	30.26	7.13

Table 3.10
Gender-wise Percentage of Achievement of Class IV Students in Mathematics

District	Range	Boys		Girls		Total	
		N	%	N	%	N	%
Boudh	80% or above	23	6.99	18	6.36	41	6.70
	60% to 79%	29	8.81	29	10.25	58	9.48
	50% to 59%	36	10.94	38	13.43	74	12.09
	30% to 49%	155	47.11	93	32.86	248	40.52
	29% or less	86	26.14	105	37.10	191	31.21
Kandhamal	80% or above	11	3.07	07	2.48	18	2.81
	60% to 79%	55	15.36	52	18.44	107	16.72
	50% to 59%	63	17.60	45	15.96	108	16.88
	30% to 49%	132	36.87	103	36.52	235	36.72
	29% or less	97	27.09	75	26.60	172	26.88
Koraput	80% or above	16	4.57	09	5.42	25	4.84
	60% to 79%	49	14.00	15	9.04	64	12.40
	50% to 59%	34	9.71	18	10.84	52	10.08
	30% to 49%	143	40.86	74	44.58	217	42.05
	29% or less	108	30.86	50	30.12	158	30.62
Malkangiri	80% or above	34	10.59	16	8.12	50	9.65
	60% to 79%	75	23.36	36	18.27	111	21.43
	50% to 59%	47	14.64	23	11.68	70	13.51
	30% to 49%	102	31.78	66	33.50	168	32.43
	29% or less	63	19.563	56	28.43	119	22.97
Mayurbhanja	80% or above	06	1.45	06	2.05	12	1.70
	60% to 79%	68	16.43	40	13.70	108	15.30
	50% to 59%	80	19.32	66	22.60	146	20.68
	30% to 49%	175	42.27	119	40.75	294	41.64
	29% or less	85	20.53	61	20.89	146	20.68
Nawarangpur	80% or above	02	0.49	02	0.75	04	0.60
	60% to 79%	32	7.90	11	4.15	43	6.42
	50% to 59%	48	11.85	32	12.08	80	11.94
	30% to 49%	186	45.93	115	43.40	301	44.93
	29% or less	137	33.83	105	39.62	242	36.12
Nuapada	80% or above	09	3.20	04	2.07	13	2.74
	60% to 79%	23	8.19	13	6.74	36	7.59
	50% to 59%	32	11.39	15	7.77	47	9.92
	30% to 49%	81	28.83	71	36.79	152	32.07
	29% or less	136	48.40	90	46.63	226	47.68
Sonepur	80% or above	03	0.70	02	0.48	05	0.59
	60% to 79%	28	6.54	35	8.47	63	7.49
	50% to 59%	26	6.07	25	6.05	51	6.06
	30% to 49%	136	31.78	143	34.62	279	33.17
	29% or less	235	54.91	208	50.36	443	52.68

Source : Directorate of TE and SCERT, Orissa, Bhubaneswar (2001) Baseline Assessment Study for eight DPEP districts

Highlights :

- The performance of Class IV students in Mathematics in terms of mean percentages of achievement scores is found to be relatively poor compared to their performance in language : the range in Mathematics being 30.26 to 46.56 and that of Language being 39.33 to 56.7. This range difference notwithstanding, students of Sonepur district performance the worst and Malkangiri the best.

However, mean percentage score in Malkangiri is well under 50 per cent mark. This is indicative of very poor performance of students in Mathematics. The situation is distressingly disgraceful in other districts.

- Inter-social group disparities in achievement are glaring (Table 3.11) the range lowest and highest being

Table 3.11
Inter-social Group Gaps in Achievement

Sl. No	Social Group	Range of Mean percentages scores	Overall Mean Percentage
1.	Scheduled Castes	28.42 - 46.16	38.84
2.	Scheduled Tribes	27.42 - 40.88	34.82
3.	Others	31.13 - 51.01	41.22

Source : Directorate of TE and SCERT, Orissa, Bhubaneswar (2001) Baseline Assessment Study for eight DPEP districts

The distribution of students (%) with different levels of achievement in Language and Mathematics is presented in Table 3.12.

Table 3.12
Levels of Learner Achievement (Class IV) in Language and Mathematics
(Percentages of students)

Sl. No.	Districts	Range of Achievement			
		60% and above		29% or less	
		Language	Mathematics	Language	Mathematics
1.	Boudh	28.60	16.18	09.80	31.21
2.	Kandhamal	31.14	19.53	04.53	26.88
3.	Koraput	27.14	17.21	15.31	30.62
4.	Malkangiri	41.89	31.08	06.18	22.97
5.	Mayurbhanja	35.27	35.98	02.69	20.88
6.	Nawarangpur	23.43	07.02	08.51	36.12
7.	Nuapada	24.47	06.33	18.14	47.68
8.	Sonepur	12.36	08.08	27.71	52.68

Source : Directorate of TE and SCERT, Orissa, Bhubaneswar (2001) Baseline Assessment Study for eight DPEP districts

Highlights :

- Higher percentages of students are found within the mean percentages scores of 60 per cent and above across all districts in Language than Mathematics. The only exception being Mayurbhanja. This implies that Mathematics is found to be a difficult subject for students across all districts.
- A little over one-third (Language : 35.27% and Mathematics : 35.98%) of students in Mayurbhanja are in the mean percentage score of 60 per cent and above.
- The poor performance of students in both Language and Mathematics is reflected in the percentages of students in the means percentages score of 29 per cent or less. In Language it is as high as 27.71 and 52.68 per cent in Mathematics in Sonepur.

3.3.4 Medium of Instruction and Learner Achievement :

In consideration of the tremendous influence of home language on child's learning in the initial years of schooling when essential foundations for future learning, self-esteem and self-confidence and shaped, the NPE (1986) and its revised formulation of 1992 have laid

emphasis on the use of child's home language as the medium of instruction. One of the major reasons of incidence of high dropout and grade repetition in the early grades is that teaching learning is carried out in the regional language, a child in a bilingual context does not understand. This greatly affects child's learning. This disadvantage (home language and school language being different) exacerbates other disadvantages, leading to perpetuation of historical inequities. This is evident from Table 3.13.

Table 3.13
Medium of Instruction and Achievement of Students of Class IV

District	Subjects	Language used at Home same as Medium of Instruction			Language used at Home different from Medium of Instruction			CR Value
		N	Mean %	SD	N	Mean %	SD	
Boudh	Language	509	51.51	12.81	103	48.36	12.56	31.35
	Mathematics	509	37.24	8.33	103	38.50	8.94	28.85
Kandhamal	Language	475	53.55	10.27	165	50.39	10.13	5.97
	Mathematics	475	41.63	7.65	165	37.68	6.19	9.78
Koraput	Language	244	51.72	11.73	272	43.79	11.26	7.30
	Mathematics	244	45.01	8.05	272	36.74	7.16	15.77
Malkangiri	Language	127	66.27	15.14	371	53.59	11.62	10.44
	Mathematics	127	55.16	7.78	371	43.77	8.79	16.81
Mayurbhanja	Language	517	55.95	11.08	189	53.05	11.35	7.37
	Mathematics	517	45.21	6.31	189	40.01	6.69	9.28
Nawarangpur	Language	221	54.01	11.12	449	46.08	9.96	7.89
	Mathematics	221	39.36	5.60	449	31.62	6.07	11.69
Nuapada	Language	331	47.33	14.20	143	44.87	11.33	19.28
	Mathematics	331	34.71	7.69	143	31.54	7.59	23.01
Sonepur	Language	790	39.45	12.50	51	37.51	13.12	13.71
	Mathematics	790	31.49	7.17	51	28.69	6.49	29.14

Source: Directorate of IE and SCERT, Orissa (Bhujang Swati, 2001). Baseline Assessment Study for eight DPEP districts.

The following conclusions could be drawn :

- Achievement of students in both the subjects are significantly different in four districts, namely, Kandhamal, Koraput, Malkangiri and Nawarangpur because of the variation in the home language and language used in instruction.
- In Koraput, Malkangiri and Nawarangpur the number of students whose mother tongue is different from the language of instruction is more than the students whose mother tongue and language of instruction are the same.
- This variation not only affects a child's achievement in Language, but also its achievement in other subjects. Besides, this also creates social and psychological distance of the child from the school and the teachers.

3.3.5 Pupil-Teacher Ratio :

Teachers are an essential requirement for schools. The quality of classroom processes and the extent of individualized instructional support to students largely depend on, among other things, pupil-teacher ratio. Though research findings are inconclusive with regard to the correspondence between class size and quality of learning, it is an acknowledged reality that small classes are better managed, interactions are intimate, individual attention is possible and compensatory and enrichment measures are workable. Reasonably viable pupil-teacher ratios have distinct advantage for slow learners, first generation learners and learners for whom home support is almost non-existent. This, to a considerable extent, neutralizes the historical inequities.

Another important essential condition that facilitates child's learning particularly in early grades, is women teachers in the teaching corps. The pupil teacher ratio and the proportion of female teachers represent 'input variables' for quality.

Table 3.14
Teachers, Proportion of Female Teachers and Pupil - Teacher Ratio in Elementary Schools of Orissa

Years	Primary			Upper Primary		
	Total	% of Female Teachers	Student Teacher Ratio	Total	% of Female Teachers	Student Teacher Ratio
1947-48	16525	1.90	48	1152	6.07	22
1950-51	16525	1.90	49	2789	6.03	16
1960-61	37328	2.23	38	5047	6.30	19
1970-71	54093	5.12	35	13515	3.99	24
1980-81	80919	10.74	34	23865	9.94	25
1981-82	81369	10.56	35	23936	10.12	26
1982-83	81369	10.56	37	23948	10.13	28
1983-84	81369	11.24	37	24376	10.00	29
1984-85	82619	12.26	39	24584	10.06	32
1985-86	84219	14.45	39	25016	10.06	32
1986-87	85321	19.16	36	28149	13.14	31
1987-88	85410	25.57	34	35382	13.42	26
1988-89	90540	32.65	38	36448	14.39	26
1989-90	91720	32.65	38	36995	14.47	27
1990-91	93992	32.65	38	37349	14.47	27
1991-92	98108	32.65	37	37709	14.47	28
1992-93	102012	33.75	36	37959	14.47	29
1993-94	105340	33.72	36	38159	14.47	30
1994-95	105840	33.93	36	38201	14.47	31
1995-96	110540	32.65	35	38414	14.71	33
1996-97	111040	32.93	36	38914	14.71	22
1997-98	111040	32.93	36	38914	14.71	26
1998-99	111040	32.93	37	38914	14.71	27
1999-2000	114791	32.93	40	38914	14.71	28
2000-2001	114791	32.93	41	38914	14.71	27

Source: Tilak, G.B. (2003): Background Paper on School Education in Orissa

It is evident that :

- Rise in enrolment and increase in number of teachers have not corresponded with each other, resulting in high pupil teacher ratio at the primary level : 15 in 1947-48, 38 in 1986-87 and 41 in 2001-2002
- Female teachers at the primary level constitute almost one-third (32.93%) of the teaching workforce. Overall proportion of female teachers is misleading and hides many important dimensions. The Baseline Assessment Studies for DPEP, however, revealed that the women teachers are mostly placed in urban or road side schools. This is also supported by findings of the field visit
- Concentration of teachers in urban schools irrespective of size of enrolment creates a situation of acute shortage of teachers in remote rural schools and more teachers than required in urban schools. This affects the quality of education in rural areas where children from disadvantaged communities study

3.3.6 Learner Evaluation in Schools :

The State Board of School Education conducts a public examination at the end of Class VII. Contrary to the performance of students in the BAS, the performance in the ME public examination is of substantially higher levels. As evident from the result sheets of different Education Circles, the pass percentages are in the neighbourhood of 90.0 per cent. This again, stands in sharp contrast to meager pass percentage at the High School Certificate Examinations. A closer look at the M.E. Public Examination would reveal the inside realities. In reality, a rising tide of poor standards or mediocrity cripples the system of elementary education in the state.

3.4 Conclusions :

With the focus of UEE has increasingly shifted from simplistic quantitative expansion to actual learning acquisition of a substantially higher levels, the concern for quality has come to the centre-stage of educational reform and reconstruction. The recent initiatives for EFA, both internally supported and supported by national governments, have accorded overriding priority to quality of education. The quality of education depends on two broad sets of variables, viz., 'in-school' variables and 'out-of-school' variables. While input and process variables represent proxy parameters of quality, learner achievement is the real indicator of quality. If the quality of education is not appreciably improved, the standards will deteriorate further plaguing the system with mediocrity. It is to be remembered that excellence costs, but mediocrity costs far more in long run.

Government continues to be and will continue in future as the single largest provider of elementary schooling facilities. Schools are under unprecedented pressure to meet parental expectations for substantially improved quality education for their children, children's needs for development of their cognitive capital, government's stress on good performance and accountability, community's demand to provide relevant, useful and meaningful learning experiences for growing children challenges fierce of competition from private schools for their sheer survival, forces of globalization for change and its own internal dynamics for adapting themselves to mandates of change. In short, school shave to, live up to their consumers' satisfaction simply by offering quality education that is nationally and internationally competitive and comparable. What National Commission on Excellence in Education (1983) in its deceptively short report "A Nation at Risk" observed in the context of USA holds universally good and aptly applicable our elementary education system :

.the continued failure of the schools to perform their traditional role adequately . . . may have disastrous consequences for this Nation . . . the threatened disaster can be averted only if there is national commitment to excellence in our public schools" -
"the Nation's most important institution for the shaping of future citizens"



CHAPTER IV

ISSUES AND CONCERNS

India faces these challenges with four assets. The first is an expanded primary education system that has put the basic elements of schooling within reach for many children. The second is a strong policy framework with significant commitment from the central and state governments. The third is an innovative and initially well-financed reform programme aimed at strengthening primary education, with a strong focus on quality. And fourth is an educational research and development community increasingly engaged with the problems of primary education.

- World Bank (1997)

4.1 Introduction :

India's journey so far towards UEE has been long and arduous. The UEE goals, made further difficult and challenging by NPE (1986) delineating its three distinct but inseparably linked components, still remain illusive. Impressive linear expansion of the system has taken place. Notwithstanding this phenomenal expansion and achievement, what remains to be achieved is more challenging and daunting. This is precisely because out-of-school children who are to be brought to the field of schooling who are difficult-to-reach group children, they are to be retained in the school system, complete the full-cycle of elementary education and all children have to attain the prescribed minimum levels of learning at a substantially higher level.

Government of India and State Governments have been making concerted efforts to achieve the intended goals of UEE through a number of well-designed home-grown models, the latest innovative and all-subsuming programme being the Sarva Shiksha Abhiyan. The UEE has to be achieved by 2010. The goal is achievable. It is, however, to be remembered that more of the same will not deliver goods. We have to take recourse to doing different things and doing things differently.

Orissa, despite its persistent efforts, is still bracketed with educationally backward state. Its wide diversities – geographical, ethnical, social and economic – accentuates the task of achieving the UEE goals. A wide range of issues and concerns need to be address. Blanket strategies and interventions will not work. This chapter, therefore, makes an attempt to identify the critical issues and concerns with regard to Elementary Education and Early Childhood Care and Education. For convenience of discussion the issues and concerns have been categorized under: (i) Access and Provision related issues; (ii) retention related issues; (iii) quality related issues; and (iv) management related Issues. These issues have been highlighted in the following sections and sub-sections.

4.2 Access and Provision Related Issues and Concerns :

Physical accessibility is one of the crucial factors which have a bearing on the ability of population avail itself of the schooling facility. The most basic essential to be availed of by to be assured of their Right to Education is the availability of schooling facilities in the neighbourhood. The following issues need consideration :

- 4.2.1** Distance of residence from the school is a determining factor for whether a child gets enrolled and continues his or her studies. Therefore, the norm is schools are to be provided within a walkable distance to every child in the age group 6-14. Quite a large number of eligible habitations that are bereft of primary and upper primary schools have the unmet demand for schooling facilities.
- 4.2.2** Availability of schools itself does not guarantee taking advantage of schooling facilities. Social and Cultural distance' restricts, not un often, the enrolment of SC and ST children in schools where the school climate is hostile and un-welcoming to them. Studies have shown that parents are unwilling to send their adolescent girls to mixed schools and schools with no or less number of female teachers.
- 4.2.3** Non-provisioning of schools in scattered and secluded habitations with predominant proportion of Dalit population seems to be a denial of social justice. Dalit families, usually live in spatially segregated clusters a habitations that are located at a distance from the higher caste habitations. This residential pattern has important complications for physical and social access to education, usually ignored in the longer concern with meeting quantitative largest vis-a-vis school expansion. Non-creation of schooling facilities in such habitations explains, two positions : first, schooling facilities are available in the neighbouring non-Dalit habitation which Dalit children may take advantage of; and second, the mind set that Dalit children need not study and education is not important for them. Here, social distortions and caste dynamics lend to perpetuate educational inequities.
- 4.2.4** As per Government of India prescribed norms, there should be one upper primary school for every primary school so as to ensure completion of and transition from primary to upper primary school. As evident from the analysis in Chapter II, non availability of required number of upper primary schools is a major constraint in KBK and other SC and ST dominated districts. Transition from one level the next higher level, thus, gets obstructed. In the process, girls are most adversely affected.
- 4.2.5** SCs and STs have suffered from centuries of social, economic and educational deprivations. These deprivations have debilitating effects on their capability and propensity to take advantage of development stimuli and initiatives. This disability is further exacerbated by the non-scheduled population's attitude and mind-set.
- 4.2.6** It is an acknowledged fact that poverty of parents operates as a major deterrent to education despite growing aspiration for among SC, ST and economically backward parents. Costs of schooling and opportunity costs are seen as the most crucial factors that underlie educational deprivation.
- 4.2.7** Poverty of schools, more particularly, state managed schools, in terms of availability of classrooms, teachers, reading writing materials, play materials, drinking water facilities, separate toilet for girls, mid-day meals etc. is found to be a major road-block to enrolment of children and their retention.

This calls for community participation and support. Private initiatives for creation of good quality school facilities, coupled with measures to curb inequities, may be explored and encouraged. Instead state being the sole provider, plurality of providers could be thought of as an alternative.

4.2.8 Enrolment of children, their continued participation and completion of the full cycle of primary or elementary education is a function of the availability of a well staffed and well functioning educational institution. In other words, a school with high internal efficiency and effectiveness is the core essential condition for accessibility. Schools that work must be available to parent to choose from.

4.2.9 Poverty, illiteracy and non participation of children in schooling facilities form a vicious circle perpetuating inequities. The nexus between literacy among parents and enrolment and participation of children in schools is to be exploited. The correlation between female literacy and school participation rates is very high. The essential concern is raising overall, more particularly, female literacy levels so as to generate an in-fragile and sustained parental demand for education of their children.

4.2.10 In a situation of resource crunch, financial and educational viability of 'small schools' is often looked upon as deciding criteria for having a full scale primary or upper primary schools. In pockets of small, secluded, scattered and inaccessible habitation, opening full scale institutions is financially prohibitive. Hence, the search for alternatives. The issue involved is these alternatives should not be 'second rate' and 'second track' schools for children who are already disadvantaged.

Another concern is that these alternatives should operate as temporary avenues for education as the state is not in a position to have full-scale schools which are cost prohibitive.

Education of children with special needs or differently challenged children is a major concern in planning for EFA. Different models such as special schools for severely handicapped and inclusive schooling for mild and moderate disables or itinerate teachers with specialization to deal with such children could be examined and to be put in place.

4.2.11 Need for Pre-school Education has become pronounced. In order to develop school readiness in children ECCE is felt to be essential. However, education component in ICDS is the weakest component.

4.2.12 Parental demand for education is a function of the perceived benefits of schooling that accrue to the recipients. However, interview with parents reveals that the present curriculum has enough space for improvement. Irrelevance of course contents, curriculum load-both physical and cognitive, absence consultation with parents and stakeholders about the appropriateness of curriculum, absence of local specific content were found to be the major drawbacks of the existing curriculum.

4.2.13 In the process of planning, politics of education plays a critical role. Sometimes, rational policy decisions get distorted by political interference. Location of schools need to be on the findings of micro-planning and school mapping.

4.2.14 In addition to the short term measure of strengthening pre-school education component in the AWCs, in the long term, it is desirable to create a pre-school component attached to all existing primary schools.

4.2.15 The hard to-reach groups of children nomads, migrants, tribal communities and those belonging to extremely poor households do not enter primary

schools on dropout without completing even five years of primary education. In case of such children, the routine approach will not do. Therefore, a pre-requisite is to exactly physically locate the children who are not in school. This could be possible through a systematic process of family-wise child tracking with active association of VECs, local activists and PRIs.

- 4.2.16** Out-of-school children are comprised children who have never been enrolled and child who have prematurely been withdrawn from schools. They are necessarily over-aged and more experienced. For such children, bridge courses need to be organized in order to ensure their integration in the mainstream of formal education
- 4.2.17** Ensuring that girls go to school is a social challenge : parents often feel that an investment in their daughter's education is lost when she leaves the home to get married, investment in son's education is given preference over that of the girls, girls are required for performing household chores and minding siblings' care. This calls for massive sensitization of parents and teachers.
- 4.2.18** A school in the neighbourhood, time to go to school, not to work during school hours, school supplies – to be able to learn to read, write and participate in lessons, parental support to go to school and teachers to inspire a child to stay in school once he or she has enrolled are required to fulfil children's right to education.
- 4.2.19** Inadequate parental motivation and high opportunity cost of schooling could be addressed through : first, school meals; second, active public campaigns; and third, incentives for enrolment and school attendance.
- 4.2.20** As a measure of decentralization, schools should ideally be the units of planning. Schools are to be empowered to plan for enrolment, retention and higher learning achievement.
- 4.2.21** The single most important determinant of primary school enrolment is the proximity of a school to primary school-age children. In other words, children are more likely to attend a school close to their home. Commuting to school could be costly and time consuming. Home conditions are, for vulnerable sections of the society, non-stimulating. Poverty works as a limiting factor. Hence, the need for residential schools, particularly for children from isolated and scattered small tribal habitations.

4.3 Quality Related Concerns :

In spite of large quantitative expansion of the elementary education system in the state, quality of education on offer remains a baffling concern. The test of an educational system is its ability to teach, which is best judged by the learning achievement of students. Studies by NCERT and SCERT show that learning achievement in the state is very low. The most important challenge is, therefore, to improve educational outcomes.

Quality of education in the elementary schools is dependent the quality of inputs and interventions, the quality of teachers and classroom processes, the quality of management, the quality of pre-service and inservice training programmes and the quality of evaluation procedure adopted.

Some of the pronounced quality related concerns are :

- 4.3.1** Quality of teachers is a major cause of concern. Quality of teachers depends, among other factors, on the general education preparation of teachers. In Orissa, the entry qualification to be a teacher in primary school is 10 years of school education. Compared to major Indian states, it is low. Besides, in view of upgradation primary education curriculum, 10 years of school education has proved to be inadequate to force the curricular challenges in the classroom.
- 4.3.2** Teacher recruitment procedure has enough scope for improvement. The simplistic selection of teachers exclusively on the basis of career assessment is to give way to a stringent process of selection with due weight of scholastic achievement written test, aptitude tests interest and attitude testing
- 4.3.3** Poor teacher motivation continues to plague the system. This is evident from (i) the selection criteria for admission to professional course (CT), (ii) recruitment criteria for teachers to be inducted into the system, and (iii) non-performance based promotion from Level V to Level I in the Elementary Education Cadre Rules. The principle "incentives for good performance and discriminative for poor performance should inform the promotion procedure.
- 4.3.4** Teacher quality depends on four variables : (i) quality of students who enroll them in Teacher Education Institutions (TEIs), (ii) quality of pre-service training they are exposed to, (iii) the quality of inservice training programme. This calls for strengthening the Teacher Education Programme.
- 4.3.5** Teachers' adaptability to mandates of curriculum and textbook renewal, new interactive pedagogy, continuous and comprehensive evaluation, school-based management and VECs and PRIs being given authority to manage local schools is essential for quality education. Changing the mind-set and being receptive to change are.
- 4.3.6** Working conditions for primary teachers are often poor, particularly for teachers in disadvantaged districts. Classes lack classroom, furniture and instructional materials, electricity, toilet facilities and safe drinking water and seldom found in rural schools. Many teachers commute to work.
- 4.3.7** Teachers pre-occupation with non-education assignment by various government departments keeps them away from classroom processes and instructional programmes.
- 4.3.8** Limited opportunity for career advancement and promotion. Primary teachers have almost no avenue for promotion. Lack of prospects for promotion stifles the motivation of teachers to perform.
- 4.3.9** Instructional package for elementary schools should ideally include : (i) textbooks, (ii) students' workbooks, and (iii) teachers' handbooks of substantially higher quality.
- 4.3.10** The textbook load is heavy, both physically and cognitively. It is a major concern.
- 4.3.11** Schools are rarely supervised by the Block Education Officers (SIs) and District Inspectors of Schools. Besides, when they are supervised, supervision remains largely perfunctory and lacks depth. Hardly is it instruction supportive. It is non-progressive and fault-finding in nature. Supervisors perspectives and mind-set requires to be changed.

- 4.3.12** Exclusive reliance on like supervision extending from Secretary, Education down the line to the Block Education Officers should give way to a decentralized system. The VECs and PRIs need to be wielded with appropriate authority and powers to ensure that schools perform their assigned tasks. These structures along with parents who have a strong personal interest in an improved performance of school teachers could possibly make schools function effectively. In fact, this has worked impressively well in Kerala, Himachal Pradesh, Karnataka.
- 4.3.13** Lack of adequately qualified and professionally prepared teachers is a major concern. A substantial increase in the number of such teachers, by itself, could be expected to lead to better teaching performance. In fact, field studies suggest that teaching standards tend to be higher in schools with more teachers. Conversely, teaching standards are particularly low in single teacher schools.
Two essential steps for improved performance of schools are, therefore, to increase the number of teachers, and to ensure that they teach.
- 4.3.14** The 73rd and 74th Amendment to the Constitution offers rich promise and possibilities for making local primary schools efficient and effective. Given the highly unequal character of the rural society, and the frequent connections between government teachers and local leaders, it would be unwise to expect an automatic transformation of the quality of schooling. Nevertheless, experiences of other states are worth observing. What is essentially required is unshaken belief in the instrumentality of this legislation and their ability to change the system, provided the capacity of the functionaries is built.
- 4.3.15** Better teaching leads to better learning. In general, teaching methods that emphasize more active teaching and learning engage students more fully than those emphasize rote learning. Studies have shown that students whose teachers monitor their progress, give them feedback and communicate with their parents learn more than those whose teachers pay no attention to how well they are doing.
Hence, the essential requirement is interactive, and participatory teaching with total involvement of pupils.
- 4.3.16** The most consistently significant school-level characteristics are related to the opportunity to learn, which our schools woefully lack. The essential requirements are schools must operate regularly, and teachers must come to school, teach, cover the curriculum, test learner achievement, provide feedback and ensure progress. Thus, amount of time devoted to learning is important and consistently related to achievement.
The school-based management, instructional leadership by the headmaster, teachers' professional motivation, and teacher preparation system will significantly optimize the time on task. Teacher absenteeism, widely pervasive phenomenon, reduces instructional time and, consequently achievement. This needs to be checked.
- 4.3.17** The focus of curriculum, instructional materials and therefore, of curriculum transaction gets shifted to subject orientation at the upper primary level. In other words, from a position of no subject teachers in primary schools, we move to upper primary schools with a pressing need to have specialist teachers to teach Science, Mathematics and other subjects. Therefore, the imperativeness of having subject teachers at the upper primary level.

4.3.18 The 'no detention' policy has outlived its historical necessity. Moreover, it has been rendered irrelevant in the context of averting a shift of focus from quantitative expansion to qualitative transformation.

The focus should be continuous evaluation of learner performance with provision for diagnosis, remediation and enrichment, so as to ensure progress in learning achievement. This apart, introduction of public examination at the end of Class III, Class IV and Class VIII.

4.4 Management Related Concerns

The 73rd and 74th Amendments of the Constitution have started changing dramatically the management of elementary education in the Indian states. Government of Orissa have already evolved powers and authorities to the grassroots level management structures like VECs and PRIs in respect a few subjects, including education. The devolution of responsibilities to these institutions, under the new framework could have spill-over effects at all levels leading to broadly based community support for education, school level responsibility for effective instruction and a cascading system of professional support. Some of the critical concerns with regard to management are :

- 4.4.1** Decentralization of educational management is strongly advocated on the rationale of operational efficiency and effectiveness. Despite the 73rd and 74th Constitutional Amendments, the proclivity not to part with power still holds its sway. Roadblocks to devolution of powers and authority to be cleared which is challenging. Need for a mind-set to change for the better.
- 4.4.2** Despite the 73rd Constitutional Amendment, education remains the concurrent responsibility of both national and state institutions.
- 4.4.3** The system has grown so mammothly that it is not possible to manage it from the state or even from the district headquarters. The onus of effective management needs to rest with actors and with institutions where actions take place. In short, management should move away from the state or the district to school-based management.
- 4.4.4** In primary education of the state there is a multiplicity of authorities. This is operationally unwieldy functionally ineffective and financially non-viable.
- 4.4.5** Non-availability of a consistent reliable and scientific database on key educational parameters is a major challenge. Good governance requires a database.
- 4.4.6** Inter sectoral and inter departmental convergence and coordination among allied departments is almost missing. Lack of it, in fact, eats into the system's efficiency.
- 4.4.7** What is of crucial necessity is putting in place a well-managed and well-functioning school. School-community partnership in school management needs a close look.
- 4.4.8** Teacher absenteeism in various shapes seriously affects the functioning of primary schools. The problem is chronic in remote and rural inaccessible areas of the district.
- 4.4.9** Monitoring is an essential necessity for effective and efficient functioning of an educational system. Weak monitoring systems are a significant liability in the educational systems. Unless a systematic and well thought out monitoring mechanism is put in place, the elementary education system will

continue to be afflicted by low internal efficiency. The monitoring system needs, therefore, strengthening with flow of information top-down and bottom-up for informed policy makers and taking up correctives.

- 4.4.10** Till today research capacity has not been except a few studies under DPEP adequately used to address issues in primary education. Indian institutions are weak in some of the essential components of a strong research capacity : adequate funds, trained and motivated personnel, a reliable and internally consistent database, organizational arrangements for linking conducting research and disseminating results, and institutionalized mechanisms for collecting processing, analyzing, storing, and re-achieving (quantitative and qualitative) data.
- 4.4.11** One of the important areas of concern is the lack of programme testing and monitoring - ploughing back finding to programme - linkage. It is important that state's establish the capacity to use these data effectively - to identify good practices and to spot problems. What is essentially required is routine assessments of effectiveness of learning materials, the effects of training on the performance of teachers and headmasters, the effects of school improvement interventions and strategies on educational outcomes and equity, the effectiveness of supervision and the effectiveness of alternative / instructional practices. In a situation of severe resource scarcity cost studies are essentially required.
- 4.4.12** With recent delegation and devolution of powers to the institutions of self-governance under the Seventy-third and Seventy-fourth Constitutional Amendments, changes in the technical administrative and political responsibilities of state institutions - Directorates, SCERT, SIEMT and Textbook Production and Marketing - are inevitable. Their hither-to-assigned roles will dramatically change under the new system, from one of control to one of support.
- 4.4.13** To invests in education is costly. But not to invest in education, more particularly in basic education, is more costly. In a situation of severe financial crunch, total reliance on public resources appears to be unreasonable. Resources from conventional and non-conventional sources need to be mobilized to meet state's huge resource needs. While all other source will supplement, the state should, by no means, absolve itself of its committed responsibility.
- 4.4.14** Teachers' salary consumers almost all budgeted resources for elementary education. Scarcely is there any resource available for non-salary purposes, for instance, teaching - learning materials, textbooks, infrastructure building, incentives for students and teachers, teachers training, monitoring etc. Quite a large number of such inputs have strong relationship with quality of education. In view of this, the proportion of non-salary expenditure needs to be reasonably raised to about 10-15 per cent. This has to be attempted not by reducing expenditure on non-salaries but by mobilizing additional resources from hitherto untapped resources
- 4.4.15** Education reforms essentially reflect dealing with uncertainties inherent in itself. Reforms require many people in the education system - students, parents, teachers, administrators, policy makers, and technical specialists to follow new procedures and practices. The sheer inertia of the system and the non resilient attitude of people associated with it stand as road-blocks to reform endeavour. The obvious reason is that changes are threatening for personal, political or technical reasons. This conservative and non-progressive mindset needs to give way to positive attitude towards reform.

4.5 Conclusions :

The last decade of the twentieth century was unique and unprecedented in more than one ways. The nations of the world, being critically aware of the instrumentality of basic education for economic development, reaffirmed their commitment to universalization of basic education with renewed vigour and enthusiasm. For India, probably no time was more opportune and propitious for UEE than the 1990s. The NPE (1986 and 1992), the WDEFA (1990), the Delhi Declaration (1993), the Committee on Review of NPE (1990), the launching of DPEP, the 73rd and 74th Constitutional Amendments, the 93rd Amendment initiative as the 86th, etc. created a synergetic symbiosis in favour of UEE. Under its impact, India has moved markedly towards the goals of UEE. Notwithstanding the impressive quantitative leap, UEE goals, in their entirety, could not be accomplished. Aware of its diversities, the country aims to achieve UEE by AD 2010.

The task at hand compared to the task hitherto accomplished, is indeed, more challenging. Equity and quality issues still stare at our face. Basic Education / UEE, therefore, should be a battle-cry against the prevailing pattern of elitism and selectivity in education that offers much to a few at the expense of a common care of learning for all. Certainly, there cannot be two standards of education : quality education for the paying elite and another inferior one for the lesser off.

Despite the enormity of the task, UEE can, by no means, be deferred to beyond 2010. Time is running out. Procrastination will certainly cost heavily. Time to act is now and here. What is required is an uncompromising and unruffled commitment with an indomitable will to change the situation. Nothing short of a conviction to turn a disadvantage to an advantage, a seemingly impossibility to a possibility, a rhetoric to a reality will do. We cannot any longer put up with this situation. What is required to make us moving, and moving fast, is the unruffled conviction. *"We can do better, we should do better, and we must do better"*.

Taking a leaf from 'A Nation at Risk', the Report of the National Commission on Excellence in Education, the following concluding statements of the report have enough message for us to act.

It is ... the America of all of us is at risk, it is to each of us that this imperative is addressed. It is by our willingness to take up the challenge and our resolve to see it through, that America's place in the world will be either secured or forfeited. Americans have succeeded before and so we shall again.





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**District-wise Existing Primary and Upper Primary Schools and New Schools
Proposed to be Opened under DPEP / SSA**

Sl. No.	Districts	Primary Schools		Upper Primary Schools	
		Existing	To be opened under DPEP / SSA	Existing	To be opened under DPEP / SSA
1.	Angul	1065		323	75
2.	Balasore	1961	83	917	27
3.	Bhadrak	1059	100	522	95
4.	Cuttack	2726	84	667	65
5.	Deogarh	452	26	113	46
6.	Ganjam	3035		695	280
7.	Jagatsinghpur	1025	20	421	23
8.	Jajpur	1308	85	678	57
9.	Jharsuguda	596	34	165	124
10.	Kendrapara	1255	40	583	97
11.	Khurda	1226	61	415	85
12.	Nayagarh	1479	70	274	75
13.	Puri	1443		479	80
14.	Sundargarh	2052		523	90
	Total	20682	603	6775	1219
15.	Baragarh	1452	99	404	145
16.	Balangir	2055	51	389	331
17.	Dhenkanal	1431	102	377	211
18.	Gajapati	929	116	108	250
19.	Kalahandi	1927	31	365	216
20.	Keonjhar	2007	166	631	166
21.	Rayagada	1401	86	186	343
22.	Sambalpur	1134	101	238	187
23.	Boudh	626	72	111	204
24.	Kandhamal	1594	57	244	335
25.	Koraput	2137	226	236	434
26.	Malkangiri	873	127	103	220
27.	Mayurbhanja	3157	200	795	313
28.	Nawarangpur	903	95	206	191
29.	Nuapada	655	44	166	132
30.	Sonepur	705	69	176	104
	Total (16 Districts)	22986	1642	4735	3782
	State Total	43668	2245	11510	5001

Appendix - B

Number of Teachers in DPEP Phase II Districts

District	Area	No. of Sampled Schools	Number of Teachers on Roll				Total	Average teachers per school
			Male		Female			
			N	%	N	%		
Boudh	Rural	40	86	79.63	22	20.37	108	2.70
	Urban	10	15	24.59	46	75.41	61	6.10
	Total	50	101	59.76	68	40.24	169	3.38
Kandhamal	Rural	40	88	65.67	46	34.33	134	3.35
	Urban	10	14	20.29	55	79.71	69	6.90
	Total	50	102	50.25	101	49.75	203	4.06
Koraput	Rural	40	76	73.79	27	26.21	103	2.58
	Urban	10	31	39.74	47	60.26	78	7.80
	Total	50	107	59.12	74	40.88	181	3.62
Malkangiri	Rural	40	70	72.16	27	27.84	97	2.42
	Urban	10	30	40.00	45	60.00	75	7.50
	Total	50	100	58.14	72	41.86	172	3.44
Mayurbhanja	Rural	40	76	70.37	32	29.63	108	2.70
	Urban	10	19	27.54	50	72.46	69	6.90
	Total	50	95	53.67	82	46.33	177	3.54
Nawarangpur	Rural	40	87	65.41	46	34.59	133	3.33
	Urban	10	08	14.04	49	85.96	57	5.70
	Total	50	95	50.00	95	50.00	190	3.80
Nuapada	Rural	40	84	77.06	25	22.94	109	2.72
	Urban	10	18	39.13	28	60.87	46	4.60
	Total	50	102	65.81	53	34.19	155	3.10
Sonepur	Rural	40	98	86.73	15	13.27	113	2.83
	Urban	10	14	21.54	51	78.46	65	6.50
	Total	50	112	62.92	66	37.08	178	3.56

Sector Study II

UNIVERSAL LITERACY AND EMPOWERMENT

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2003

Orissa occupies the twenty-sixth position among states & UTs in the country. The state's overall literacy rate is 63.6 per cent as against national literacy rate 65.4 per cent (2001 census). The gender disparity in Orissa is alarming. The state's female literacy rate of 50.97 per cent is lower than the national average (54.16 per cent). Twenty districts out of the state's thirty districts have female literacy rates lower than the national average.

Economic participation and literacy is often considered crucial to women empowerment. The participation of women in all productive economic activities involves women's access to, control over and ownership of productive resources, to raise the socio-economic status of women, output and benefits of production, to use as the basis for participation in multiple roles, including producer, entrepreneur, decision maker and consumer. Literacy is a basic skill, which is a condition precedent to all form of education and training. Literacy is not necessarily the guarantee that one will become more educated. But it certainly provides the potential for such enhancement. It increases one's access and capacity to enrich one's education. It also provides access to better training opportunities, it holds the possibility of improving one's economic condition. It also enhances one's capability to function more effectively in a fast-changing world. While the positive co-relationship between literacy and development is difficult to establish, the co-relationship between illiteracy, poverty and underdevelopment is clearly established, which may be seen from the following table:

High Literacy rate - 80% and above

Sl. No	State/District	Total	Male	Female	% o BPL (1997)
1.	Khurda	80.19	88.38	71.06	59.17
<i>Above state average 63.61 % and below 80%</i>					
1.	Jagatsinghpur	79.61	88.96	69.94	52.75
2.	Puri	78.40	88.73	67.80	69.13
3.	Kendrapara	77.33	87.62	67.29	59.89
4.	Cuttack	76.13	85.46	66.19	52.18
5.	Bhadrak	74.64	85.44	63.62	56.70
6.	Jajpur	72.19	82.69	61.45	60.40
7.	Jharsuguda	71.47	83.04	59.23	49.02
8.	Nayagarh	71.02	83.23	58.10	67.91
9.	Balasore	70.94	81.75	59.57	73.72
10.	Dhenkanal	70.11	81.31	58.55	62.61
11.	Angul	69.40	82.02	56.01	59.36
12.	Sambalpur	67.01	78.87	54.79	59.78
13.	Sundargarh	65.22	75.69	54.25	65.22
14.	Baragarh	64.13	77.93	50.03	60.38
15.	Sonepur	64.07	80.30	47.28	73.02
<i>Below state average (63.61 % and above 50%)</i>					
1.	Ganjam	62.94	78.39	47.70	55.00
2.	Deogarh	60.78	73.79	47.56	78.79
3.	Keonjhar	59.75	72.53	46.71	76.96
4.	Boudh	58.43	76.86	39.78	80.20
5.	Balangir	54.93	70.36	39.27	61.06
6.	Kandhamal	52.95	69.08	36.19	78.42
7.	Mayurbhanj	52.43	66.38	38.28	77.74

Sl. No	State/District	Total	Male	Female	% o BPL (1997)
<i>40% above and below 50%</i>					
1.	Kalahandi	46.20	62.88	29.56	62.71
2.	Nuapada	42.29	58.78	26.01	85.70
3.	Gajapati	41.73	55.14	28.91	61.38
<i>Below 40%</i>					
1.	Koraput	36.20	47.58	24.81	83.81
2.	Rayagada	35.61	47.35	24.31	72.03
3.	Nawarangpur	34.26	47.37	21.02	73.66
4.	Malkangiri	31.26	41.21	21.28	81.88

(Literacy rates by Sex for district. As per 2001 census-Provisional)

The percentage of population in district below with low literacy rates and the percentage of population below poverty line (BPL) show a positive co-relationship between low female literacy and the incidence of high poverty.

Female literacy rate in **seven** districts below 30 per cent (Gajapati : 28.91, Kalahandi : 29.56, Koraput : 24.81, Malkangiri : 21.28, Nawarangpur : 21.02, Nuapada : 26.01, Rayagada : 24.31)

Literacy scenario among women living in remote rural areas is very discouraging. There are 7 tahsils having within 10-15 per cent and 11 tahsils within 20-25 per cent literacy rate.

In **four** districts is below 40 per cent (Boudh : 39.78, Balangir : 39.27, Kandhamal : 36.19, Mayurbhanj : 38.29);

In **four** districts is below 50 per cent (Ganjam : 47.70, Deogarh : 47.56, Keonjhar : 46.71, Sonepur : 47.28). *Baragarh is just 50.03 per cent

Status of Literacy programmes:

The state has already adopted the campaign approach to promote adult literacy since 1990-91. All 30 district have been covered under the Total Literacy Campaign.

The total literacy campaign (TLC) is now in operation in 9 district (Kendrapara, Jagatsinghpur, Jajpur, Boudh, Gajapati, Deogarh, Mayurbhanj, Nawarangpur and Rayagada);

Six districts are proposed for post-literacy programme (PLP) (Sonepur, Cuttack, Baragarh, Koraput, Khurda, Nayagarh (waiting). PLP is continued in Puri and Balasore, approval for PLP was received for Bhadrak and Kandhamal

Eight districts are ready for continuing education and submitted proposal to Government (Ganjam, Keonjhar, Malkangiri, Anugul, Dhenkanal, Jharsuguda, Nuapada, and Sambalpur) and one special project (Rourkela) Balangir, Sundargarh. Kalahandi and Rourkela have received sanction for CE programme.

A special female literacy focused NLM sponsored programme is planned in KBK plus Gajapati Dist in collaboration with local NGOs/CBOs. The target, Achievements & Expenditure in the literacy campaigns are as follows :

Scheme	Target (in lakhs)	Enrolment (in lakhs)	Achievements (in lakhs)	Amount released (in Crores)	Expenditure (in lakhs)
ILC	65.61	57.63	29.55	37.64	33.64
PLP	25.60	23.33	16.52	09.92	11.43

Management of Literacy Programmes:

State Literacy Mission Authority (SLMA), with Directorate of Mass Education as its secretariat, is the state level nodal agency to manage, support and supervise literacy programmes with financial support from Govt. of India. Keeping in view the guidelines of Government of India, needs the activities to be strengthened and geared up.

The Directorate of Mass Education is staffed with one Director, three deputy directors, four asst. directors and district. Mass education officers as its field functionaries.

The Zilla Sakhyarata Samiti (ZSS), a registered society with District Collector as Chairman, looks after literacy programmes at the district level and Rourkela urban area project being managed by Rourkela Sakhyarata Samiti headed by the ADM, Rourkela. NLM guidelines prescribe two non-government persons as key office-bearers in its management, in Orissa however a total official driven system of ZSSs exists at present. The ZSSs are staffed with either District Mass Education Officers as Secretary or a district level officer of the administration on additional charge.

Block Sakhyarata Samiti, GP level Sakhyarata Samiti and Village Sakhyarata Samiti are down the lines for field level implementations of literacy activities.

State Resource Centre for AE, an autonomous body at Bhubaneswar is the academic and training resource support agency to all ZSSs. The Bharat Gyan Vigyan Samiti (BGVS), an autonomous and independent sponsored body supported by NLM, through its state branch and district units provides mobilization and resource support at the district. level.

The Jan Sikhyan Santhans (ISS), autonomous and sponsored by MHRD, GOI at Angul, Bhubaneswar, Keonjhar, Rourkela and Cuttack provides academic and technical resource support to ZSS at district level.

The District Resource Units in DIETs (13) and four NGOs are also extends support to ZSSs in academic and training components of campaigns. Some universities have also units for AE and extensions to promote literacy and continuing education through college & university students.

NLM has introduced a new pedagogical approach known as the Improved Pace and Content of Learning (IPCL) on the basis on IPCL approach. The core content of IPCL curriculum is built around three areas namely, functionality, awareness and national values (FANV).

Problems and Constraints:

- There is no support to the programme at the field level from functionaries of other development agencies and departments; functional literacy has not been used as an instrument of development.
- Expectations of the target groups from programmes of functional literacy by and large, remain by and large, unfulfilled.
- For want of sufficient motivation, it has not been possible to secure continuing participation of learners and quite a few among them dropout at different stages, before attaining a stage of non-relapsable literacy.
- Involvement of educational institutions, community and voluntary organizations at the grassroots level, is either totally lacking or marginal.
- Functional literacy programmes have not been related to the needs of learners, who constitute the productive workforce, and are not being used as a means to achieve increased productivity.
- Lack of proper motivation on the part of literacy instructors and supervisors, and existing inadequacies in their training and orientation have, prevented them from conveying effectively the positive co-relationship between functional education and social, economic and political development.
- Lacks of effective post-literacy follow up, libraries and opportunities for continuing education and gaps between TLC / PLP and continuing education are major constraints in achieving the goal of universal literacy.
- Rigidity in curriculum, primer framework and text/ guide books without addressing learners need, age/ ability of the volunteers contributes largely to non-interesting teaching-learning transactions and heavy dropouts. Adoption of a uniform pattern of curriculum leaves little scope to cater to the varying needs of specific learning groups.
- Lack of suitable teaching-learning materials for tribals and regional language speaking people.
- Lack of effective monitoring of learning centers on the part of ZSS, community and departmental people due to mobility problems
- Less involvement of stakeholders due to lack of understanding, motivation and space provided by the ZSS
- Weak linkages between target groups and executors/ promoters of the campaign
- Weak infrastructure and availability of human resources to manage the campaign
- More emphasis on JRs and weak convergence between different developments / socio-political motivators and promoters of the campaign

Vision 2020 :

- Achieving a suitable threshold level of 80 percent literacy in the state with at least 60 percent female literacy by the end of the year 2007 and universal literacy by the year 2010
- Bridging the gender gap in literacy and the gap between the literacy levels of the general population and those belonging to SC/ST.
- Strengthening skill development to promote wide ranging competence and up gradation of existing occupational skills as well life skills
- Establishing a life long learning process through a chain of lively continuing education centers & libraries in each GP by 2007

Issues and Needs :

In the age of Information and Communication, the inability to read and write is a grave handicap, which not only affect the individual growth, but also arrest and impedes state development. From the literacy programme experiences in Orissa, and the Socio-economic and educational circumstances of Orissa's population, three categories of issues have been identified along with the ongoing programmes:

1. How to achieve 80 per cent functional Literacy rate and more specifically to achieve literacy among tribals by 2007 ?
 - a. Tackling residual illiteracy Target population to be covered in 15-50 age group i.e 80 lakh
 - b. Enabling neo-literate / literates to continue learning & education : Target population to be covered will be 26 lakhs

Total population	= 367 lakhs
Population (0-6) age group)	= 52 lakhs
Population (7+ age group)	= 315 lakhs
Literate population (7+ age group)	= 200lakhs
Residual illiterates (7+ age group) = 115 lakhs	
7+ -14 age group	= 17 lakhs
15 -35 age group	= 40 lakhs
36 -50 age group	= 40 lakhs
50 + age group	= 18 lakhs

2. How to achieve functional literacy and life skill in tribal and deprived groups (projected literacy rate among STs - 2001 - 36 per cent) and accelerate the process to make them fully literate & empowered to lead a better quality of life.
 - S.C. male literacy ranges from 30.93 per cent (Koraput) to 61.29 per cent (Keonjhar), S.C. female literacy ranges from 11.21 per cent (Malkangiri) to 48.41 per cent (Boudh), S.T. female literacy ranges from 1.80 per cent (Nawarangpur) to 14.61 per cent (Baragarh)
 - High literacy - high per cent of BPL

3. How to Empower and Bridge the gaps of male - female literacy and improve the level among women and girls (13-20 age group) to 85 per cent. 16 out of 30 districts have less than India average (54.16 per cent) Education & literacy among adolescence girls is in an alarming situation among socially backward groups.

Tribal Literacy :

Sl. No	Area	Concern	Issues...	
			Demand perspective	Supply perspective
1.	Tribal literacy	Motivation	Perceived irrelevance of literacy and inefficient literacy centers	Non-availability of skill/ livelihood/ work related 'Literacies'
			Demand for schooling for next generations by marginalized and hard to reach social groups is feeble	Absence schooling facilities in the areas where difficult to reach children do live
			Motivation programmes to be relevant and continuous	Non-targeting approach in district level campaigns
			Poverty and daily hard labour for livelihood support activities make demand for literacy fragile	'In-center' variables are not adequately taken care of
			Lack of home/ center support system needs to be compensated to VIs/ Learners	Limited scope with in existing literacy programmes
			Absence of multi-bag of text books/ local specific primers	Integration of TLC / PLP and CE to be integrated to form a single package and single focus of discovery
			Absence of bridge courses for Tribal girls	
			Absence of multimedia and multi-folk method of motivation	In a mass campaign approach it is very much difficult to approach in multi-folk method
2.		Teaching-Learning transaction	Suitable teaching-learning materials	Limited scope in the standard district specific IPCL primers
			Local content/ words in primers and guidebooks for VIs & RPs	Mismatch between literary primer and community language
			Local level instructor who knows the local tribal language	Absence of educated youth/ retired persons and primary schools
			Difficult to an all weather and night-time study atmosphere	Centers lack basic essential facilities like lighting arrangements, space etc.
			Multiple 'Literacies' as option to achieve literacy and other skills through services up-gradation in traditional craft production in order to improve their income generating prospects	NLM approach in literacy campaigns basically aims at achieving 3Rs
		Organization	Involvement of educational institutions, CBOs and voluntary organizations at the grassroots level	Literacy committees at Village/ panchayat level are largely non-functional
			Local organization likes SHGs/ Co-operatives/ local community centers to undertake empowerment programmes and vocational training opportunities	Literacy centers functions in isolation
			Regular monitoring and academic support to TL centers	Academic monitoring and basic infrastructure support for MIS is weak in literacy campaigns
			Strengthening of Rural Libraries	

Literacy among Women :

Women acquire knowledge and identity in different ways. The history of women's educational inequities, current state of women's literacy, and methods of literacy programs justify gender specific programming based on adult learning theories that are focused on construction of experience and perspective transformation.

Sl. No	Area	Concern	Issues	
			Demand perspective	Supply perspective
1	Women literacy	Motivation	Opportunity to know the world (mobility exposure, information, and education) Social barriers, early marriage and conservative attitude to women should be addressed multiple Literacies as option to achieve literacy and other skills through services up gradation to improve their income generating prospects, mother and child health care, family social status and environment	Not availability materials or activities beyond primers Motivational campaigns in IEP campaign overlooked these aspects NLM approach in literacy campaigns basically aims at achieving IRs
		Teaching Learning Transactions	Suitable teaching-learning materials on gender perspectives Access to appropriate tools and technology, marketable product designs, marketing avenues for products to ensure the sustainability of their primary/secondary livelihood	Limited scope in the standard primers Limited scope in the existing IEP processes
		Organization	Suitable learning learning materials for multiple Literacies' option. Local level women instructor as VIs	Difficult to develop and address multiple literacies because of scheduled timing of the campaigns
4	Neo literates	Materials	Availability of qualitative neo-literate series of reading materials on various topics concerning the social life.	Not available in the present context
			Availability of learning material for multiple Literacies and quality of life improvement programme.	Not available because of absence of CE project in many district or prolonged campaign period
			Preparing a integrated educational package encompassing the adult non literate, her/his children and grand children (for 1 st generation learners)	Not available in NIM package of literacy and CE programmes

To address women groups, the needs exist as

- Linkages between SI/MA, ZSS and Mission Sakti (the Govt. body looks after Women SHGs at state level)
- Learning material designed with a focus to SHG activities and multiple Literacies on Health, legal affairs, economic development, cultural, map reading etc.
- Suitable linkages and convergence between different development agencies.

To address literate and neo-literate to continue learning and education

- Development of qualitative neo-literate series of reading materials on various topics concerning the social life.

- Development of learning material for multiple literacy's and quality of life improvement programme
- Preparing a integrated educational package encompassing the adult non-literate, her/his children and grand children (for first generation learners)
- Strengthening of rural libraries and community centres

Strategies for Implementation of Adult Education Programme:

Module 1 : Multiple Literacy programmes for a targeted non literate, semi-literate and neo-literate group of different regions with identified needs, which will also

- Address geo-cultural needs like
- i) Emergency literacy covering Community Based Disaster Management, preparedness, mitigation, coping mechanisms for cyclone, flood, earthquake and other natural disasters in coastal districts,

Districts to be covered	Balasore, Bhadrak, Cuttack, Kendrapara, Jagatsinghpur, Jajpur, Puri, Khurda, Nayagarh, Ganjam, Dhenkanal
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- ii) Livelihood literacy covering primary sectors like agriculture, NTFP, traditional occupations and secondary income generation activities in southern and western district

Districts to be covered	Koraput, Malkangiri, Nawarangpur, Rayagada, Gajapati, Kalahandi, Nuapada, Kandhamal, Boudh, Balangir, Sonepur
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- iii) Literacy linking to socio-cultural aspects, empowerment and income generation in different district with local specific focus.

Districts to be covered	Sambalpur, Baragarh, Sundargarh, Keonjhar, Mayurbhanj, Deogarh, Angul, Jharsuguda,
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(These are suggestive programme and district may be taken up as per local needs and requirements)

Module 2 : Empowerment focused literacy programmes through women Self help Groups (SHGS) with identified needs of women and non-literates, which will

- I. Empower non literates and semi/neo literates (with a focus on women) by enhancing their skills and training, their market opportunities and bringing about increased self confidence
- II. Provide a sustainable knowledge base, which will also indirectly bring about improvements on other key social indicators like health and nutrition, child health, RCH

- **Participation is centrally concern with power and power is at the heart of empowerment.**
- **At least four different ideas are combined in the way Power is used here- power over, power to, power within and power with.**
- **There is no effective attack on the problem of poverty without the education and empowerment of women.**
- **There is no better way of promoting well-being of children and ensuring their better health education than the education and empowerment of women.**

Module 3 : The addition to the framework for capacity building, networking, management, monitoring and coordination for the literacy projects as well as other projects, which will

- Provide general project support, project monitoring and implementation through the active participation of implementers and stakeholders
- Strengthen SLMA- Orissa with a focus as nodal implementor with district, ZSSs, NGOs and to create stronger linkages with other projects links to education and empowerment/ livelihood.
- Resources the support agencies in the field of capacity building, motivation, material development, pilot programmes with appropriate level of finance and infrastructure support

These strategies should be the additionality to the implementation of the NIM assisted project to achieve desirable literacy rates especially among tribal, women and socially disadvantage groups. The key components consist of:

- A detailed baseline study and micro level planning with GP/block as a unit, and learning centre as a base in the three target regions of Orissa, to be undertaken in collaboration with ZSS, PRI bodies and NGOs to effect linkages with and draw on the experience /new strategies for district/ area specific implementation of LFE projects in the Orissa.
- The selection of target groups/ beneficiaries to be addressed in LFE project and develop methodologies on multiple literacy for each of the region. This will involve material preparation, Pilot programmes, capacity building and special arrangement in addition to existing components
- Follow up framework aimed at focused motivational activities for tribal community and women groups such as Self-Help Groups (SHG's) through various mediums suitable to the locality including demonstrations and multimedia.
- Promotion of existing and establish new women's / artisans SHGs and community learning centers in tribal areas through active participation in the project activities and sustainable participatory vocational/educational training.
- Documentation (using multi media and distance education technology, e.g., training videos) to enable non-literate, neo-literate and others to have access to multiple literacy

Strategy should be also to strengthen and set up an effective management framework for this project and other existing projects in SLMA and ZSSs.

Some cross-cutting implementation issues

I. Livelihood, Literacy and Empowerment

Sl. No	Description	Comment
Q1	Will the promotion of livelihood be one of the main objective of the all programmes?	It is expected that the twin objectives of making literate, via regional/ local need-base activities like implementation of skill up-gradation and other primary/ secondary livelihood related programmes, through SHGs will be sensitive to livelihood issue.
Q2	Will promoting livelihood of target group an objective of one or more components of the adult education programmes?	Adult education programmes would implement multiple literacy modules including skill promotion and livelihood literacy programmes through the women SHGs, occupational groups in different districts

Sl. No	Description	Comment
Q3	Will there be strategies to help overcome identified barriers to full participation of economically backward groups/ families?	It is likely that strong barriers to such participation would exist in the many rural tribal/ non-tribal communities from which non-literate would be selected. Appropriate measures would be taken to address such barriers in consultation with local CBOs and communities
Q4	Will be the promotion of literacy through empowerment activities the one of the main objective of the whole AE programmes?	It is expected that the twin objectives of making literate and empowered through multiple literacy modules like implementation of emergency literacy in coastal area livelihood literacy in southern/ western districts and other local need specific activities to be designed from micro-planning will be sensitive to this issue
Q5	Will the strategy be equipped to address the core issue of residual illiteracy and hard to reach non-literate (principal)	The core strategy will be the micro planning at CP and consolidated district plans. The capability building / establishment of resource support agencies at district/ state level will be the main feature to address the issue at local /district/ state level.
Q6	Will the strategy be designed to address the issue of girl child education and in-flow of non-literate.	The strategy will be establishment of camp schools in existing structures and strengthening primary education and community learning centers to tackle the problem.
Q7	Is the promotion of literacy includes other major concerns like impact on health, maternity & childcare, income generation scientific temper and programmes to enable them to address to the specific problems of women facing in their daily life / small savings and other national/ state issues	It is likely that multiple literacy methods through women SHGs and community learning centers the concerns can be addressed
II. Mother languages, Tribal languages and Multi-lingual		
Q1	Will the promotion of mother language tribal language of specific target groups an objective	One of the objectives would be that it would implement multiple literacy through a basket of Primers/ textbooks of local design (1st primer 70:30, 2 nd 50:50, 3 rd primer 80:20) for different tribal spoken groups like Desia Sadri and Kuie
Q2	Will there be strategies to get in to state language from mother language/ tribal languages?	It is likely that after completion of 3 rd primer, sufficient bridge courses, PI and CE materials in Oriya will be provided to get them in mainstream language. Appropriate measures would be taken to address these areas by resource support agencies at state and district level
Q3	Will there be strategies to help overcome barriers of local specific interesting materials and resource/ guide books?	It is assumed that the establishment of academic cells in ZSSs and strengthening its support organisations like JSS, DRUs and other capable local NGOs likely address the issue of local specific materials
Q4	Will there be emphasis on capacity building of middle/ down level managers of programme?	The establishment of ST Resource cell in SLMA and strengthening other resource support agencies to build up the capabilities of ZSSs and its arms including VECs will address the need.

IV. Gender Analysis

Sl. No	Description	Comment
Q1	Will be the promotion of equality between women and men the one of the main objective of the whole activity?	The twin objectives of making literate, via empowerment activities like implementation of skill up-gradation programmes, through SHGs will be sensitive to gender equality issues
Q2	Is promoting equality between women and men an objective of one or more components of the AE activities? (significant)	One of the objectives would be that it would implement through the women SHGs in different district

Sl. No	Description	Comment
Q3	Will there be strategies to help overcome identified barriers to full participation of women and men?	It is likely that strong barriers to such participation would exist in the rural tribal communities from which non-literates would be selected. Appropriate measures like special camps and learning centers would be taken to address such barriers in consultation with local ZSSs, NGOs and communities
Q4	Will there be strategies to help promote equitable participation of women and men in decision making roles?	The mechanisms of SHG and strategies like setting up women cells by ZSSs, local CBOs / VECs, NGOs in the running of the SHGs would ensure this is achieved
Q5	Will there gender sensitive indicators be introduced in monitoring and evaluation?	The performance indicator would be percentage of women participants against a target of more than 50 per cent

Suggested Activities:

Sl No	Activity	Description
1	Baseline study and micro-planning	Literacy resource mapping, language maps, response from focus group, activists, promoters, brainstorming / need assessment with hard to reach and residual non-literate, Cluster/ village level master plan and consolidated planning at GP and District
2	Documentation of existing mechanisms livelihood pattern skills and services	Disaster/ emergency coping mechanism, CBDP, Livelihood coping mechanism in western district, Tribal livelihood pattern, existing skills and basic services
3	Formulation of district perspective plans	District perspective plans basing upon the micro plans of GP/ target areas
4	Identification and capacity building of resource support agencies	Regional resource center for KBK district, state level resource support agency for IEC and mobilization activities, SRC for AE, DRUs, JSS Dist. academic cell, BRCs in tribal blocks.
5	Strengthening and equipping SLMA	Provision for techno-managerial Human resources and automation, state consultant team for LFE, Advisory body for LFE, Special monitoring cell and mobility arrangements, skill, technology and resource cell,
6	Strengthening and equipping ZSSs/ PRI/NGOs	Redefining the role of ZSS with LFE, provision of suitable human power and automation, Increase the scope of MIS, capacity building of field functionaries(VIs, RPs, MTs), capacity building of PRI bodies, CBOs, NGOs, VECs, separate women cell, establishment of nodal resource centers in difficult areas, mobile vans, strengthening DRUs, JSS, Decentralization of authority and flexibility
7	Organization building and motivational programmes	Involvement of Zilla Parisad, Establishment of community Education centers/ libraries and self-help learning groups, formation of local resource groups and motivator/ monitoring groups, special motivational campaigns, youth meets, talent search, exhibition and display, radio and media campaigns,
8	Programmes to arrest the in-flows of non-literate in hard to reach areas	Provision of access to schools, more residential school cum learning centers, camping approach for retention of girl child, bridge courses and remedial teaching, capacity building of teachers, opportunity cost to parent and children, strengthening administration and supervision
9	Developing managerial efficiency at all level	Developing managerial efficiency of SLMA, ZSSs and down level implementing bodies and all resource support agencies in planning, monitoring and execution of LFE programme

Sl No	Activity	Description
10.	Developing materials and multiple literacy modules	Learner's Need assessment, multi bag of primers/Training modules, audio visual materials, mobile center packages, empowering learning packages for SHGs, CD based multi learning & multi-skill packages, state level audio video library, e literacy news letter
11.	Programs of multiple literacy in different area	Pilot/ micro and research studies, implementation of programmes as per micro-plans by district
12.	Documentation of all programmes in district	Process documentation, Documentation of multiple literacy initiatives, emergency and livelihood literacy, literacy initiatives in hard to reach areas and social groups
13.	Mid-term evaluation	Internal evaluation by district and inter district evaluation by SLMA, evaluation by external agency
14.	Community Education centers and Self-help learning centers	Establishment of CE centers, Community learning centers and activity centers in tribal area and specifically for women

Management and Coordination

The Role of the SLMA

SLMA has to play the role of the coordinating agency based in state headquarters. This involves maintaining communication with the ZSSs, facilitating ZSSs, obtaining project reports based on micro-planning, communicating with NIM, identifying resource support agencies and & organizing capacity building programmes, regular monitoring of activities/ scheduled, evaluation and field visits etc. In addition, SLMA has to initiate linkages with other state departments/ agencies like Mission Sakti to make synergies for the project. SLMA with ZSS would also have a major role to play in ensuring long term sustainability of the project.

The Role of the Implementing Agency (ZSSs) and Coordinating Arrangements

The implementing agency for the programmes will be ZSSs in different district with a separate programme cell headed by Zilla Parishad Chairperson. ZSSs and its down-line arms will be responsible for the implementation of the project in the field level. ZSS can opt for some partner NGOs/ CBOs in district to render necessary helps and coordination in better implementation of the programme. The programmes should be implemented as per the consolidated micro-plans of Block/ GP/ village. The ZSSs have to facilitate micro-planning process, motivational campaigns and academic support to block and GP Sakhyarata samities better implementation of the programme in the target groups. Necessary steps have to be taken by SLMA to strengthen ZSSs to work on the role of facilitator and coordinator rather than a sole authority.

In addition, ZSSs would initiate linkages with other state departments / agencies to make partnership /synergies for the project. ZSSs and its arms would also have a major role to play in ensuring long term sustainability of the project.

The Role of the Resource Support Agencies, NGOs and Coordinating Arrangements

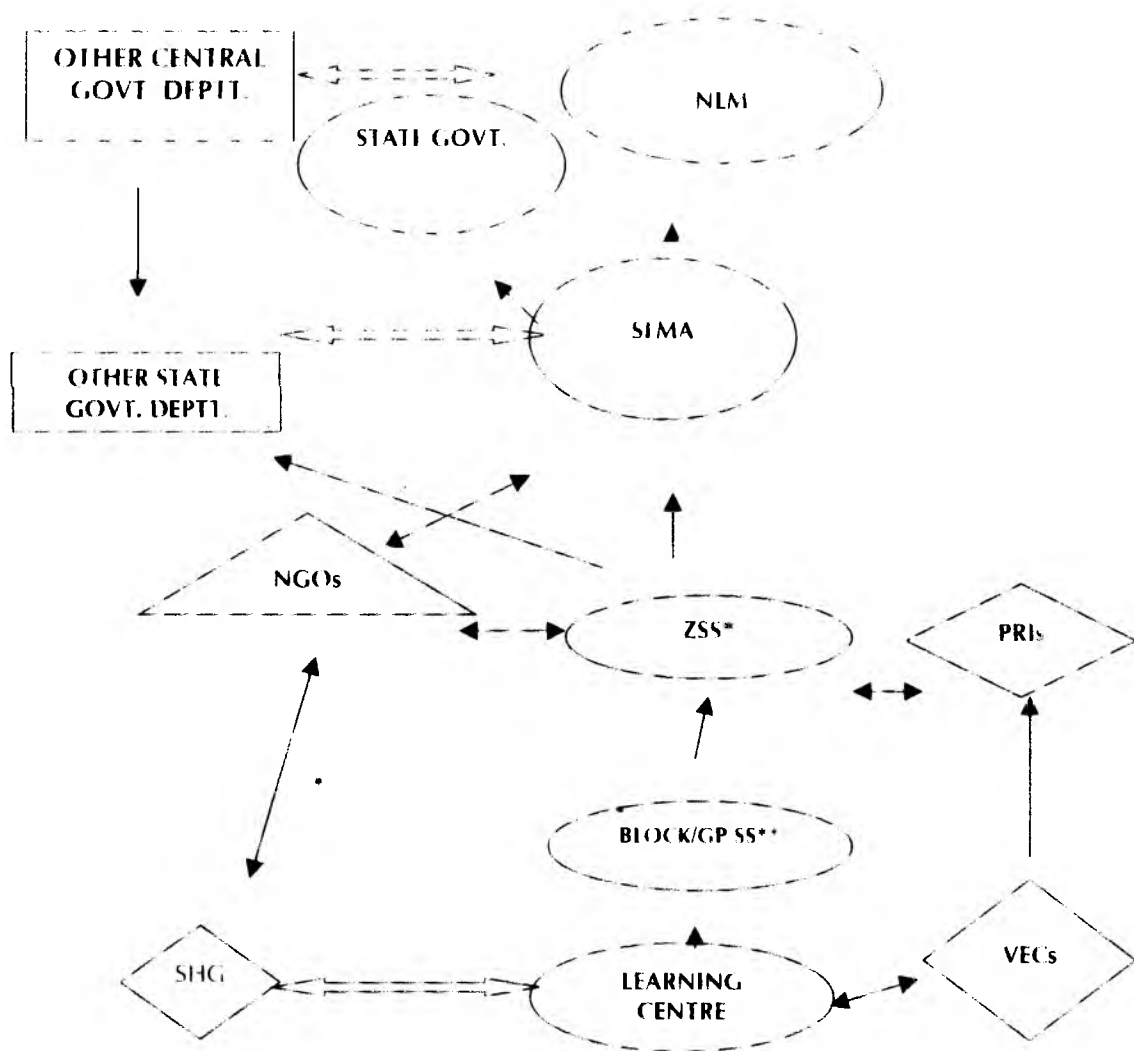
To support the programmes in academic inputs, motivation campaigns, IEC, monitoring and other programme supports, resource support agencies will be identified and selected by SLMA at the state level. SLMA will also provide support to strengthen the

existing resource support agencies in this field like SRC for AE, Bharat Gyan Vigyan Samiti, JISSs and DRUs. New roles can be defined for existing resource support agencies in the context of achieving full literacy by 2010.

NGOs, federations of SHGs and PRI bodies should be given priorities and selected by a committee of experts constituted by SLMA to implement the programmes.

Learning throughout life will be one of the keys to meeting the challenges of the Twenty first Century. A continuous on going literacy project will help to remove many ills of the society. Therefore, let literacy become a priority

Co-ordination, Monitoring and Reporting Roles



**VULNERABLE ETHNO-CULTURAL GROUP (V.E.G.) – BONDO
(HIGHLANDERS)
(POPULARLY KNOWN AS PRIMITIVE TRIBAL GROUP – P.T.G.)**

Development Project	:	Bondo Development Agency (B.D.A.) Headquarters - Mudulipada, Khairput Block, Malkangiri I.T.D.A., Malkangiri District functioning since 1976 - 77.	
Geographical Area	:	130 Square Kilometres.	
Elevation	:	3,000 feet above sea level.	
No. of villages in the Micro Project Area	:	32	
No. of households	:	1213	
Population	:	1961	- 3697
		1971	- 3881
		1981	- 4001
		1990 (Survey) -	6173
Percentage of Literacy	:	Males	- 5.66 per cent
		Females	- 0.69 per cent
Anganwadi (ICDS) Centres for	:	Supplementary Nutrition, Health Check up, Immunization, Pre-School Education and Referral Services.	
		Existing	- 6 nos.
		Further requirement -	10 nos.
		Out of total 32 villages, 23 nos. do not have any educational facilities.	

SUGGESTED INPUTS FOR LITERACY FOR EMPOWERMENT (LFE) :

- ii) C.E. Intervention :
 - Nodal C.E. Centres - 5 nos.
 - 1. Mudulipada (7 villages with 7 C.E. Centres)
 - 2. Andrahal (3 villages with 3 C.E. Centres)
 - 3. Bondapada (8 villages with 8 C.E. Centres)
 - 4. Kirisanipada (10 villages with 10 C.E. Centres)
 - 5. Tulaguram (4 villages with 4 C.E. Centres)
- iii) Community Centres - 32 nos.
- iii) Low-cost Residential facilities for Presaks and Asst. Preraks
- iv) A Mobile Van with audio-visual accessories.
- w) Production of films depicting Bondo Culture and significant aspects of development achievements.
- vi) Production of primers depicting Bondo society and culture for Pre-school Education.
- vii) Strengthening of SHGs and Mahila Mandals.

The above literacy endeavour may be styled as the --

PATAKHANDA MAHAPRABHU SAKSHARATA ABHIJAN

Source :Development Hand Book for the Bondo of Bondo Development Agency Area, Mudulipada, Malkangiri District - S.C. & S.T. Research and Training Institute Orissa, Bhubaneswar welfare Dept. Government of Orissa, 1996

**VULNERABLE ETHNO-CULTURAL GROUP (V.E.G.) – DIDAYI
(POPULARLY KNOWN AS PRIMITIVE TRIBAL GROUP – P.T.G.)**

Development Project	:	Didayi Development Agency (D.D.A) Kudumuluguma, Malkangiri District, Malkangiri District functioning since 1976 – 77.			
Geographical Area	:	Western side of the rolling uplands of the Eastern Ghats about 125 Square Kilometres.			
Elevation	:	150-300 metres above sea level			
No. of villages in the Micro- Project Area	:	39 villages			
		Plains Sub-area	6 Villages		
		Hills Sub-area	18 Villages		
		Cut-off Sub-area	15 Villages		
Population	:	Sex-ratio (No. of female per 1000 males)			
		1961 - 1978	1961 - 1056		
		1971 - 2164	1971 - 913		
		1981 - 1971	1981 - 1046		
		1991 - 4460	2001-2002 1033		
		2001-2002 (Survey)- 5727			
centage of Illiteracy	:		1961	1971	1981
		Total	97.27	99.21	96.81
		Male	95.22	98.50	94.81
		Female	99.21	100.00	99.40
Percentage of literacy	:	(2001 - 2002 Survey)			
		Total	7.89		
		Males	12.56		
		Females	3.36		
		14 out of 39 villages The Micro Project Area are zero literacy villages and the rest 25 villages have low literacy rate.			

SUGGESTED INPUTS FOR LITERACY FOR EMPOWERMENT (LFE) :

- i) C.E. Intervention :
 - Nodal C.E. Centres : 3 nos.
 - 1. Bayapada (18 villages with 18 C.E. Centres)
 - 2. Purunaguma (6 villages with 6 C.E. Centres)
 - 3. Dabugurda (15 villages with 15 C.E. Centres)
- ii) Community Centres : 25 nos.
- iii) Low cost Residential facilities for Prasaks and Asst. Preraks.
- iv) A Mobile Van with audio-visual accessories.
- v) Production of films depicting Didayi Culture and significant aspects of development achievements.
- vi) Production of primers depicting Didayi Society and Culture for Pre school Education.
- vii) Strengthening of SHGs and Mahila Mandals.

The above literacy endeavour may be styled as the -

BHIRUBHAIRO SAKSHARATA ABHIJAN

Source : Planning Commission sponsored study - Unpublished by the council of Analytical Tribal Studies (COATS), Koraput, 2001-2002

**VULNERABLE ETHNO-CULTURAL GROUP (V.E.G.) –KUTIA KANDHA
(POPULARLY KNOWN AS PRIMITIVE TRIBAL GROUP – P.T.G.)**

Development Project	:	Kutia Kanda Development Agency (K.K.D.A.), Belghar, Tumudibandha Block, Baliguda, I.T.D.A. / Sub-division, Kandhamal District functioning since 1978 – 79.
Geographical Area	:	Around 300 Square Kilometres. N.E. fringe of the Eastern Ghats
Elevation	:	About 2500 feet above sea level
Forests	:	Reserve – 11 per cent, Proposed Reserve – 46 per cent & Other Forests (Revenue Land) – 6 per cent Podu ravaged area (Reserve) – 10,648 Ha. (Prop. Reserve) – 4,949 Ha (Other Forests) – 8,031 Ha No. of Podu Families - 1,200 Ha
No. of Villages uninhabited		70 (including 12 hamlets); of which 2 are.
No. of Households		1,025 (1990 Survey)
No. of Population		4,090 (1990 Survey) in 68 villages.
Average Household Size		3.89
Sex ratio		1092 females per 1000 males
Percentage of Literacy		(May 1991 survey)
		Males 21.80 per cent
		Females 3.32 per cent
		Total 12.60 per cent
Existing Anganwadi Centres		9 Villages
Sub Centres		12 Villages.
		23 New Anganwadi Centres are required to be established in order to cater to the needs of the rest of the villages in the project area.

SUGGESTED INPUTS FOR LITERACY FOR EMPOWERMENT (LFE) :

i) C.E. Intervention :

Nodal C.E. Centres - 6 nos.

1. Belghar - 13 villages with 13 C.E. Centres
2. Bilamal - 22 villages with 22 C.E. Centres
3. Gurnma - 21 villages with 21 C.E. Centres
4. Kanibaru - 10 villages with 10 C.E. Centres
5. Ushabali - 4 villages with 4 C.E. Centres

ii) Community Centres - 6 nos.

iii) Low-cost Residential facilities for Presaks and Asst. Preraks

iv) A Mobile Van with audio-visual accessories.

v) Production of films depicting Kutia Kandha Culture and significant aspects of development achievements.

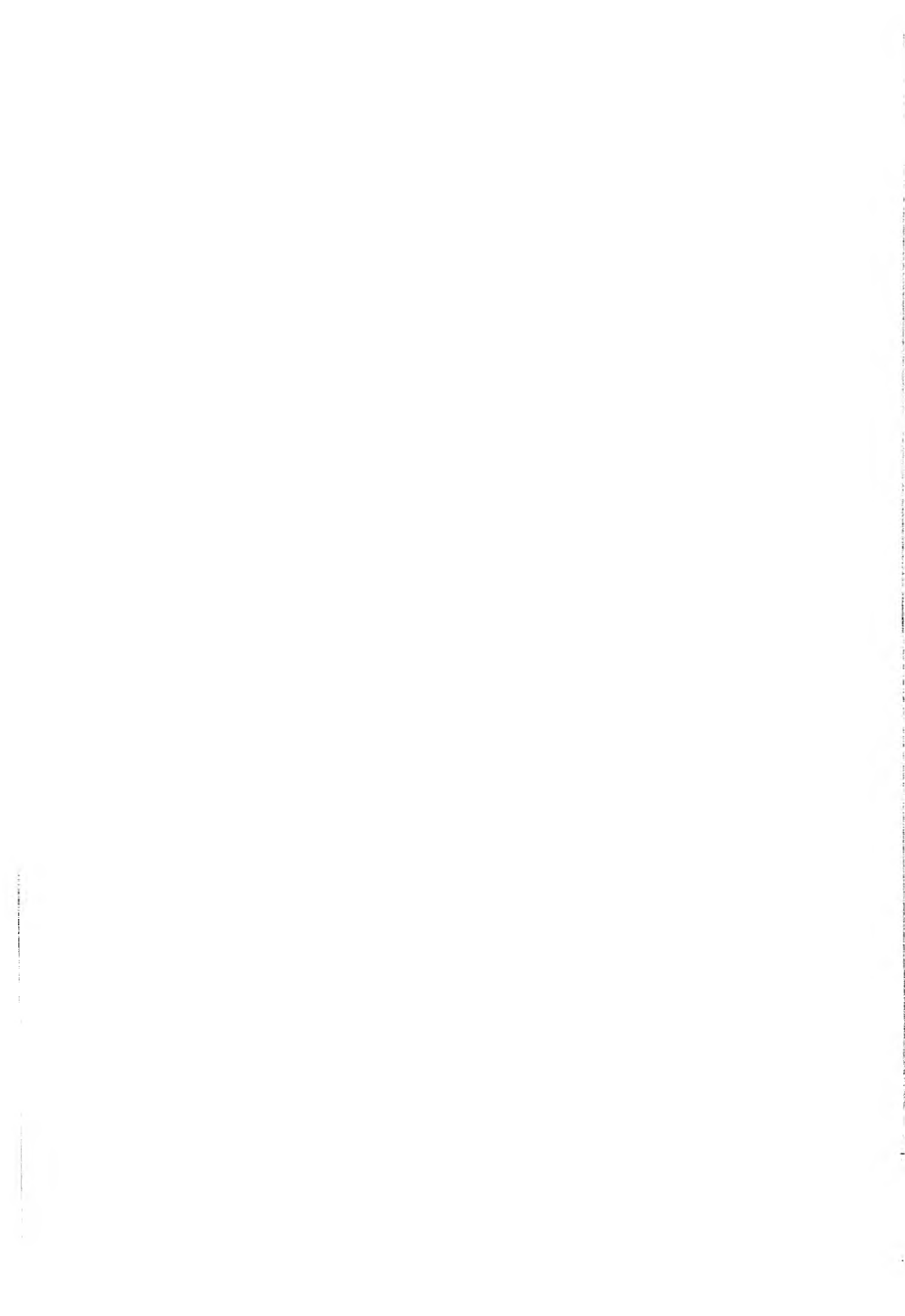
vi) Production of primers depicting Kutia Kandha Society and culture for Pre-school Education.

vii) Strengthening of SHGs and Mahila Mandals.

The above literacy endeavour may be styled as the -

DARNI PENU SAKSHARATA ABHIJAN

Source : Development Hand Book for the kutia kandha of K.K.D.A. Belghar, Kandhamal District - S.C. & S.T. Research and Training Institute, Orissa, Bhubaneswar, Welfare Dept. Govt. of India, 1996



Sector Study III

SECONDARY AND VOCATIONAL EDUCATION IN ORISSA

Prof K. C. Panda

Formerly Principal, Regional Institute of Education - Orissa, Bhubaneswar
TRISA, Bhubaneswar

2003



"There is a tendency in our country to advise others. In a way, this is good. However, we believe that those who advise should also act. Then the advice becomes much more effective. We decided that we should also take action and in the past two years we have been doing this within our limited capabilities. One of our endeavors has been the creation of awareness that India has to become big and strong. And to reach that status we do not always have to take big steps. There are several small steps, which can take the present India to a status of a big India. This is an important message that we have been successfully conveying to people."

**Hon'ble President of India
Dr. A.P.J. Abdul Kalam
India, 2020**



CHAPTER I

SECONDARY & VOCATIONAL EDUCATION

Genesis

Growth pattern of Secondary schools in the State is not uniform. Nearly 15 percent of population living in 25 percent of habitations of the State, do not have Secondary school within a distance of 5 km as per the Sixth Survey figures, particularly in Rayagada and Malkangiri, Koraput, Gajapati, Nawarangpur. Target specific groups indicate nearly 7 percent SC and 15 percent ST rural population do not have facilities for Secondary education within 5 Kms. Nearly 50 percent schools are private aided institutions mostly located in rural areas. There are hardly less than 200 girl schools. Enrollment figures in all the groups (SC, ST, Girls) show wide variations. The average enrolment is less than 200, the range being 100-725. There are variations also in quality indicators. These observations are based on the Sixth Survey, and things have taken different shape by now which needs to be collected for forecasting the future.

A sectoral study based on existing data (Secondary) primary data (discussion with teachers, professionals, students) would contribute to what one would project and visualize two decade ahead and how best the curricular input, facilities, technology, teachers could be geared to meet issues related to access, equity, and excellence.

The neglect of research on the measurement of educational development has led to the prevalence of nebulous formulations and academic strategies in the corridors of power. The input-output table has no place for education within it and this important sector continues to be treated as residual parameter.

There is a need to have an analytical framework to study the social processes involved, relevant questions to be identified, relating to these to desired trajectory of educational development. The necessary conditions for efficiency of the school system related to geographical accessibility as well as availability of school to the children of the relevant age group. Within the fulfillment of necessary condition, one has to ensure whether sufficient conditions are identified and cared for. Adequate attention has to be given for qualitative and quantitative dimensions for improving the system. Schools are highly inequitous, SC/ST, Urban/Rural, male/female which are eating into the system as a whole. Attributes of equity are crucial importance in measuring the health of a system. The gap between world of knowledge and world of work has to be bridged so that school output becomes input in the work force.

Hence there is a need to focus upon issues like :

- a) accessibility
- b) availability
- c) quantity
- d) quality
- e) equity
- f) inter-connectivity
- g) utility

issues in Secondary/as well as Vocational education with a view to looking at 2020. These are qualitative issues and cannot be directly measured. We have to specify indicators to make it amenable to quantitative analysis on the available database. e.g.

Accessibility :	Population coverage	All
	Within walkable distance	
	Number of Habitations	SC/ST
	Mean distance between Habitation/school	Girls
Availability :	Rural	Co-education Girls
	Urban	Coeducation Girls

Though accessibility and availability - are closely linked yet are differentiated while accessibility is based on geographical distance, availability of schooling is a function of the size of the school going population. Is there any inter-district variation? There is a need for effective policy intervention than vocational planning with random criteria.

An example may be cited here to illustrate the point of reference. The Secondary education curriculum frame work was first brought in 1975, and Vocational education in 1976. Now we woke up in 2000 for the renewal, and that too, with a prescriptive model based on expertise, of course experience based but not with an empirical need based analysis - i.e. learner's need, society expectations, community aspiration, international comparisons. One would just look as the curriculum framework; 4.4.4 Secondary stage to judge the practical irrelevance and feasibility should this be our basis for vision 2020? An in-depth study and analysis would be necessary for back up, if at all. Have we succeeded in continuous - comprehensive evaluation package so far? These are questions to be deliberated upon before we set priorities for 2020.

Hence, what is needed for planning for 2020 with commitment is :

- A review of and updating of education concerns
- Provision of education regardless of the social, cultural and economic context
- Pedagogical concerns that have bearing on instructional processes including revitalization of Secondary and teacher education
- Need based curriculum
- Matching curriculum with the challenges emerging out of the information society and globalization
- Making education gender sensitive/gender inclusive
- Special needs children and as well as SC/ST
- Disadvantage children groups
- Analysis of Vocational input in Secondary schools

Hence, the broad areas for concern would be :

- Expansion of facilities
- Curriculum change
- Quality of Education
- Teacher Education
- Vocationalization work based education

There is a need to dwell upon :

- a) determining new objectives
- b) designing new content
- c) student centered education and dynamic methods
- d) Priorities in a learning society
- e) New dimension in teacher role (e.g. value orientation, professional enculturation)
- f) access and equity
- g) decentralize planning/management
- h) increased role of NGOs
- i) Community participation and capacity building
- j) Distance/open learning system
- k) Partnership between public/private sectors

And many more issues for quality education in a global era.

Hence, a vision for Secondary education/Vocational in India should be based on :

- a) intensive research
- b) providing and supporting private sector in the establishment of high quality Secondary education in every Taluk/Block
- c) Integrated education with information and communication technology
- d) institutionalize distance education/open schooling
- e) develop human resource for education process

The guiding principles would take into account/consider :

- a) foster healthy mix of State supported education with private initiatives
- b) costs of education must be affordable to the under privileged section of society
- c) quality education should be continuously monitored and upgraded
- d) increasing social acceptability of Vocational courses
- e) assess implementation of the objectives laid down in Page 40-41 of the National Curriculum document in the context of Secondary education and set forth objective afresh, if required.

Objectives

1. **To make an analysis of :**
 - a) Secondary Education
 - b) Vocational component in Secondary Education
 - c) Vocational education as a stream
2. **To outline on the basis of observations, case studies of institutions, interviews – a set of:**
 - a) Conditions
 - b) Conditions for implementing NPE/POA in Secondary/ Vocational education
3. **To assess Vocational Education/Secondary Education in the State with reference to:**
 - a) Processes - Strategies adopted
 - b) Quality of schooling

- c) Partnership between Government/Private sectors
- d) Management

4. To examine curricular framework adopted in the State in the field of Secondary/Vocational education – in relation to :

- a) Objectives set forth in NPE/POA, 1992
- b) Curriculum Framework – 2000, NCERT
- c) Need based response from pupils/teachers

5. To examine:

- a) Education of disadvantaged groups- SC/ST
- b) Disabled children
- c) Girls education

And identify constraints, strengths, if any, for strategic recommendations.

6. To make analysis of:

- a) Functioning of schools
- b) Management of schools
- c) Expectations/perceptions of the future
- d) Teacher training
- e) Manpower planning
- f) Dynamics of low achievement
 - i) Comparative analysis of State owned schools Vs. Public schools
 - ii) Disadvantaged groups

7. To make an in-depth analysis of :

- a) Role of principals (clarity, conflict, overload) of teachers working within the system for building efficiency in the system.
- b) Professional enculturation required for furtherance of Secondary/Vocational education-programmes evaluation

8. To examine area specific need-based education – if any, with the objective of increasing social accessibility of Vocational education.

9. To make a thorough analysis of evaluation practices going on in schools in the context of national recommendations.

CHAPTER II

LAND AND SETTING : DEMOGRAPHIC PROFILES

Orissa State retaining the name of Orissa was formed on April 1937 under the State's Reorganization Act by merger of Princely States with the further reclassification over the years leading to 30 districts at present comprising 311 number of blocks.

In the East, there is Bay of Bengal and the rest sides are bounded by West Bengal in North East, Bihar, Madhya Pradesh and Jharkhand in the North West and Andhra Pradesh in South.

It lies between 17°49' to 22°34' of latitude North and 81°21'E - 85°29'E degree of longitude East. It is an A-class State in India with an area of 155,707.00 sq km. and population of 846,387,888 million in 1991. Population density was 203 number of persons Square Km. In 1991 which was the lower than the National average of 267 per square km. Density of population in Orissa has gone up to 236 in 2001 as against Indian density 324. The landscape comprises of coastal area and hill region in the south-west and north.

Oriya is the original language of the state as well as medium of instruction in schools. Border areas has bilingual population i.e., Telugu in South and Hindi in West, Bengali in East.

Orissa has rich cultural heritage with contribution to dance, sculpture, architecture, literature, fine art and folk art. It has rich natural resources, which include several rivers. It has essential tropical monsoon climate from June to September and the rain falls month of every year. 25th of the total land covering 155707 square km. of land is under the forest.

Management Set Up

There are two ministers who look after the education in the State.

The Minister for School and Mass Education and the Minister for Higher Education and Health education in addition medical education comes under the ministry of health and engineering and technical education comes under the ministry of industries whereas educational program relating to pre-school and Anganwadi comes under the Ministry of Panchayati Raj.

The education department of the Secretariat is responsible for policy making, planning, budgeting and providing other support services for the education sector. The Secretariat co-ordinates with finance, planning and other related ministry, assists in cabinet meetings, legislature functioning in regard to education, release of grant to the supporting department, liaison with the ministry of Human Resource Development and other agencies fixed norms and provides broad guidelines for growth, expansion and qualitative improvement of education, initiate research, monitor and evaluate the work of various department and programmes.

The Secretariat has however, has no executive responsibilities. The department of higher education is headed by a Director of public instruction. The department of mass and school education has two directorates, i.e.,

Director of Secondary education,
 Director of Elementary education, there are two other directorates,
 Director of SCERT and TE and
 Director of Vocational education for technical education

These directors have overall responsibilities in their respective areas of school education.

Orissa State comprises of 30 revenue districts 75 numbers of educational districts with 314 numbers of blocks. Vocational education is a separate Directorate. The CBSE and ICSE do not come under the purview of Director of Public Instruction (DPI).

With the establishment of Zilla Parishad as a major of decentralization, powers and responsibility for monitoring school education are vested with districts level local self-government, who are assisted by chief executive officer (CEO). There are 30 numbers of Zilla Parishad, 171 numbers of Taluk Panchayat and 6234 numbers of Gram Panchayat.

Structure Of Education

Orissa has adopted 10 + 2 + 3 pattern of education as it is true of other parts of the country. However the break up of first ten years in schooling is distinctive in the State. The first five years of schooling is called primary, the next three years are upper primary. This is followed by two years of Secondary education and two more years leading to higher Secondary education. There is a district level examination at the end of seventh (7th) standard and State level examination at the termination of tenth (10th) standard. A pass in the tenth standard is by and large the minimum essential qualification per employment in the organized sector. The State has provision for Vocational education in the + 2 stage which is administered by the Director of Vocational Education.

Population

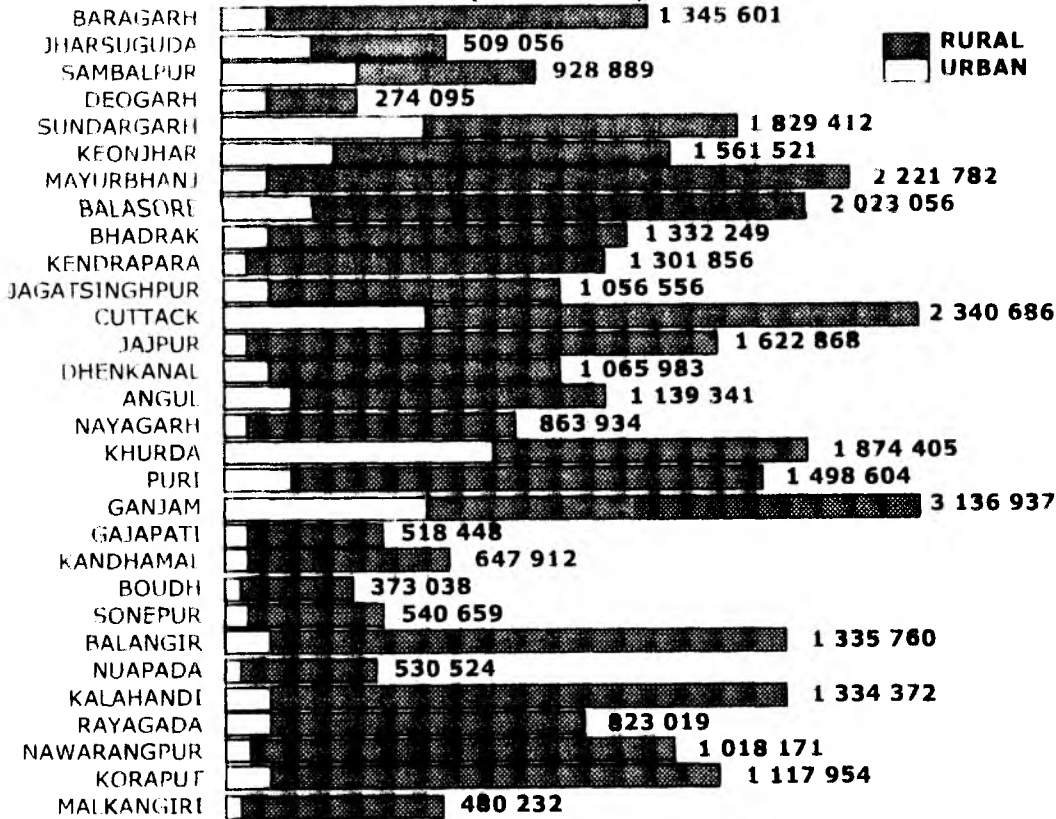
The total population during 1991 and 2001 census are given to substantiate the need for further expansion for Secondary/Vocational Education in future to accommodate the age group followed by graphical presentation.

State/ District	Rural population		Urban Population		% of urban population to tot. population		Decennial growth rate 1991-2001 (Percentage)		
	1991	2001	1991	2001	1991	2001	Total	Rural	Urban
ORISSA	27,424,753	31,210,602	4234983	5496318	13.38	14.97	15.94	13.80	29.78
Baragarh	1126625	1242101	80547	103500	6.67	7.69	11.47	10.25	28.50
Jharsuguda	282826	323738	159328	185318	36.03	36.40	15.13	14.47	16.31
Sambalpur	608131	674617	205458	254272	25.25	27.37	14.17	10.93	23.76
Deogarh	216963	254010	17275	20085	7.37	7.33	17.02	17.08	16.27
Sundargarh	1048612	1200520	525005	628892	33.36	34.38	16.26	14.49	19.79
Keonjhar	1170152	1348577	166874	212944	12.48	13.64	16.79	15.25	27.61
Mayurbhanj	1768331	2066375	116249	155407	6.17	6.99	17.89	16.85	33.68
Balasore	1542431	1802862	154152	220194	9.09	10.88	19.24	16.88	42.84
Bhadrak	995993	1191299	109841	140950	9.93	10.58	20.47	19.61	28.32
Kendrapara	1086266	1227728	63235	74128	5.50	5.69	13.25	13.02	17.23
Jagatsinghpur	857697	952235	76092	104321	8.15	9.87	13.15	11.02	37.10
Cuttack	1567331	1699109	485861	641577	23.66	27.41	14.00	8.41	32.05
Jajpur	1332746	1549923	53431	72945	3.85	4.49	17.08	16.30	36.52
Dhenkanal	869758	973196	78112	92787	8.24	8.70	12.46	11.89	18.49
Angul	850914	980954	110123	158387	11.46	13.90	18.55	15.28	43.83
Nayagarh	756403	826882	26244	34052	3.35	4.29	10.39	9.32	41.18

State/ District	Rural population		Urban Population		% of urban population to tot. population		Decennial growth rate 1991-2001 (Percentage)		
	1991	2001	1991	2001	1991	2001	Total	Rural	Urban
Khurda	985733	1069630	516281	804775	34.37	42.93	24.79	8.51	55.88
Puri	1141886	1294802	163479	203802	12.52	13.60	14.80	13.39	24.67
Ganjam	2280303	2598746	423753	538191	15.67	17.16	16.01	13.96	27.01
Gajapati	407939	465675	46769	52773	10.29	10.18	14.02	14.14	12.84
Kandhamal	510619	603819	35662	44093	6.53	6.81	18.60	18.25	23.64
Boudh	302164	355042	15458	17996	4.87	4.82	17.45	17.50	16.42
Sonepur	441985	500594	34830	40065	7.30	7.41	13.39	13.26	15.03
Balangir	1101518	1181531	129420	154229	10.51	11.55	8.52	7.26	19.17
Nuapada	443717	500495	25765	30029	5.49	5.66	13.00	12.80	16.55
Kalahandi	1052740	1234095	78163	100277	6.91	7.51	17.99	17.23	28.29
Rayagada	624658	707645	89326	115374	12.51	14.02	15.27	13.29	29.16
Nawarangpur	804542	958945	42117	59226	4.97	5.82	20.26	19.19	40.62
Koraput	857872	979835	171705	198119	16.68	16.82	14.41	14.22	15.33
Malkangiri	387898	445622	34428	34610	8.15	7.21	13.71	14.88	0.53

Source : Census 2001, Paper 22

ORISSA
DISTRIBUTION OF RURAL-URBAN POPULATION 2001
(DISTRICTS)



0 2 4 6 8 10 12 14 16 18 20 22 24 30 32
POPULATION IN LACS

Further break up the populations are imperative to decide opening/strengthening of new Secondary/Vocational schools in the districts where accessibility is low at the moment.

District-wise population of Orissa : 2001

Rank in the State	District	Population			Rank among the districts of the country
		Persons	Males	Females	
1	2	3	4	5	6
	ORISSA	36,706,920	18,612,340	18,094,580	
1	Ganjam	3136437	1568568	1568369	73
2	Cuttack	2140686	1207569	1133117	155
3	Mayurbhanj	2221782	1121982	1099800	165
4	Balasore	2023056	1037938	985118	195
5	Khurda	1874405	986003	888402	215
6	Sundargarh	1829412	934902	894510	224
7	Jajpur	1622468	822638	800230	262
8	Keonjhar	1561521	789826	771695	275
9	Puri	1498604	761397	737207	292
10	Baragarh	1345601	681012	664589	322
11	Balangir	1135760	673727	662033	326
12	Kalahandi	1334372	667126	667246	328
13	Bhadrak	1332249	675162	657087	330
14	Kendrapara	1301856	646356	655500	336
15	Koraput	1177954	589438	588516	369
16	Angul	1139341	586903	552438	380
17	Dhenkanal	1065983	543439	522544	397
18	Jagatsinghpur	1056556	538542	518014	399
19	Nawarangpur	1018171	511004	507167	406
20	Sambalpur	928889	471555	457334	427
21	Nayagarh	863974	445658	418276	436
22	Rayagada	823019	405631	417388	442
23	Kandhamal	647912	322674	325238	475
24	Sonepur	540659	275045	265614	495
25	Nuapada	530524	264490	266034	498
26	Gajapati	518448	255288	263160	800
27	Jharsuguda	509056	261555	247501	505
28	Malkangiri	480232	240540	239692	510
29	Boudh	373038	187947	185091	524
30	Deogarh	274035	138425	135670	538

There are 171 tahasils in the State. The average size of the population of a tahasil comes to 214,660. The tahasil population is given in census 2001 for reference and future planning for locating a Secondary school if it does not have one at the moment.

Population and its growth - Orissa : 1901-2001

Census Years	Population	Decadal growth	
		Absolute	Percentage
1	2	3	4
1901	10302917		
1911	11378875	1075958	10.44
1921	11158586	220280	1.93
1931	12491056	1332470	11.94
1941	13767988	1276932	10.22
1951	14645946	877358	6.38
1961	17548846	2902900	19.87
1971	21944615	4395769	25.05
1981	26370271	4435656	20.21
1991	31659736	5289465	19.72
2001	36706920	5047184	15.94

Source: Census of India, 2001

A negative growth i.e., decrease in population was registered during the decade 1911-21 in Orissa. Highest growth rate of population has been observed during the decade in Orissa (25.05 per cent) during the last century.

In Orissa, the growth rate has come down from 20.06 per cent during 1981-91 to 15.94 per cent during 1991-2001. Among the districts, only one district, namely, Gajapati has registered higher growth during the decade compared to the previous decade of 1981-91, while all other districts have registered lower growth rate than that of the previous decade 1981-91.

The tabular presentations reflect the districts of Orissa in descending order of percentage of growth rate, 1991-2001 and their rank among the districts of the country.

District-wise growth rate in Orissa

Rank in the State	District	Growth rate 1991-2001	Rank among the districts of India
1	2	3	4
	ORISSA	15.94	
1	Khurda	24.79	208
2	Bhadrak	20.47	326
3	Nawarangpur	20.26	333
4	Balasore	19.24	351
5	Kandhamal	18.60	364
6	Angul	18.55	365
7	Kalahandi	17.99	387
8	Mayurbhanj	17.89	389
9	Boudh	17.45	390
10	Jajpur	17.08	412
11	Deogarh	17.02	415
12	Keonjhar	16.79	421
13	Sundargarh	16.26	429
14	Gajapati	16.01	433
15	Rayagada	15.27	449
16	Jharsuguda	15.13	451

Rank in the State	District	Growth rate 1991-2001	Rank among the districts of India
1	2	3	4
17	Puri	14.80	457
18	Koraput	14.41	466
19	Sambalpur	14.17	472
20	Gajapati	14.02	477
21	Cuttack	14.00	479
22	Malkangiri	13.71	489
23	Sonepur	13.39	494
24	Kendrapara	13.25	497
25	Jagatsinghpur	13.15	502
26	Nuapada	13.00	507
27	Dhenkanal	12.46	510
28	Baragarh	11.47	524
29	Nayagarh	10.39	534
30	Balangir	8.52	554

The highest growth rate of population, i.e. 24.79 per cent has been recorded in the district of Khurda during the decade 1991-2001 which ranks 208th among the 593 districts of the country. The lowest rate of growth of population, i.e. 8.52 per cent has been observed in the district of Balangir, which occupies 554th position among the districts at the national level.

Literacy in Orissa

Literacy is one of the good indicators of development of a society. It provides an important data source for formulation and implementation of policies and programmes of Government and numerous voluntary organizations.

As per 2001 census, 566,714,995 persons comprising of 339,969,048 males and 226,745,947 females are recorded as literates in India. In comparison the number of literates in Orissa is 20,053,785 comprising of 12,118,256 males and 7,935,529 females. It may be mentioned that while calculating the literacy rates the child population in the age group 0-6 has been excluded from the total population.

Districts of Orissa are arranged in descending order of literacy rate of persons along with their corresponding ranks among the districts of the country.

District-wise literacy rate of persons : 2001

Rank in the State	District	Literacy Rate
	ORISSA	63.81
1	Khurda	80.19
2	Jagatsinghpur	79.61
3	Puri	78.40
4	Kendrapara	77.33
5	Cuttack	76.13
6	Bhadrak	74.64
7	Jajpur	72.19
8	Jharsuguda	71.47

Rank in the State	District	Literacy Rate
9	Nayagarh	71.02
10	Balasore	70.94
11	Dhenkanal	70.11
12	Angul	69.40
13	Sambalpur	67.01
14	Sundargarh	65.22
15	Baragarh	64.13
16	Sonepur	64.07
17	Ganjam	62.94
18	Deogarh	60.78
19	Keonjhar	59.75
20	Boudh	58.43
21	Balangir	54.93
22	Kandhamal	52.95
23	Mayurbhanj	52.43
24	Kalahandi	46.20
25	Nuapada	42.29
26	Gajapati	41.73
27	Koraput	36.20
28	Rayagada	35.61
29	Nawarangpur	34.26
30	Malkangiri	31.26

It is found that the literacy rate of 16 districts of the State are at higher level than the State average of 63.61 per cent out of which only 13 districts are above the national rate of 65.38 per cent.

Districts of Orissa are arranged here in descending order of literacy rate of males, 2001 and their ranks among the districts of the country. Male female divide raises issues of provision of Educational facilities and accessibility

Male literacy rate in districts of Orissa, 2001

Rank in the State	District	Literacy Rate
	ORISSA	75.95
1	Jagatsinghpur	88.96
2	Puri	88.73
3	Khurda	88.38
4	Kendrapara	87.62
5	Cuttack	85.46
6	Bhadrak	85.44
7	Nayagarh	83.23
8	Jharsuguda	83.04
9	Jajpur	82.69
10	Angul	82.02
11	Balasore	81.75
12	Dhenkanal	81.31

Rank in the State	District	Literacy Rate
13	Sonepur	80.30
14	Sambalpur	78.87
15	Ganjam	78.39
16	Baragarh	77.93
17	Boudh	76.86
18	Sundargarh	75.69
19	Deogarh	73.79
20	Keonjhar	72.53
21	Balangir	70.36
22	Kandhamal	69.98
23	Mayurbhanj	66.38
24	Kalahandi	62.88
25	Nuapada	58.78
26	Gajapati	55.14
27	Koraput	47.58
28	Nawarangpur	47.37
29	Rayagada	47.35
30	Malikangiri	41.21

It reveals from the Statement that male literacy rate in 17 districts are above the State average of 75.95 per cent as well as of the national average of 75.85 per cent.

In Orissa, the highest female literacy is reported in the district of Khurda having 71.06 per cent which ranks 76th among the districts of the country and the lowest female literacy rate of 21.02 per cent has been recorded in Nawarangpur district which occupies 587th position among the districts of the country.

District wise data in Orissa pertaining to female literacy rate is given below

Female literacy rate in districts of Orissa, 2001

Rank in the State	District	Literacy Rate
	ORISSA	50.97
1	Khurda	71.06
2	Jagatsinghpur	69.94
3	Puri	67.80
4	Kendrapara	67.29
5	Cuttack	66.19
6	Bhadrak	63.62

Literacy rate in Tahasils of Orissa, 2001

Sl No.	Tahasil	Literacy Rate	Sl No.	Tahasil	Literacy Rate
1	2	3	1	2	3
Range 1 Tahasils exceeding the national average			Range 1 continued ..		
(More than 65.38 per cent)					
1	Bhubaneswar	84.49	37	Niali	74.45
2	Fulol	82.86	38	Bhadral	74.28
3	Jatani	81.21	39	Chandabali	74.06
4	Cuttack	81.02	40	Igleswar	73.55
5	Jagatsinghpur	80.35	41	Bani	73.47
6	Raurkela	80.28	42	Banki	73.44
7	Nimapada	80.18	43	Hatadili	73.25
8	Kendrapara	80.10	44	Balupali	73.13
9	Marsabhar	79.67	45	Athagaada	72.99
10	Pipili	79.41	46	Rajnagar	72.57
11	Kujang	78.93	47	Dharmasala	72.55
12	Aali	78.65	48	Tigra	72.49
13	Puri	78.48	49	Simba	72.34
14	Satyabadi	78.46	50	Balasore	72.22
15	Khorda	78.20	51	Lakhanpur	71.86
16	Bani	77.76	52	Mahakalapada	71.78
17	Kakatpur	77.67	53	Khandapada	71.75
18	Dhamnagar	77.46	54	Sambalpur	71.64
19	Kanika	77.42	55	Tangi	71.60
20	Pattamundai	77.25	56	Darpan	71.42
21	Bagunia	76.99	57	Krushnaprasad	71.37
22	Balikuda	76.69	58	Banapur	71.30
23	Jajpur	76.42	59	Jharsuguda	71.29
24	Kishannagar	76.16	60	Nayagarh	71.26
25	Bolagad	75.94	61	Baragarh	70.97
26	Tangi-Choudwar	75.91	62	Bhuban	70.68
27	Tihidi	75.88	63	Parajang	70.48
28	Salepur	75.73	64	Badamba	69.97
29	Talcher	75.67	65	Angul	69.81
30	Brahmapur	75.50	66	Barapali	69.75
31	Brahmagiri	75.47	67	Narasinghpur	69.54
32	Ranapur	75.46	68	Basudevpur	69.07
33	Mahanga	75.43	69	Bheden	68.96
34	Binjharpur	75.21	70	Gandia	68.63
35	Dhenkanal	75.18	71	Alhamalik	68.40
36	Soro	74.54	72	Ghumsur	67.78

Sl. No.	Tahasil	Literacy Rate	Sl. No.	Tahasil	Literacy Rate
1	2	3	1	2	3
Range-I continued			Range-II continued		
73	Balangir	67.47	108	Purushottampur	59.16
74	Chhatrapur	67.32	109	Padmapur	59.10
75	Buguda	66.97	110	Balisankara	58.73
76	Anandapur	66.77	111	Kandhamal	58.45
77	Sukinda	66.69	112	Nilagiri	57.47
78	Bhatli	66.64	113	Palalahada	57.19
79	Rairakhola	66.52	114	Baripada	56.79
80	Basta	66.39	115	Kesinga	56.52
81	Rampur	66.34	116	Khalikote	56.41
82	Kamakshyanagar	66.34	117	Tushura	56.40
83	Asika	66.11	118	Paikapur	56.31
84	Hindol	66.02	119	Kanisi	56.23
Range-II - Tahasils exceeding the State average but below national average (63.61 to 65.38 per cent)			120	Betanati	54.67
85	Rengali	64.91	121	Patnagarh	54.59
86	Sundargarh	64.54	122	MadanpurRampur	54.58
87	Dasapalla	64.40	123	Rasagobindapur	54.26
88	Chhendipada	64.28	124	Biramitrapur	54.08
89	Attabira	63.95	125	Ghatagaon	53.99
Range-III - Tahasils below the State avg (63.61 to 65.38 per cent)			126	Barbil	53.62
90	Hemgir	63.54	127	Kantamal	53.05
91	Sonepur	63.48	128	Barsahi	53.03
92	Biramaharajpur	63.47	129	Digapahandi	52.87
93	Sohela	63.46	130	Panposh	52.86
94	Binika	63.31	131	Raruan	52.30
95	Lephripara	62.63	132	Rairangpur	51.16
96	Champua	62.57	133	Banei	50.82
97	Kodala	62.50	134	Kalahandi	50.03
98	Hinjilicut	62.32	135	Paikamal	49.95
99	Boudh	61.89	136	Bahalda	49.89
100	Rajgangpur	61.64	137	Surada	49.23
101	Patana	61.40	138	Udala	49.11
102	G. Udayagiri	61.26	139	Karanja	48.44
103	Loisinga	61.02	140	Kantabanji	46.94
104	Keonjhar	60.80	141	Daringbadi	46.58
105	Deogarh	60.78	142	Titlagarh	43.73
106	Kochinda	60.61	143	Telkoi	43.33
107	Chikiti	59.59	144	Jayapatna	43.11
			145	Parlakhemundi	42.93

Sl. No.	Tahasil	Literacy Rate	Sl. No.	Tahasil	Literacy Rate
1	2	3	1	2	3
	<i>Range-II continued</i>			<i>Range-II continued</i>	
146	Dharamgarh	42.65	159	Kotpad	35.24
147	Nuapada	42.62	160	Motu	34.92
148	Baliguda	42.50	161	Lanjigarh	34.90
149	Khartar	41.98	162	Boriguma	33.41
150	Nawarangpur	41.77	163	Malkangiri	31.77
151	Mohana	41.42	164	Machhkund	31.59
152	Joyppore	40.27	165	Bishama Katak	29.68
153	Gunupur	40.09	166	ThummulRampur	28.71
154	Nandapur	39.91	167	Chitrakonda	26.93
155	Rayagada	39.85	168	Kodinga	25.39
156	R. Udayagiri	38.37	169	Kashipur	24.16
157	Koraput	37.01	170	Dabugan	23.29
158	Umarkote	35.99	171	Narayanpatna	19.46

Highest literacy rate of 84.49 per cent has been recorded in Bhubaneswar tahasil of Khurda district whereas the lowest literacy rate of 19.46 per cent has been recorded in Narayanpatna tahasil of Koraput district. 89 tahasils have registered a higher literacy rate than the State average of 63.61 per cent out of which 84 tahasils are above the national average of 65.38 per cent. Remaining 82 tahasils have registered lower literacy rate than that of the State average.

Due to declaration of a place(s) as a town by the State Government, keeping in view the urbanized characteristics, the number of urban centers varies from time to time. There were 1,916 towns in the country during 1901 census which increased to 5,161 in 2001. At the State level there were only 14 towns in 1901, which increased to 138 during 2001.

Number of towns since 1901 in Orissa

Census year	No. of towns in Orissa
1	2
1901	14
1911	18
1921	20
1931	21
1941	29
1951	39
1961	62
1971	81
1981	108
1991	124
2001	138

It is revealed from the above number of towns that an increasing trend is noticed in all the decades in Orissa.

In Orissa, 254,684 persons were urban dwellers in 1901 whereas during 2001 census the urban population of the State became 5,496,318. Thus there has been around 11 fold

increase in urban population at the national level against more than 21 fold increase at the State level during the last century.

Trends and changes in the urban population of Orissa during 1901-2001 are as follows : Rural-Urban divide is a major concern in the scheme of expansion of facilities.

Urban population of Orissa : 1901-2001

Census Year	Orissa		
	Total population	Urban population	% of urban population to total population
1	2	3	4
1901	10302917	254684	2.47
1911	11378875	275159	2.42
1921	11158586	281498	2.52
1931	12491056	317254	2.54
1941	13767988	412528	3.00
1951	14645946	594040	4.06
1961	17548846	1109650	6.32
1971	21944615	1845395	8.41
1981	26370271	3110287	11.79
1991	31659736	4234983	13.38
2001	36706920	5496318	14.97

It reveals from the Statement that except for the year 1911 where the percentage of urban population to the total population is slightly lower than that of 1901, an increasing trend has been observed in all the subsequent decades in cases of Orissa. However, pace of the urbanization of the State is significantly lower in comparison to that at the national level during all the decades.

Census Year	Orissa		
	Urban population	% growth of urban population	% growth of total population
1	2	3	4
1951	594070	44.01	6.38
1961	1109650	86.79	19.82
1971	1845395	66.30	25.05
1981	3110287	68.54	20.17
1991	4234983	36.16	20.06
2001	5496318	29.78	15.94

This Statement indicates that while the highest rate of growth of total population has been recorded during the decade 1961-71 at State level, the highest growth rate of urban population in Orissa was registered during 1951-61 (86.79 per cent). It further reveals that except in the initial decade of the century, i.e. 1901-11 the urban population has registered a higher growth rate in India as well as in Orissa than the growth rate of the total population.

The growth rate of the urban population for 1981-91 and 1991-2001 in respect of the districts and the State are given below :

Sl No	District	Urban Population		Decadal growth rate	
		1991	2001	1981-91	1991-2001
1	ORISSA	4,234,983	5,496,318	36.16	29.78
1	Khurda	516,281	804,776	46.20	55.88
2	Angul	1,10,123	1,58,397	46.51	43.83
3	Balasore	64,152	71,111	18.07	12.81
4	Nayagadh	26,344	37,002	67.83	41.18
5	Nawalparasi	42,117	47,706	5.78	11.62
6	Rayasimhapur	76,942	1,01,111	39.47	37.16
7	Baripada	53,131	72,749	33.72	36.52
8	Majumdar	116,119	1,42,407	31.45	33.68
9	Cuttack	4,58,911	5,81,577	18.48	31.05
10	Paragada	89,376	1,15,371	36.25	29.16
11	Bolangir	40,417	48,150	15.16	28.50
12	Bhadrak	1,98,111	2,49,950	24.24	28.32
13	Kandhamal	78,163	1,06,277	32.11	28.29
14	Keonjhar	1,68,744	2,12,941	27.00	27.61
15	Ganjam	4,13,744	5,08,191	25.00	27.01
16	Puri	1,63,719	2,01,802	12.30	24.67
17	Sambalpur	2,54,418	3,24,272	19.75	21.76
18	Kandhamal	78,163	1,06,277	32.11	28.29
19	Sundargarh	5,50,515	6,28,897	28.25	19.79
20	Bolangir	1,94,413	2,54,229	23.84	19.17
21	Dhenkanal	78,112	92,787	27.36	18.79
22	Kendrapara	63,235	74,128	23.41	17.23
23	Nuapada	25,765	30,929	20.43	16.55
24	Boudh	15,458	17,996	23.79	16.42
25	Jharsuguda	1,83,278	2,18,318	16.32	16.31
26	Deogarh	1,72,751	2,00,800	21.20	16.27
27	Koraput	1,71,705	1,98,119	24.76	15.38
28	Sonepur	1,48,113	1,70,168	20.27	15.03
29	Gajapati	1,67,019	2,27,773	12.71	12.84
30	Malkangiri	34,428	34,610	5.01	0.53

Among the districts of the State, Khurda has registered the highest growth rate of 55.88 per cent of urban population during the decade 1991-2001 whereas the lowest rate of growth of only 0.53 per cent has been recorded in the Malkangiri district.

It also reveals that the growth rate of urban population in eight districts has shown an increasing trend in the present decade of 1991-2001 than that of the previous decade of 1981-91. In case of the other 22 districts, the rate of growth is less than that of the previous decade of 1981-91.

It may be mentioned here that there is no city in the State having a population of 1 million and more. The capital city of Bhubaneswar Urban Agglomeration has recorded the highest population among the UAs/towns in the State with a population of 657477 followed by Cuttack Urban Agglomeration with a population of 587637 is marked and listed under class-1 towns during the current decade. All other UAs and towns of class-1 size are continued as such since the previous decade. There were two UAs and eight towns under class-2 category during 1991 census. But during 2001 census there are one UA and 13 towns while one UA has been shifted from class-2 to class-1. Five more towns, namely, Paradip, Rayagada, Dhenkanal, Barbil and Keonjhar became class-2 during 2001. There were 3

agglomerations and 23 towns in class-3 category in 1991 census, but these increased to 3 UAs and 30 towns during 2001 census. There were 22 towns under class-5 during 1991 which increased to 24 towns in 2001. There were only 3 class-6 towns in 1991 which increased to 6 towns in 2001.

Female literacy rate in districts of Orissa, 2001

Rank in the State	District	Female Literacy Rate	Rank among the districts of India
	ORISSA	50.97	
1	Khurda	71.06	76
2	Jagatsinghpur	69.94	84
3	Puri	67.80	108
4	Kendrapara	67.29	115
5	Cuttack	66.19	124
6	Bhadrak	63.62	151
7	Jajpur	61.45	174
8	Balasore	59.57	206
9	Jharsuguda	59.23	211
10	Dhenkanal	58.55	215
11	Nayagarh	58.10	221
12	Angul	56.01	251
13	Sambalpur	54.79	267
14	Sundargarh	54.25	277
15	Baragarh	50.03	337
16	Ganjam	47.70	373
17	Deogarh	47.56	375
18	Sonepur	47.28	380
19	Keonjhar	46.71	386
20	Boudh	39.78	470
21	Balangir	39.27	474
22	Mayurbhanj	38.28	485
23	Kandhamal	36.19	504
24	Kalahandi	29.56	548
25	Gajapati	28.91	552
26	Nuapada	26.01	570
27	Koraput	24.81	575
28	Rayagada	24.31	577
29	Malkangiri	21.28	585
30	Nawarangpur	21.02	587

It reveals from the Statement that 14 districts are above the State female literacy rate of 50.97 per cent as well as the national average of 54.16 per cent.

It reveals from the Statement that there are six UAs and two towns coming under the class-1 category. Bhubaneswar UA tops the list of the UAs and towns of the State with a population of 657477. Baripada UA which belonged to class-2 category during the previous decade has entered into the class-1 size during 2001 census with a population of 100593.

Rural Population

There are 51349 villages which constitute the rural frame in Orissa with a total population of 31210602 as per 2001 census against 51057 villages with a population of 274247253 in rural Orissa during 1991 census.

It shows that there is a decrease of rural population in the State. Yet 85.03% of population of Orissa are found in concentrating in rural areas during 2001. District wise distribution of rural population in the district during 2001 are given below in the table.

It is seen that the highest population of rural population in 1991 and 2001 has been recorded in the district of Nayagarh 96.65% and 95.71% respectively. The lowest percentage of rural population is in Khurda during 2001.

There are 51349 villages which constitute the rural frame in Orissa with a total population of 31210602 as per 2001 census against 51057 villages with a population of 27,42,47,253 in rural Orissa during 1991 census.

Decadal growth of rural population of Orissa : 1901-2001

Census Year	Orissa		
	Total population	Rural population	% of rural pop. To tot. pop.
1	2	3	4
1901	10302917	10048233	97.53
1911	11378875	11103716	97.58
1921	11158586	1087088	97.48
1931	12491056	12173802	97.46
1941	13767986	13355460	97.00
1951	14645946	14051876	95.94
1961	17548846	16439196	93.68
1971	21944615	20099220	91.59
1981	26370271	23259984	88.21
1991	31659736	27424753	86.62
2001	36706920	31210602	85.02

It is observed that except during 1901-11, in all other decades the percentage of rural population has shown a decreasing trend both in case of India and Orissa. While 72.22% of India's population reside in rural areas, 85.03% of the population of Orissa are found concentrating in rural areas during 2001.

District wise analysis of the rural population in census 2001 is presented here.

Rural population and growth rate in 1991 and 2001

Sl. No.	District	Rural Population		Growth rate in percentage	
		1991	2001	1981-1991	1991-2001
1	2	3	4	5	6
	ORISSA	27424753	31210602	17.91	13.80
1	Bhadrak	995993	1191299	23.47	19.61
2	Nawarangpur	804542	958945	25.36	19.19
3	Kandhamal	510619	603819	20.50	18.25
4	Boudh	302164	355042	18.14	17.50
5	Kalahandi	1052740	1234095	18.64	17.23
6	Deogarh	216963	254010	17.86	17.08
7	Balasore	1542431	1802862	22.40	16.88
8	Mayurbhanj	1768331	2066375	18.57	16.85
9	Jajpur	1332746	1549923	21.94	16.30
10	Angul	850914	980954	17.64	15.28
11	Keonjhar	1170152	1348577	18.40	15.25
12	Malkangiri	387898	445622	28.28	14.88

Sl. No.	District	Rural Population		Growth rate in percentage	
		1991	2001	1981-1991	1991-2001
1	2	3	4	5	6
13	Sundargarh	1048612	1200520	12.93	14.49
14	Jharsuguda	282826	323738	10.78	14.47
15	Koraput	857872	979835	19.00	14.22
16	Gajapati	407939	465675	13.07	14.15
17	Ganjam	2280303	2598746	18.23	13.96
18	Puri	1141886	1294802	16.28	13.39
19	Rayagada	624658	707645	16.10	13.29
20	Sonepur	441985	500594	19.78	13.26
21	Kendrapara	1086266	1277728	13.91	13.02
22	Nuapada	443717	500495	19.51	12.80
23	Dhenkanal	869758	973196	18.22	11.89
24	Jagatsinghpur	857697	952235	16.32	11.02
25	Sambalpur	608131	674617	18.04	10.93
26	Baragarh	1126625	1242101	15.79	10.25
27	Nayagarh	756403	826882	13.28	9.32
28	Khurda	985733	1069630	17.47	8.51
29	Cuttack	1567331	1699109	14.50	8.41
30	Balangir	1101518	1181531	15.12	7.26

It reveals from the Statement that the rural population has shown an increasing trend in 1991-2001 vis-à-vis 1981-91 in respect of only three districts, namely, Sundargarh, Jharsuguda and Gajapati.

The Statement gives the population of State and districts by rural urban areas along with the percentage share of each district to the population of the State, 2001

Distribution of population of districts by rural-urban break up along with its share in total population of Orissa : 2001

Sl. No.	District	Total population	% to total population of the State	Rural population	% to total population of the State	Urban population	% to tot. urban pop. of the State
1	2	3	4	5	6	7	8
	ORISSA	36706920	100.00	31210602	100.00	5496318	100.00
1	Ganjam	3136937	8.55	2598746	8.33	538191	9.79
2	Cuttack	2340686	6.38	1699109	5.44	641577	11.67
3	Mayurbhanj	2221782	6.05	2066375	6.62	155407	2.83
4	Balasore	2023056	5.51	1802862	5.78	220194	4.01
5	Khurda	1874405	5.11	1069630	3.43	804775	14.64
6	Sundargarh	1829412	4.98	1200520	3.85	628892	11.44
7	Jaipur	1622868	4.42	1549923	4.97	72945	1.33
8	Keonjhar	1561521	4.25	1348577	4.32	212944	3.87
9	Puri	1498604	4.08	1294802	4.15	203802	3.71
10	Baragarh	1345601	3.67	1242101	3.98	103500	1.88
11	Balangir	1335760	3.64	1181531	3.79	154229	2.81
12	Kalahandi	1334372	3.64	1234095	3.95	100277	1.82
13	Bhadrak	1332249	3.63	1191299	3.82	140950	2.56
14	Kendrapara	1301856	3.55	1227728	3.93	74128	1.35
15	Koraput	1177954	3.21	979835	3.14	198119	3.60
16	Angul	1139341	3.10	980954	3.14	158387	2.88
17	Dhenkanal	1065983	2.90	973196	3.12	92787	1.69

Sl. No.	District	Total population	% to total population of the State	Rural population	% to total population of the State	Urban population	% to tot. urban pop of the State
1	2	3	4	5	6	7	8
18	Jagatsinghpur	1056556	2.88	952235	6.05	104321	1.90
19	Nawarangpur	1018171	2.77	958945	3.07	59226	1.08
20	Sambalpur	928839	2.53	674617	2.16	254272	4.63
21	Nayagarh	863934	2.35	826882	2.65	37052	0.67
22	Rayagada	823019	2.24	707645	2.27	115374	2.10
23	Kandhamal	647912	1.76	603819	1.93	44093	0.80
24	Sonepur	540659	1.47	500594	1.60	40065	0.73
25	Nuapada	530524	1.45	500495	1.60	30029	0.55
26	Gajapati	518448	1.41	465675	1.49	52773	0.96
27	Jharsuguda	509056	1.39	323738	1.04	185318	3.37
28	Malkangiri	480232	1.31	445622	1.43	34610	0.63
29	Boudh	373038	1.02	355042	1.14	17996	0.33
30	Deogarh	274095	0.75	254010	0.81	20085	0.37

It is seen that while the highest concentration of total population as well as of rural population is found in the district of Ganjam, the highest concentration of urban population is reported in the district of Khurda. While the lowest concentration of total and rural population is noticed in the district of Deogarh, the lowest concentration of urban population is found in the district of Boudh.

Growth Rate of Rural and Total Population In Orissa

It indicates that a negative growth rate was recorded in respect of rural population during the decade 1911-1921.

It reveals that the decadal growth rate of total population of the State during 1991-2001 is 15.94 per cent whereas the corresponding growth rates in rural and urban areas are 13.80 and 29.78 per cent respectively. 14 districts have recorded growth rate higher than that of the State average. 17 districts have recorded higher growth rate than that of the State average in respect of rural population and nine districts have registered higher growth rates in respect of urban population than that of the State average. In regard to the growth of total population among the districts, highest growth rate of 24.79 per cent has been recorded in the district of Khurda and the lowest growth rate of 8.52 per cent has been recorded in the district of Balangir. As regards rural areas, Bhadrak district has registered the highest growth rate of 19.61 per cent and Balangir has registered the lowest growth rate of 7.26 per cent during the decade. In urban areas while Khurda has recorded the highest growth rate of 55.88 per cent the lowest growth of 0.53 per cent has been recorded in the district of Malkangiri.

Child Population In The Age Group 0-6

Child population in the age group 0-6 constitute 14.11 percent of the total population of the State as per 2001 census. In rural areas the child population constitute 14.58 percent of the total rural population of the State and in urban areas it is 11.45 per cent of the total urban population.

The highest percentage of child population of 17.72 per cent is reported in the district of Kandhamal. For rural areas also, Kandhamal occupies the top position having 18.15 percent of the child population of the total population in the district. In urban areas the highest

percentage (14.30) of child population to total urban population is reported in the district of Malkangiri. The lowest percentage of child population to total population as well as rural population is recorded in the district of Jagatsinghpur while in urban areas the lowest percentage of 10.01 percent of child population to total urban population is recorded in respect of the district of Cuttack.

It further reveals from the Statement 3.16 that the proportion of the child population in the age group 0-6 in 13 districts are higher than that of the State average of 14.11 percent whereas in rural areas 14 districts are higher than the State average of 14.58 percent. In urban areas the proportion of child population in age group 0-6 is higher than the State average of 11.45 percent in 18 districts.

As per 2001 census the density of population per Sq. Km. in Orissa is 236. In rural areas 204 persons live in every Sq. Km. on an average whereas in urban areas the density is 1967. During 1991 census the density of population of Orissa was 203 whereas for rural areas the density was 179 and for urban areas it was 1,665 per Sq. Km.

18 districts have recorded a higher sex ratio than that of the State average of 972. In rural areas 17 districts have recorded equal or higher sex ratio than that of the State average of 986 whereas in the urban areas 25 districts have recorded equal or higher sex ratio than that of the State average of 895.

The sex ratio of the child population in the age group 0-6 for rural areas is more (954) than the sex ratio of child population of the State. In urban areas the sex ratio is only 927 females per 1000 males. Among the districts, Nawarangpur is the only district where the females are more in number than the males having 1002 females per 1000 males. The same phenomenon is also noticed in case of rural areas of the districts having a sex ratio of 1004 females for 1000 males. In urban areas the highest sex ratio of 981 has been recorded in the district of Kalahandi. In rural areas lowest sex ratio of 902 is recorded in Nayagarh district whereas in urban areas lowest sex ratio of 845 is recorded in the district of Ganjam.

Literacy rate of Orissa and districts by residence

Sl. No	District	Total	Rural	Urban
1	2	3	4	5
	ORISSA	63.61	60.44	80.95
1	Khurda	80.19	74.59	87.46
2	Jagatsinghpur	79.61	79.25	82.84
3	Puri	78.40	77.77	82.30
4	Kendrapara	77.33	76.97	83.11
5	Cuttack	76.13	73.39	83.20
6	Bhadrak	74.64	74.97	71.89
7	Jajpur	72.19	71.70	82.37
8	Jharsuguda	71.47	67.43	78.46
9	Nayagarh	71.02	70.33	86.00
10	Balasore	70.94	69.84	79.69
11	Dhenkanal	70.11	68.67	84.83
12	Angul	69.40	66.72	85.54
13	Sambalpur	67.01	63.45	76.24
14	Sundargarh	65.22	55.58	82.96
15	Baragarh	64.13	62.80	79.80
16	Sonepur	64.07	62.94	77.88

Sl. No.	District	Total	Rural	Urban
1	2	3	4	5
17	Ganjam	62.94	59.50	78.79
18	Deogarh	60.78	59.47	76.86
19	Keonjhar	59.75	57.37	74.54
20	Boudh	58.43	57.21	81.21
21	Balangir	54.93	51.63	79.34
22	Kandhamal	52.95	50.37	85.80
23	Mayurbhanj	52.43	49.96	83.35
24	Kalahandi	46.20	43.77	74.99
25	Nuapada	42.29	40.53	71.10
26	Gajapati	41.73	38.00	72.17
27	Koraput	36.20	27.75	75.43
28	Rayagada	35.61	29.12	72.78
29	Nabarangapur	34.26	31.76	72.42
30	Malkangiri	31.26	28.44	66.14

53.61 percent of the total population of the State in the age group of 7 years and above are recorded as literates during 2001 in comparison to 49.09 percent of the total population in the age group 7 years and above during 1991 census. 60.44 percent of the rural population in age group of 7 years and above are literate during 2001 whereas in urban areas 80.95 percent of the population aged 7 years and above are literates. During 1991 census, 45.46 percent in rural areas and 71.99 percent in urban areas were literates. Districts wise analysis reveals that Khurda has recorded the highest literacy rate of 80.19 percent while Malkangiri has recorded the lowest literacy rate of 31.26 percent during 2001 census. In rural areas, Jagatsinghpur has recorded the highest literacy of 79.25 percent whereas Koraput has recorded the lowest literacy rate of 27.75 percent. In urban areas Khurda has recorded the highest literacy rate of 87.46 percent whereas the lowest literacy rate in urban areas has been recorded in the district of Malkangiri with 66.14 percent. In case of rural areas 15 districts have been recorded higher literacy rate than that of State literacy rate of 60.44 per cent while in urban areas 13 districts have recorded higher literacy rate than that of the State urban literacy of 80.95 per cent. It is interesting to note that Bhadrak is the only district in the State where the rural literacy rate is higher than the literacy rate of urban areas.

General Observations (Demographic)

- Orissa has 3.57 percent of the India's population as such its position is 11th in the country and in terms of area it is 9th among the states and UT's as per 2001 census. The area is 155,707 sq kms.
- Ganjam district is the most popular district of the state having a population of 3,136,937.
- There are 171 Tahasils in the State with different range of population; Bhubaneswar Tahasil is the most popular among them having a population of 960,663 which is more than that of 11 districts in the state.
- The growth of population during 1991-2001 is 15.94 percent as against 20.06 percent of the preceding decade, the highest growth rate is being in Khurda District.
- The child population in 0-6 is 14.11 percent of the total population of the State.

- The population density is 236 per sq. km. During 2001 which is 3 times increase over 1901.
- The sex ratio is uneven across districts, but for the state it 950:1000males.
- Literacy rate for general is 63.61, 75.95 for males and 50.97 for females, 17 districts falling below the state literacy level. Highest literacy Tahasil is Bhubaneswar.
- There has been 21 fold increase in urban population at the state level during the last century, in Orissa. The growth of urban population current decade is 29.78 percent.
- 51349 villages constitute the rural population of the state which 85.03% the total population the rural population has increased by 17.94 percent.
- The child population in the rural area is 14.58 of the total population of the state in 0-6 age group. The density of population in rural area is 204 in 2001
- Sex ratio has declined in rural areas which is 988:1000 males.
- The urban literacy is 80.95 but rural literacy is 60.44



CHAPTER III

SECONDARY EDUCATION : STATE OF ART

The Orissa State Pattern of Education has been 5+2+3-5 classes at the Primary stage; Class I, II, III, IV and V 2 classes at Upper Primary stage; class VI and VII and 3 classes at the Secondary Stage - Class VIII, IX and X

The number of habitations and Secondary Schools identified in different surveys are given below :

Name of Survey	Year	Habitations	No Of Schools	No and % of Increase
1 st Survey	1957	51,488	278	
2 nd Survey	1965	58869	1030	752(270%)
3 rd Survey	1973	64194	1974	944(91%)
4 th Survey	1978	64,815	2167	193(9%)
5 th Survey	1986	69,530	3,951	1,788(80%)
6 th Survey	1993	73,148	5,310	1,355(35%)

It is clear that the Growth Pattern of Secondary Schools in the State is not uniform, rather there is irregular growth.

Accessibility

As per (1993) survey habitations and population served with high schools are indicated below.

Habitations served by Secondary schools in respect of distance are mentioned as per available uniformities.

Note - The data are based on Sixth All India Educational Survey 1993 unless otherwise stated at appropriate places.

Habitations served by Secondary within the distance	No of Habitations served	%	Population served	%
(1)	(2)	(3)	(4)	(5)
Within the habitation	4,454	6.09	53,47,350	18.63
Within 2 Km.	23,353	31.92	92,95,692	32.38
Within 5 Km.	55,837	76.33	2,47,77,826	86.32
Within 8 Km.	63,835	87.26	2,68,71,621	93.61
Beyond 8 Km.	9,313	12.76	18,33,748	6.39

86.32% of the total population living in 55,837 habitations of the State do have a Secondary school facility within a distance of 5 Km. By 1993 6.39% of the population are not yet served with high schools within a distance of 8 Kilometers.

The data further reveals that 23.67 percent of the habitations and 13.68 percent of the population are not served by Secondary schools within a distance of 5 Kms.

However, a fairly updated figure indicates the scenario from 1996-97 to 2000-2001 with respect to Secondary schools in the State.

Number of Secondary Schools with Teachers and Students in Orissa

Year	No. of Secondary schools	No. of Teachers	No. of students (in '000Nos)
1	2	3	4
1996-97	5967	50218	866
1997-98	6072	51436	881
1998-99	6160	51436	1031
1999-2000	6160	51436	1031
2000-2001	6165	51570	1100

Source : Director of Public Instructions, Orissa

District wise facility and habitation as per sixth educational survey, (1993) indicate that in Rayagada and Malkangiri 60% of the habitations have not been served with high schools within 5 Km.

4,454 habitations (6.09%) have been served with high schools within the habitations and 76.33% of the habitations have been served within 5 Km. Only 23.66% of the habitations have not been served with high schools within 5 Km. Distance.

The percentage of unserved habitations in the districts of Puri, Jagatsinghpur, Khurda, Kendrapara and Bhadrak is less than 4% whereas in Rayagada, Malkangiri, Koraput, Gajapati and Nawarangpur this percentage is more than 50.

With regard to the coverage of population by Secondary schools it may be that 18.63% of the population of the rural habitations is served by Secondary schools within the habitations and 86.32 percent with 5 Kms.

Facility for Scheduled Caste

Rural habitations predominantly inhabited by Scheduled Castes population are comparatively backward.

Rural Scheduled Caste Habitations with and without Secondary Schools, 1993

Sl No.	Habitations/population	Population /No. of Habitations with Secondary schools/sections at distance					Total
		Within the habitations	Within 2 Kms	Within 5 Kms	Within 8 Kms.	Beyond 8 Kms.	
1.	Habitations	333 (4.33)	2,800 (36.47)	6,189 (80.62)	6,897 (89.95)	779 (10.15)	7,676
2.	Population	3,36,699 (13.59)	8,96,687 (36.18)	21,42,018 (86.43)	23,13,072 (93.34)	1,65,154 (6.66)	24,78,226

(Percent is indicated in parenthesis)

Out of the total Scheduled caste habitations of 7,676 only 333 habitations (4.33%) have been served with Secondary schools within these habitations. With regard to scheduled Caste Populations (Rural) only 13.59% is served within the habitations.

Further 779(10.14%) of the Scheduled Caste habitations with 6.66% of the Scheduled caste population in rural area are not served with high schools even within 8 Km. 80.62% of Scheduled Caste habitations covering 86.43% of Scheduled caste population have been served with high schools within 5 Km.

Secondary Education facilities for Scheduled Tribe

Findings of Sixth Survey give estimation of the location of High Schools in a number of rural habitations, which are predominantly inhabited by Scheduled Tribe population.

Sl No	Habitations / population	Rural habitations with Secondary schools at a distance, 1993					Total
		Within the habitation	Up to 2 Kms	Up to 5 Kms	Up to 8 Kms	Beyond 8 Kms	
1	Habitations	674 (2.12)	6,891 (21.76)	19,729 (62.30)	24,680 (77.93)	6,987 (22.07)	31,667 (100)
2	Population	5,62,074 (7.16)	18,97,163 (24.15)	55,78,764 (71.02)	66,41,078 (84.50)	12,12,920 (15.44)	78,54,898 (100)

(Percent is indicated in parenthesis)

674 habitations (2.12%) predominantly inhabited by Scheduled Tribe population have secondary schools within them which cover 7.16% of the Scheduled Tribe Population. 21.76% of the scheduled Tribe habitations are served within 2 Km. And 62.30% within 5 Kms. 77.93% are served within 8 Kms. 6,987 scheduled Tribe habitations (22.07%) covering 15.44% of scheduled Tribe populations are not served by high schools within 8 Km distance.

Rural - Urban variations and girls education

In the State of Orissa, there are rural and urban area schools which are further classified under boys, girls and co-educations high schools. Under each revenue district the rural and urban area schools have been identified. There are 5,310 high schools out of which 4,527 are co-educational, 210 only boys and 573 only girls schools as per 1993 survey.

In the State only 10.79% of the high schools are meant for girls and 85.20% of high schools are co-educational as per 1993 Survey.

Area-wise distribution of different category of Secondary schools

Sl No	Area	Type of Schools			
		Boys	Girls	Co-education	Total
1.	Rural	104	409	4,164	4,677
2.	Urban	106	164	363	633
	Total	210	573	4,527	5,310

It is seen that 88.07% of schools are located in rural areas. 89% of the total rural schools are co-educational high schools.

Area and Management wise Secondary Schools

The management of the high schools in the State are broadly categorized as follows:

- i) State government - School and Mass Education Department.
- ii) Local Bodies
- iii) Private Aided
- iv) Private Unaided

The number of high schools managed by the above organizations can be seen from table.

Area and Management wise Distribution of High Schools

Area	MANAGEMENT				Total
	Govt.	Local bodies	Private aided	Private unaided	
Rural	988	83	2,487	1,119	4,677
Urban	251	80	212	90	633
Total	1,239	163	2,699	1,209	5,310

Out of the total 5,310 high schools 2,699 high schools are managed by private aided organizations, which constitute 50.83%. The management wise distribution of schools can be seen from table. The privately aided high schools in rural area are 2,487 as against 212 in urban area.

The management wise High Schools identified in different revenue districts of the State can be seen from the Table-

District wise and Management wise Distribution of high Schools

Large number of private aided high schools are existing in the districts of Balasore, Cuttack, Kendrapara, Jagatsinghpur, Ganjam, Keonjhar, Mayurbhanj, Jajpur and Puri. The figures of private unaided schools is the largest in the district of Balasore, Malkangiri district has the lowest number of private aided schools. With regard to the total number of Secondary schools, Mayurbhanj district has the highest and Malkangiri district the lowest number. The northern and central part of Orissa has better facilities for Secondary education than the other parts under Government management.

There are 91 girls' schools as against 93 in urban areas under Government management. Private aided girls schools in rural area is 208 as against 48 in urban area, in 1993.

Area and Management High Schools with sections

There are 5,355 institutions having either only Secondary or sections of Secondary classes. It is seen that 4,303 schools are having only Secondary classes whereas 1007 schools are having Secondary sections with other lower level classes. It is therefore estimated that 5,310 schools are located in the State with high schools classes. Only 45 schools are attached with higher Secondary section including other type of sections. Management wise number of schools with sections are 1267, 163, 2706 and 1219 under government, Local Body, Private Aided and private Unaided respectively. They constitute 23.66%, 3.04%, 50.53% and 22.76% of total number of Secondary schools with sections in the State.

There are 763 institutions having Secondary and upper primary classes, and 244 institutions with Secondary, upper primary and primary classes. Out of these 763 institutions 485 are in Rural area (63.56%). Under this category 465 out of 763 (60.94%) are managed by Government.

The number of other of Secondary schools having primary and upper primary classes in Secondary schools is 244 (167 in rural area and 77 in urban area). Out of these 244 schools, 176 are managed by Government.

Enrolment

The total enrolment in high school classes in the State is 8,30,997. Area and Management wise distribution of enrolment is as follows:

Area and management enrolment in High schools

Out of every 100 students reading in Secondary schools 77 students belong to rural area. 28 percent of the enrolment are in government managed schools and 51 in private aided schools.

The percentages of enrolment are 28.20, 3.51, 50.80 and 17.47 in Government, Local Body, Private aided and private unaided institutions respectively.

The sex wise distribution of enrolment in Secondary schools under different managements indicate:

Sex wise enrolment in Secondary Schools

61.60% of the enrolment is for boys. The enrolment in Government Schools is 28.20%. In Local Body schools this figure comes to only 3.51%.

The enrolment of girls under different managements out of total enrolment of girls is as follows: The total enrolment of girls in Secondary schools is 3,19,142 (38.40%).

Government managed	-	28.27%
Local Body	-	3.50%
Private Aided	-	50.17%
Private Unaided	-	18.04%

Management-wise enrolment of only girls presents the following distribution in percentages:

Government managed	-	10.85%
Local Body	-	1.34%
Private Aided	-	19.26%
Private Unaided	-	6.93%
Total	-	38.40%

The distribution of enrolment of children in Secondary schools areawise, managementwise and sexwise from 1993 survey indicate that:

Area, Sex and Management-wise distribution of enrolment in Secondary Schools

Area	Sex	MANAGEMENT				Total
		Govt.	Local Bodies	Private Aided	Private Unaided	
Rural	Boys	89255	6009	233439	76784	405487
	Girls	45763	3104	137706	49521	236094
	Total	135018	9113	371145	126305	641368
Urban	Boys	54856	12024	28616	10872	106368
	Girls	44468	8075	22426	8079	83048
	Total	99324	20099	51042	18951	189416
Total	Boys	144111	18033	262055	87656	511416
	Girls	90231	11179	160132	57600	319142
	Total	234342	29212	422187	145256	830997

in every 100 students only 38 are girls at high school stage. In rural area the distribution of enrolment for boys is 63.20% as against 38.80% for girls. In the urban area girls enrolment comes to 43.84% as against boys enrolment of 56.16 per cent.

When the class wise enrolment figures at Secondary stage is considered it is seen that out of every 100 students admitted in Class I, only 28 students are retained at Class VIII, 26 at Class IX and 21 at Class X. (Sixth Education Survey, 1993)

The enrolment in Class VIII, IX and X as percentage of enrolment in class I for the State are given in the next page.

Sex wise Retention of Students in Secondary schools/ students

Area	Sex	Class I	Class VIII	Class IX	Class X
Rural	Boys	100	28.08	25.86	21.59
	Girls	100	19.67	18.01	14.97
	Total	100	24.25	22.29	18.58
Urban	Boys	100	66.64	62.85	53.56
	Girls	100	59.60	55.92	47.52
	Total	100	63.35	59.61	50.74
Total	Boys	100	31.85	29.48	24.72
	Girls	100	23.75	21.88	18.29
	Total	100	28.15	26.01	21.78

If percentage of enrolment are considered and analysed the dropout at the end of class X is more than 78%. This figure comes to 50% in Urban areas and 81.42 in rural area.

The overall dropout rate of girls is more than 82%. The figure of dropout for girls in rural area is 85% and for urban area it is 52%.

Enrolment of Scheduled Caste Students in Secondary Schools

The distribution of enrolment of Scheduled Caste students in high schools Area and Management as indicate in the sixth survey.

Area wise and Management wise Enrolment of Scheduled Caste Students

Indicate that the Scheduled Caste enrolment out of total enrolment for all communities comes to 13.29%. Out of the total 1,10,433 scheduled caste students there are only 36,231 girls constituting 32.80% of scheduled caste enrolment.

Scheduled Caste enrolment in private aided schools is more than in other schools. The percentages of enrolment of scheduled caste children under Government, Local Body, private aided and Private unaided schools are 28.14, 3.01, 50.59 and 18.24 respectively. The percentage of Scheduled Caste girls to the girls of all communities is 11.35.

Enrolment of Scheduled Tribe Students

Areawise, Managementwise and Sexwise enrolment of ST Students

Similarly, there are 78,594 scheduled Tribe students in high schools. The number of girls is 23,453 which constitutes 29.84%. The enrolment in rural area is 83.88%.

The enrolment of Scheduled Tribe children as against the total enrolment of all communities under different management can be seen from entries below

Management	Enrolment of S.T. Children and All Communities			
	ENROLMENT IN HIGH SCHOOLS			
	ALL COMMUNITIES		SCHEDULED TRIBE	
	Total	Girls	Total	Girls
Government	2,34,342	90,231	25,866	7,023
Local body	29,212	11,179	2,201	782
Private aided	4,22,187	1,60,132	34,414	10,644
Private unaided	1,15,256	57,600	16,113	5,004
Total	8,30,997	3,19,142	78,594(9.45%)	23,453

The Scheduled Tribe enrolment to that of total enrolment for all communities under Government managed schools is 11.03%. The percentage for Local Body Schools is 7.53, for private aided schools is 8.5 and for private unaided it is 11.09

The percentage of Scheduled Tribe girls enrolment to that of girls of all communities comes to 7.3

The enrolment picture for all communities, SC and ST are 8,30,997, 1,10,433 and 78,594 respectively. It means in every 100 children 13 are scheduled caste Students and 9 are scheduled Tribe. Sundargarh district of Orissa records the highest enrolment in scheduled Tribe category. In case of scheduled caste enrolment, Cuttack district has the highest figure.

In regards to the enrolment of girls of all community, Cuttack records the highest figure.

Infrastructure

Areas wise different type of Buildings / Accommodations

60% of the schools under different management are having pucca building. In rural area 89.93% of schools are having pucca and partly pucca buildings. This percentage comes to 79.20 if taken from the total number of schools in the State in rural and urban area.

Management wise Building position in Secondary schools

28% of the schools having pucca building are managed by Government and 48% are under private aided management. On the other hand out of 1239 Government schools, 6 schools are functioning in open space and one school under Tent. In respect of Government schools 94% are having either pucca or partly pucca building. Whereas in private-aided management 89% of the schools are having pucca or partly pucca building.

The districts, which are having schools in open space, are Malkangiri, Jajpur, Ganjam, Phulbani, Cuttack, Balasore and Sundargarh.

Building type of various girls high schools in Rural and Urban areas.

54% rural girls Secondary schools are having pucca buildings and only 2 schools are functioning in open space, one each in the district of Sundargarh and Malkangiri. Out of urban girls Secondary schools 89% are having pucca buildings. The position of rural schools is almost similar.

Out of total 573 Girls high schools, 64.57% are having pucca building. The percentages of rural and urban girls schools having pucca building are 39 and 25 respectively.

The number of girls high schools having Kuchha building in rural area is more in comparison to urban area schools

1239 Government Secondary use only 6.37 rooms of different size on an average for instructional purpose. The highest number of Government schools (377) have 4-6 rooms out of which 3.56 rooms are used for instruction on an average.

There are 1223 private aided schools which have 4-6 rooms and in an average 3.44 rooms are used for instructional purpose.

There are 162 schools from different managements which have more than 22 rooms each and out of those rooms 16.57 rooms are used for instructional purpose.

Schools with enrolment size

The Secondary schools in the State have an average enrolment of 186.19 and use 7.92 number of rooms. There are 182 schools having enrolment more than 601 students and 1382 schools having less than 101 students. There are 162 schools which are having 726.354 as average enrolment and these schools are having more than 22 rooms. Out of these 162 schools, 81 are Government, 8 are local body, 39 Private aided and 34 are private unaided schools. Area wise there are 44 rural schools and 118 urban schools under this category. Schools having higher enrolment and large number of rooms are found more in Urban areas of the State. In the district of Sundargarh, more number of schools (25) come under the above category (More than 22 rooms).

Library and Laboratory Facilities

Library

Library facilities in high schools are not adequate. During the present survey the position of full time Librarian and part time Librarian was estimated in high schools under different managements.

Only 82 Secondary schools have full time trained librarians out of 5,310 schools in the State constituting 1.54% -821 Secondary schools also have part time librarians constituting 15.46% but they are untrained. Only 53% part time trained librarians are available.

Under Government management 26 schools have trained full time librarians. The position regarding trained full time librarians in other managements excepting local body is very similar. But the picture in case of full time untrained librarians is far better than trained numbers. The number of untrained librarians is 335 as against part time untrained librarians numbering 821.

Area and management wise Secondary schools having librarians

0.96% of rural schools are having trained librarians as against 5.84 of the urban schools. In case urban area Secondary schools 5.8% of the schools have trained librarians against 8.05% of untrained librarians. Taking rural and urban schools together 1.54% of schools are having trained librarian as against 6.10% of schools having untrained librarians.

Laboratory Facilities

Secondary schools are required to teach students physical sciences and biological sciences with the help of science laboratory equipped with adequate facilities for practical work. In the State of Orissa, the facility in this respect is found to be very poor. Rural and urban area wise schools having Laboratory facilities for teaching science at Secondary stage were also looked into.

Area wise Number of Secondary schools with laboratory facilities

In rural area 12.67% of schools are having laboratory facilities for Secondary schools whereas in urban area 32.2% of schools are having laboratory facilities for teaching science. Taking all the schools together it will be seen that only 15% of schools in the State are having facilities for laboratory to teach science.

Only 3.7% of schools are having separate laboratory of Physics, Chemistry and Biology whereas 10.2% schools are having combined laboratories.

Areawise Girls high schools with laboratories

10.21% rural girls schools are having laboratory whereas 16.46% urban schools are having laboratory facilities. Out of the total number of schools, 12.04% of schools are having Laboratory. But 2.96% of schools are having separate laboratories and 8.02% of schools are having combined laboratories for teaching science.

Areawise and Management Schools having Lab facilities

In rural area 18.73% of Government schools are having lab facilities as against 10.82% of schools under private aided management. In urban area 36.05% of schools under government management are having lab facilities whereas 24.52% of schools under private aided management have lab facilities. Taking all the schools in rural and urban area under government management 22.41% of schools are having lab facilities as against 11.89% of schools under private aided management.

Area wise management girls schools having laboratory facilities at Secondary stage

Out of 573 girls Secondary schools only 69 constituting 12.04% have laboratory facilities for science practical. 17 schools have separate laboratories for physical and life sciences and 45 schools combined laboratories.

Out of 69 girls Secondary school having laboratory facilities 42 are located in rural area and 27 in urban areas.

16 unaided privately managed Secondary schools provided laboratory facilities whereas 22 government managed one local body managed and 30 privately managed aided schools provide laboratory to facilitate teaching of science subjects.

Higher Secondary schools with size of enrolment and number of rooms

Enrolment	No of schools	SCHOOLS WITH TOTAL NO. OF ROOMS									Average number of rooms
		0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	Above 22	
Up to 100	63	1	10	35	9	6	0	1	1	0	5.60
101-200	88	0	8	47	23	9	0	0	1	0	6.25
201-400	158	0	7	42	50	31	12	5	4	7	9.43
401-600	40	0	0	5	4	11	6	4	5	5	14.95
Above 600	34	0	0	0	2	2	3	3	2	22	36.24
Total	383	1	25	129	88	59	21	13	13	34	11.03
Average enrolment	305.75	33	129.04	170.19	233.92	312.10	394.67	403.08	434.08	991.74	

At higher Secondary stage, the average enrolment come to 223 and the average number of rooms is 11. There are 158 institutions having enrolment of 201-400 but having 9.43 as average number of rooms. There are only 34 schools having more than 600 enrolment each having 36.24 rooms on an average.

Vocational Education

Enrolment of children in vocational courses at + 2 stage

Enrolment of Different courses	CLASSES					
	XI		XII		TOTAL	
	Total	Girls	Total	Girls	Total	Girls
Vocational	1153	405	1135	375	2288	780
Others	607	213	602	189	1209	402
Total	43139	15598	42561	15450	85700	31048

It will be seen that the number of students enrolled in Arts courses 70123, Science-9538, and commerce- 2043 which constitute 81.92, 11.13 and 2.38 percent respectively.

There are only two courses namely agriculture and other Vocational courses, which are employment oriented enrolling 402(0.47%) and 2288(2.67%) students.

Total enrolment in class XI is 43139 whereas it is 42561 in Class XII which implies that there is dropout at Class XII stage to the extent of 1.35%. The figures of dropout in case of girls is less than that of boys being 0.95 percent only.

SC Enrolment in different courses

Enrolment in Different courses	CLASSES					
	XI		XII		TOTAL	
	Total	Girls	Total	Girls	Total	Girls
Arts	4641	1504	4559	1565	9200	3069
Science	343	95	287	98	630	193
Commerce	148	58	75	20	223	78
Agriculture	11	1	9	2	20	3
Vocational	137	47	114	28	251	75
Others	81	24	75	17	156	41
Total	5361	1729	5119	1730	10480	3459

The total enrolment of scheduled caste children at +2 stage is 10,480 which constitutes 12.22 per cent. Enrolment of scheduled caste girls being 3,459 is 11.14 per cent of the total girls enrolment at +2 stage.

Enrolment of scheduled caste children in Arts course is 9200, Science – 630 and commerce-223 constituting 87.78, 6.01 and 2.13 per cent respectively.

Enrolment of scheduled caste children in agriculture is 20 and Vocational course 251 which constitutes 0.2 and 2.4 per cent respectively.

Enrolment of S.T Children at +2 stage

Enrolment in Different courses	CLASSES					
	XI		XII		TOTAL	
	Total	Girls	Total	Girls	Total	Girls
Arts	2986	774	2789	723	5775	1496
Science	228	41	178	41	406	82
Commerce	11	10	21	2	62	12
Agriculture	4	0	3	0	7	0
Vocational	60	23	62	20	122	43
Others	48	14	18	4	66	18
Total	3367	861	3071	790	6438	1651

The total number of S.T children enrolled at +2 stage being 6438 constitutes 7.51 per cent of the total enrolment of all communities at +2 stage of the State.

The enrolment of scheduled tribe children in different courses is 5775 (89.70%) in Arts, 406 (6.30%) in Science, 82 (1.27%) in commerce, 7 (0.10%) in Agriculture, 122(1.89%) in Vocational courses and 66 (1.02%) in other courses. The Teacher-pupil ratio at higher Secondary stage of education is 1.25.

Management wise Pupil Teacher Ratio at Secondary & Higher Secondary Stage

For Local Body Schools the ratio at higher Secondary stage is comparatively lower in rural, urban areas other than management schools. For Government schools, the ratio does not exceed 22.1 which can be considered normal. The Pupil-Teacher ratio of Secondary stage is less than the higher Secondary stage for rural areas and Total but not for urban areas.

Study Courses available in Higher Secondary Institutions

Availability of Courses Studies in Higher Secondary Institutions

Area	Total No. of Higher Secondary Institutions	COURSES					
		Arts	Science	Commerce	Agriculture	Vocational	Others
Rural	302	262	56	20	2	24	10
Urban	81	46	33	10	2	11	9
Total	383	308	89	30	4	35	19

The number of Secondary Schools within State as of 2000 are as follows with enrolment details and number of teachers.

EDUCATION (1999-2000)

Sl. No	Name of the Districts	Secondary Schools		
		No. of Schools	Enrolment ('000 No.)	No. of Teachers
1	Angul	191	29	1158
2	Balasore	425	66	3586
3	Baragarh	209	28	1695
4	Bhadrak	275	40	2314
5	Bolangir	205	28	1619
6	Boudh	46	7	468
7	Cuttack	388	68	3273
8	Deogarh	59	7	559
9	Dhenkanal	217	35	1868
10	Gajapati	53	10	471
11	Ganjam	402	82	3120
12	Jagatsinghpur	219	40	1806
13	Jajpur	399	74	3290
14	Jharsuguda	80	10	735
15	Kalahandi	192	17	1660
16	Kandhamal	82	14	753
17	Kendrapara	305	61	2546
18	Keonjhar	385	49	3238
19	Khurda	235	46	1982
20	Koraput	109	22	939
21	Malkangiri	29	6	324
22	Mayurbhanj	437	68	3638
23	Nawarangpur	55	37	431
24	Nayagarh	222	12	1867
25	Nuapada	85	7	724
26	Puri	279	61	2370
27	Rayagada	83	14	711
28	Sambalpur	159	20	1391
29	Sonepur	57	10	739
30	Sundargarh	248	63	2161
	ORISSA	6160	1031	51436

Source : Directorate of Secondary School Education

Conclusions

- There exists now 6160 secondary schools and 271 vocational Training schools in the state of Orissa
- 86% of the total population have access to secondary school within 5 Km. Distance. Nearly 6 percent do not have access at the moment to secondary schooling
- Only in Rayagada and Malkangiri 60% of habitants do not have high schools within 5 Km.
- 18.63% of the population of rural habitation are served by secondary schools within whereas 86.32% with in 5 Km.
- 80.62% of schedules case habitations covering 86.43% of Sc population have been served with high schools with 5 km.
- 62.30% of habitations of ST and nearly 77.93% habitations of ST are served by high school within 5Km. And 8 Km. Respectively
- 10.79% high schools are only meant for girls, 80.20% are coeducational.
- 50.83% High Schools are private managed

- Girls' high schools are almost equal in number in rural (91) and 93 urban areas under Govt. management. The corresponding figure in rural area and urban area are 208,48 respectively
- 28 percent of students are enrolled in Govt. schools where as 51% private aided schools. The remaining are in total body 3.5 (PUA17.47)

• Girls enrolment by management are

Govt	0.85
LB	1.34
PA	19.26
PIIA	6.93
Total	38.46%

- That is for every 100 students girls are 30 in high schools. In urban area it is 43.86%
- The over all drop out rate of girls is more than 82%. In rural area it is 85% and 52% in urban area
- 13.29% SC enroll in high school out of total enrolment. Girls constitute 32.80% of enrolment of SC. This is in Govt. schools. In PA schools the figures are higher.
- 29.84% ST girls are enrolled in rural high school

Govt. School	11.03%
LB	7.53
PA	8.5
PU	11.09
- The ST girls in relation to all girls 7.3%
- 60% of schools under different management have pucca infrastructure. In rural areas 89.93% schools have pucca a partly pucca buildings.
- Govt. 28% pucca

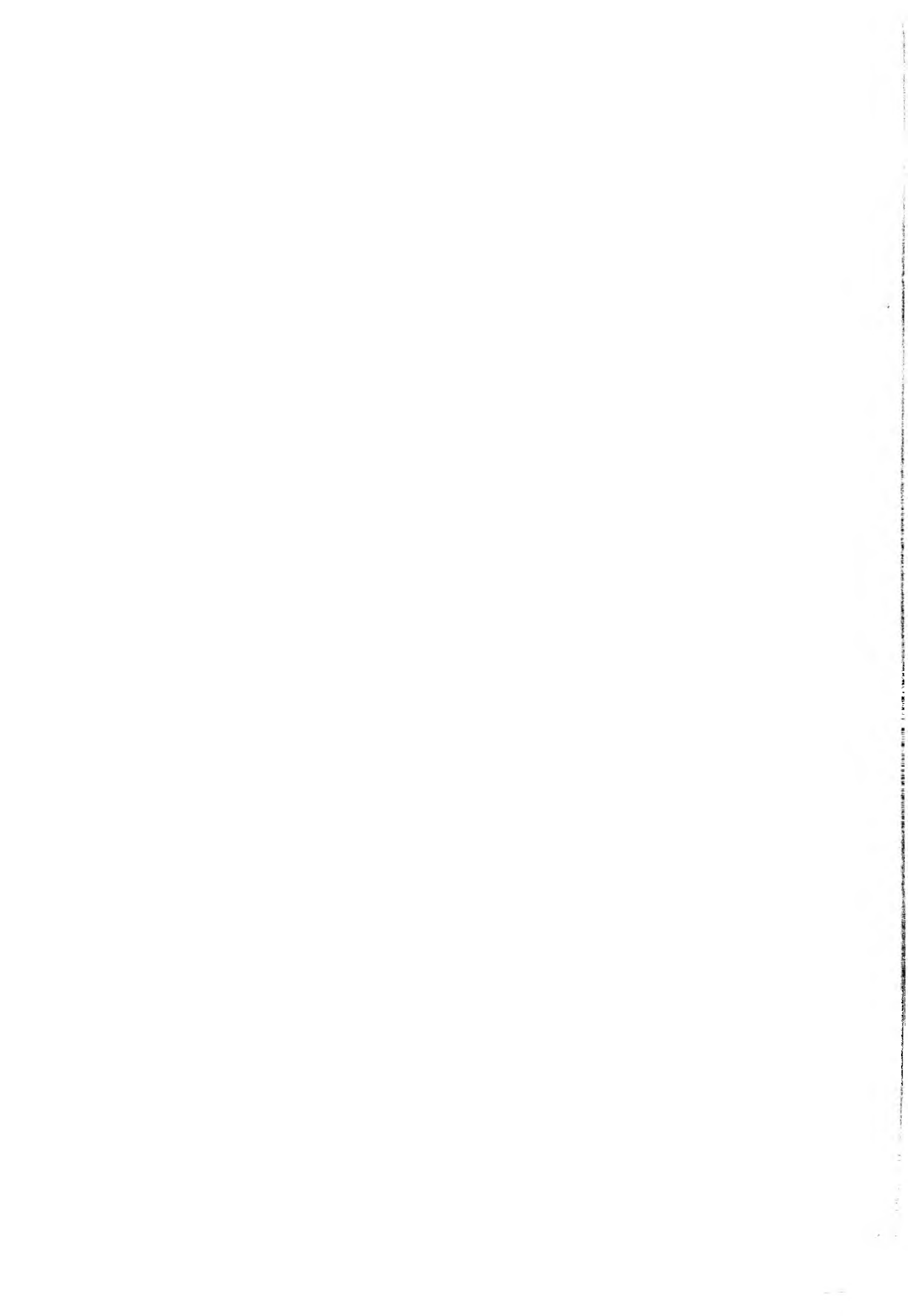
PA	48% pucca
Rural	54% girls High schools are pucca
Urban	89% Girls High schools are pucca
- Govt. Schools have rooms 3.56 to 6.37 for instructional purposes. The PA managed schools are little better in infrastructure.
- The average enrolment in secondary schools are 186.19- range being 101 to 601.
- Library facilities in school are not adequate both in terms of trained librarian and books.
- In Orissa laboratory facilities for practicals/ demonstrations are very poor

Vocational Education

- Enrolment in Vocational Training courses at +2 level 2288 of which 700 are girls up to 1993 there were only 2 courses Agriculture and commerce.
- As of now 12 trades in 4 different areas available with a possibility 4 areas of trades to be opened.
- SC enrolment in vocational course is 251 of which 75 are girls. The corresponding figure for ST are 122,43 respectively

Not much breakthrough has taken place in Vocational Education, which is a priority area.





CHAPTER IV

DESIGN AND PROCEDURE

Design

The sectoral study on Secondary Education and Vocational education in Orissa 2020 was designed in the following way

The design of the study was based on -

1. Delineation of background and the rationale as a preamble based on school education in the Country/State of Orissa on the basis of documentary evidences.
2. Description of the land and the Setting in which Secondary Education and Vocational education are in operation and the basis for looking ahead and projecting the future in terms of the rising school age population, demographic shifts in the SC/ST population, the growing concerns for girls education and appearance of the disabled in the mainstream of education. The census of India/Orissa 2001, The statistical Documents of the State, as given in Bureau of Economics and Statistics provided the basis for such an in-depth analysis for the State of Orissa
3. The base line data on Secondary and Vocational Education as is evident from the 6th All India Education Survey for Orissa with further alignment of World Development Report, Selected Educational Statistics Govt.of India with back up materials from the Board of Secondary Education, Council of Vocational Education, Council of Higher Secondary Education, were examined and generalization were drawn.

Besides these Secondary sources of information primary data were obtained from four target sectors:

- The teacher,
- The pupils,
- The professionals and
- The public opinion (mass media publications)

Procedure

The following procedure was followed for information and data collection

- A.** The following Secondary sources information contained in reports were critically analyzed in relation to Secondary and Vocational education in the State
- a) Education for National development 1964-66
 - b) National Policy on Education, 1986, 1992
 - c) Programme of Action 1992
 - d) Person with Disability Act, 1995
 - e) International Commission on Education 1999
 - f) NPERC, 1992
 - g) CABE on Policy of Education, 1997
 - h) Human Development Report, 2000
 - i) Commonwealth Prime Ministers Conference, 2001

- j) Department of Trade and Industry: Prime Ministers Secretariat on reforms in Education, 2000
- k) Report of the Task Force on restructuring the Boards of Education
- l) School education in India, 1990
- m) Secondary education: Challenges Ahead, 2002
- n) India 2020
- o) Disadvantaged children, Theory, Research and Promise, 1999
- p) National Curriculum Frame Work, 2000
- q) Syllabus of Board of Secondary education and Regulations, 2002
- r) Vocational Education Syllabus of CBSE and Regulations, 2002
- s) Census of India, 1991 and 2001
- t) Sixth Educational Survey of Orissa, 1993
- u) Selected Educational Statistics, Government of India, 1996, 1997, 1998, 1998-99 and 1999-2000
- v) India, 2003
- w) Vocational Education in Orissa, 2002
- x) Teacher education Curriculum Frame Work and various other sources as Stated in the References, 2000

B. The chapter on Land and setting was based on demographic profiles, literacy, rural-urban divide, girls, SC/ST, wherever possible districtwise, blockwise showing decadal growth rate for projections as per 2001 census regarding Secondary school population in 2020.

C. The State of Art in Secondary and Vocational education for the State of Orissa as indicated in Sixth Education Survey updated wherever possible by selected educational statistics and statistics obtained from Directorate of Education and Naba Krushna Choudhury Centre for Developmental Studies, 2002. A critical analysis was done and generalization were made.

D. Primary data were collected from four target groups

- i) Published information in newspapers, on different aspects of secondary and Vocational education including CAG Report
- ii) Interaction with professional involved with school and teacher education as well as technical scholars on a schedule given in the text
- iii) Schedule-B dealt with getting information from Secondary school teachers regarding systemic dynamics that need change: 100 Secondary school teachers and 25 Vocational school teachers were contacted, at least 5 from each group on agriculture, engineering, health and commerce. A standard schedule was used to record their opinion. The questionnaire is given in Appendix B
- iv) A Student Schedule was also developed to observe their perception of life and education in Secondary and Vocational training Institutes. This questionnaire is given in Appendix. 100 students from Secondary school system and 40 from Vocational stream were interviewed using the questionnaire.

The responses were analysed following the given procedure;

- v) Content analysis of interaction with professionals,
- vi) Content analysis of the public opinion expressed in News papers,
- vii) Frequency, percentages and wherever mean was necessary were calculated for the teacher responses
- viii) Frequency, percentages and mean were calculated wherever necessary for the students perceptions of the system.

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CHAPTER V

ANALYSIS OF PRIMARY DATA

A. Interaction with Professionals and Senior Citizens (Educationally sensitive)

The research team consisting of myself, Dr P.K.Tripathy, B.P.Dash, Saganka Dash, Abhimanyu Sethy have interacted individually and collectively with some professionals concerned with school education and Vocational education using certain key points of references before them:

- a) What are the opinions on what goes in Secondary Schools ?
- b) Is Vocational education a necessary and sufficient condition making youth independent and self-reliant ?
- c) Should curriculum undergo changes like weather or their experiences about a continuous curriculum renewal ?
- d) Should schools be abolished in the context of mushrooming of tutorial homes and open learning? Is there a viable alternative?
- e) Do teachers represent our traditional teachers with commitment and devotion ?
- f) If not do they translate the changes in their functioning consequent upon the arrival of the information society ?
- g) How do they react to additive curriculum as against an integrated curriculum ?
- h) Has time spent by the students at home for study undergone a decline in terms of the presence of mass media ?
- i) Has their creative thinking abilities been computerised, standardised, mechanised and their own uniqueness as an individual has lost sight of
- j) Are the schools Vocational or otherwise having a positive, affective and interactive climate for attracting the students and holding them in the system
- k) Has the ancient Gurukul System of relationship is completely vanished replacing awards to the teachers through an unpredictable bureaucratic process.
- l) What then, is their opinion and experiences?

While talking to them for their preferences under conditions of anonymity but for classification purpose a few salient generalizations were deduced which have contributed to rethinking of Secondary and Vocational education. Their opinions have been synthesized and faithfully stated.

The consensus as well as high frequency observations revealed certain generalizations:

- Education is more of a social obligation than one that could give significant returns
- The velocity of knowledge transmission will be incredibly fast in cyber age education
- Geographical barriers to access to knowledge will no longer be operative.
- There should be a mix up both private and public presence in education. This will reduce inequality, improve accessibility, compensate for market values, and achieve equity in education
- Education must occur in a positive emotional climate rather than exclusively a cognitive interaction.
- Education is intensively politicized. It affects the citizen, the government and takes away a significant component of government funding. Therefore, teacher accountability and pupil evaluation of the teachers should be a part of the tenure system.

- Education for girls, and disadvantaged community including the disability* should receive highest priority.
- Teachers must systematically upgrade themselves.
- The State must play a vital role in bringing about an education centric development particularly in primary and Secondary education
- Vocational education is at present getting a lip service, which should not continue any further, in interest of the State and youth.
- Population education, sex education, gender sensitivity, equity between SC and ST, environmental education, information technology can be brought more integrated fashion. School education should not be arbitrary
- Once a curriculum is developed it can remain in force for some years before change
- Hardly any teacher in school can take teaching in a lighter vein forgetting about the benefits that he accrues and the return he gives.
- Schools at present are in precarious State by and large often having lack of facilities, sectoral planning and relationship with the community.
- The organizational climate in the school set up should be humane, and accessible
- The education sector has been largely neglected in India. This neglect can turn out to be India's undoing and nemesis in the information age where knowledge, research, creativity and innovation will be at a premium. Education oriented to foster a knowledge based society can place India at the vanguard of nation.

This is not the time for just reforms. It is time for revolution. The green revolution in agriculture ushered in high productivity and prosperity through the use of technology. Likewise, a revolution in education that embraces information and communications technologies, fosters freedom and innovation and induces a market oriented competitive environment is vital for progress and prosperity in the information era. The need of the hour is bold steps, not marginal and tentative ones. For fortune, they say, favours the bold."- Trade and Industry: P.M.Secretariat ,April 24,2000

B. Public Opinion (News items)

Expenditure on Secondary Education vis-a-vis Examination Results-9.6.2002

- a) CAG reports indicate decrease of HSC results to 38 per cent in last five years in spite of increase of expenditure to the tune of 61.41 percent.
- b) Analysis of implementation of Teaching in Secondary education from 1994-95 to 2000-2001 was examined. This includes, School and Mass Education Deptt, Directorate of Secondary Education, 14 Circle Inspectorate, 24 Government High School, 90 newly created Government High schools and 80 aided High schools. This revealed an expenditure of
 - 1996-97: 270 Crores/3 lakhs
 - 2000-2001 440 crores 80 lakhs:
 - 61.41% increase Results decreased to 38 percent.
- c) **CAG reports also indicate that in Bolangir, Ganjam, Jeypore, Dhenkanal, Bhawanipatna, Sundargarh** educational circles,30 Secondary schools did have less than 20 percent results for 3 consecutive years since 1994 whereas 5 crores and 66 lakhs of grants were released (1994-2001)

Value free education will create social malady

Value education, gender disparity, hatred for work, creates social disorganization Report of the Indian Youth Solidarity Convention at Indian Cross Society on 7/8th June. The opinion was expressed by Youth organization, politicians, educationists, social workers, researchers

felt that education at the moment is taking the youth towards a materialistic world and culture. Rather they pleaded for removal of inferiority from the minds of underprivileged through youth organizational activities. The education system should make youth more progressive in their life and works.

Vocational Education (3.4.2003)

Although there are 271 Vocational training centers/schools in the State, they are not running well. Most of members in State legislature made this observation in the Assembly. They further state that in order to activate and improve as well as make the programme organized a new Directorate of Vocational Education has been instituted. As per recommendation of the Nabakrushna Choudhury Research Center 109 schools will run and provide advanced level of training within next 6 months. There are three administrative divisions, are each in Sambalpur, Berhampur, and Bhubaneswar. A provision of 8 crores of rupees has been earmarked for the purpose. If necessary some more units/schools may also be opened.

Vocational Education in Orissa

Vocational Education, which was a centrally sponsored scheme, started functioning for the 1st time in 1988-89 at plus two level. At the 1st stage there were 31 schools, in 1988-89, 2nd stage 1990-91 15 schools, 1995-96 50 schools were opened. For the schools there is no own building full time teachers instead there are attached to higher Secondary schools and/or 12 colleges. The facilities available in these schools including teachers provide facilities and part time teaching. However, for each trade there is provision of 1 lakh required equipments, part time and full time teachers.

For workshop provision of 1.00 lakh, for each trade equipment plant of 1.00 lac. part time teachers 1500 rupees maximum @Rs.35/ per class, full time teachers rupees 3000/- and for each trade demonstrators are appointed on a consolidated basis.

Aim of these centers is to provide Vocational education after Class-X

This institution are run under the department of Higher Education and 1st August 2000 the Directorate of Vocational Education in Bhubaneswar and 3 Regional Directorates have been opened are each in Sambalpur, Berhampur and Bhubaneswar. They are managed by a Director and a Deputy Director and three Advisors from commerce, agriculture and computer. The 3 Regional centers are headed by Dy. Directors. Besides this at +2 stage there is a Principal, one accountant, one clerk and a peon are attached. The council of Higher Secondary Education conducts the examination and awards the certificate.

At the State level there is a high level committee under the chairmanship of Minister of Higher Education and in each district the committee is headed by a the collector so that Vocational education will be effective.

Initially for employment as well as self-employment purposes 15 trades were introduced. They are agriculture related, engineering related course and home science related. There is also provision for preparing and printing of books by the State Textbook Bureau and supplying it to the schools.

In addition to this considering the importance of computer education 50 +2 level computer education programmes are running at central aid. The Nabakrushna Choudhury Institute of

Developmental Studies made a survey and evaluation and suggested opening of more trades:

1. Plastic technology
2. Motor Mechanic
3. Accountancy and
4. Management of audio visuals

Government is more committed to open up Vocational education training centers and keeping in view the present social and financial needs and constraints negotiations and linkage for employing the products are being done through banks, educational institutions, government departments both for employment and financial assistance so that they will be more economically independent and self employed.

Evaluation : Without Pass/Fail

In near future examination results of Secondary and Higher Secondary examinations are visualized for publication in terms of grades rather than pass and fail. It is necessary, therefore, to make a critical analysis of the proposal.

From 1947 following the British tradition, examination results were quantified in terms of marks and being published as a consequence of that the marks obtained in the examination is all that education and evaluation stand for. As a result there is a decrease of reliability of examination and teaching and learning have become Secondary as opined by various Education Commissions. Variability in the evaluation by the examiner, complexity of question paper, defects in management and defective evaluation procedure contribute to meaninglessness of marks as well as its inadequacy. Therefore, keeping only the number in view and declaring pass/fail neither justify the authenticity nor it is visionary and therefore it is not justifiable. The negative impact of such evaluation is very great i.e. losing a division by 1 or 2 marks leads to mental stress and tension leading to committing suicide quite often.

Keeping these in view the examination reforms, committee and 1986 Policy in Education recommended for declaring of results using results yet it has not been implemented till 2000 neither at the Centre nor at the State. However, there is a National level educational proposal in 2000 to illustrate use of 9 grades based on the achievement of different subjects. The NCERT has started training and awareness programmes.

The CBSE is using grades as per its own procedure and the Board of Rajasthan, Jammu and Kashmir are also thinking in similar lines.

There are certain advantages of this reform:

1. No student will have mental tension because of failure. Such fearlessness would contribute to making education and examination enjoyable because in a fearful atmosphere a student cannot reveal his basic thinking and achievement cannot be properly measured.
2. Every subject is different from each other. Therefore, adding of marks from different subjects and making it a basis for aggregate, pass/fail division and top ten there is no justification in this procedure. Hence, grades will indicate subject wise proficiency of the students. This aggregate marks have no meaning.

3. The reform will not be a burden on the student not it will force them to memories dead and dried facts nor be exploited by the tutorial homes. Instead they will progress and demonstrate their proficiency as per their ability and interest. Ultimately there will be reduction in the burden and improvement in the basic thinking.
4. These grades will be determined by considering range of marks which will be determined much before the examination and standardized. Based on student population and degree of success. For example, 4 percent of the student will get the highest grade and 4 percent of the students will get the lowest grade as a result there will be no horse trading in examination and its evaluation.
5. Whether it is higher or Vocational education a student can repeat if he gets a lower grade. Hence he will have no fear in his mind because of failure.
6. But there is a dark side of the coin. Whether the teachers will teach with interest or students will read with attention is open to question. Therefore there is a need of rethinking before a step is taken in the direction for the coming decades.

Note : *It is a feeling of the present writer that evaluators think in terms of marks and express in term of grades. Such a transformation is neither progressive nor qualitative. Because it does not dispel the stigma from the minds of the teacher.*

Instead there is a need to think in terms of setting of

- standardized paper
- cover the entire curriculum
- distribute various types of questions with differential weightage
- make questions objective and objective based
- follow the taxonomy of assessment proportional representation for the different levels of questions and
- each examiner shall have to read through scripts with correct and incorrect marks on the body of the script before awarding marks and
- each valued papers should be open to students and guardians. It is believed in visionary prospective for 2020 the State government may consider reforming the system.

C. Teacher Perception of various dimensions of Secondary Education System including Vocational Education in Percentage

Item No.	Secondary, N=100	Vocational, N=25
How many orientation programe you have attended?	Mean =3	
Do you think there training programes were useful	80	
Areas of teaching-Learning transaction	20	
If yes, a.contentenrichment	30	
Methodology	20	
classroom achievement	30	
content analysis	30	
lesson planning	30	
	40	

Item No.	Secondary, N=100	Vocational, N=25
If not:		
a. repetitive	30	
b. less duration	30	
c. not much content	40	
d. too theoretical	40	
e. no scope to clarify doubts	40	
f. not useful for classroom teaching	30	
g. ineffective resource person	40	
h. it is not effective for student performance	10	
No. of periods you teach per week	Mean 6.00	6.00
Are you able to complete the portions well on time	30	15
b. If no, State the reasons (70 % said No)	40	15
reasons		
Heavy syllabus	45	20
Other work	60	20
individual attention to slow learning	40	20
No system of taking classes before and after school hours	45	20
More holidays		
Examination focused.	45	20
	60	20
Revise lessons	40	100
a) Type of lessons	40	90
b) difficult	40	10
c) student request	40	10
Home work	100	100
Class test	100	100
What do you look for when you correct papers?		
Length of answers		
Handwriting	25	10
Content	50	80
Language	15	5
Presentation	10	5
Do you identify ID	20	100
Remedial and corrective measures	Always	Always
Do you give progress reports for students after test and examinations	100	100
Use of teaching aids	100	100
Method of Teaching used		
Lecture	80	20
Demonstration	0	80
Discussion	20	0
Interactive	0	0
Student interaction		
Mean score less than 25%	50	40
26-50%	50	60
51-75%	0	0
76-100%	0	0
Use of laboratory by Teachers,	50	100
Equipment relevance as per syllabus		
Do you get latest information on teaching subjects	20	80
Present status of textbooks as per curriculum heavy	30	50
not sequential	30	10
language difficult	50	10
incomprehensible for students	50	10

Teaching plays a pivotal role in the educational system. It is widely believed that many teachers do not carry out their teaching duties satisfactorily. At the same time, it is acknowledged that teachers are often pressed into many tasks in connection with teaching and their work in school. The system also does not seem to be geared to encouraging or endorsing their efforts to teach better. In spite of the fact that all teachers are trained, they seem to be inadequately prepared for the challenges in school education, particularly with poor subject competence in mathematics and science visible in students' perception of learning difficulties. The participation of teachers in matters of curriculum, planning and school teaching learning material and textbook writing is still at nominal level. In fact, currently the design of the syllabus does not encourage or permit teachers to make independent decision to enrich the curriculum with locally available resources. The vision 2020 should redefine the role of teachers to reflect the challenges of teaching in the context of both strengthening the academic standards and participating in policy making. Even the teachers' role are to be defined in urban and rural set up where each teachers has to use pedagogy appropriate for the stage and socio-cultural context of learning mastery over the language of instruction, skills of evaluating the learners' progress, a proper approach to the task could be that in a developing country like India and particularly in a State like Orissa the teachers themselves should participate actively in the reorientation of their professional activity both as teachers of their school and members of a profession.

The teacher's role perception reveals that hardly Secondary school teachers on the average attended 3 orientations so far and perceived these programmes to be meaningful. Unfortunately however, when they are asked about the specific areas in which their participation has helped Teaching learning transactions their perceptions are inadequate. Hardly 20 to 40 percent of teachers did perceive such orientation to have some utility whereas nearly 40 percent of them did not feel their relevance. This may be seen from the tabular presentation.

On the average they fail to complete the syllabus for one reason or other at the Secondary school. The reasons expressed by them indicate that it is difficult for them because of slow learning children, teaching to be examination oriented, no provision after taking classes beyond school hours and engagement in other works.

They do revise their lessons sometimes.

They do give home assignment but only in 50 percent cases they emphasize the correctness of the answers and in all other areas they oversee the presentation, handwriting and language.

A positive behaviour which teachers often show helping the slow learner and the learning disability. But unfortunately in spite of their orientation and exposure they have still stick to traditional lecture pattern with minimum participating and interactive reactions. These information are available in preceding table. To add to this their use of laboratory and equipments are just at the 50 percent level and they considered the language of the textbooks are either difficult or incomprehensible by the students. These observations lead to the conclusion that there is a need for rational deployment of teachers with capacity building measures and evaluating their performances periodically in terms of students' perception. A model for evaluating teacher's performance on the basis of school based evaluation would involve evaluating the teacher in the context of the total school and its performance in a holistic manner. There is a need also to establish such norms.

D. Student perception of various dimensions of Secondary Education including Vocational education in Percentage

Item No.	Statement	Secondary N=100			Vocational N=40		
		Very diff.	Diff.	Not Diff.	Very diff.	Diff.	Not Diff.
1.	No of Hours developed for studies beyond school hours	Mean 6.5			8.0		
2.	Attending private tuitions	45			58		
3.	Difficulties expressed in different subjects	Very diff.	Diff.	Not Diff.	Very diff.	Diff.	Not Diff.
	Language	0	5	95	-	-	-
	Mathematics	50	43	7	-	-	-
	Science	47	43	10	-	-	-
	Social Studies	10	15	78	-	-	-
4.	Difficulties expressed in different subjects	Very diff.	Diff.	Not Diff.	Very diff.	Diff.	Not Diff.
	Agriculture N=10	0	5	95	50	50	-
	Commerce N=10	50	43	7	50	50	-
	Engineering N=10	47	43	10	80	20	-
	Health and Paramedical N=10	10	15	78	30	20	50
10	Reasons for not understanding lessons				%		
	a Medium of Instruction	5		5	4		10
	b Difficulty in content	85		85	35		88
	c Lack of understanding of fundamentals	70		70	35		88
	d Lack of motivation on part of teacher	80		80	35		88
	e Improper method of teaching	80		80	30		75
	f Lack of proper guidance by the teacher	85		85	25		63
	g. Lack of proper guidance of parents	100		100	40		100
	h. Lack of learning atmosphere in the institution	52		52	25		63
	i. Lack of learning atmosphere in the home	85		85	20		50
	j. Lack of concentration	5		5	3		8
	k. Difficulty in following teacher's language	5		5	5		13
	l. Long term absence in school	12		12	10		25
	m. Subject teachers are not there to teach the subjects	35		35	15		38
11	Difficulty						
	a Express before teachers	35		35	30		75
	b Does your teacher help you	35		35	30		75
12.	Teachers using teaching aids	Very often 10	Sometimes 80	Not at all 10	Very often 25	Sometimes 50	Not at all 25
13	Do science teachers conduct experiments?	Regularly 20	Sometimes 60	Not at all 20	Regularly 25	Sometimes 50	Not at all 25

Item No.	Statement	Secondary N=100		Vocational N=40	
14	Home assignment	Yes 80		Yes 80	
15	Do you teacher check home work	Yes 80		Yes 80	
16	Class Test	Fortnightly 80	Monthly 20	Fortnightly 75	Monthly 25
17	School library facility	Yes 90		Yes 50	

Students perception

Some highlights

Secondary students normally expressed that they usually spend 6 to 7 hours for study at home beyond the school hours. Nearly 50 percent of them do attend private tuition to supplement their studies. For the students mathematics and science possess greater problems for understanding, the reasons for which they did mention later. Among the reasons the eight most important facts are; (Order of importance)

1. Lack of proper guidance from parents
2. Difficulty in content
3. Lack of proper guidance from teachers
4. Lack of learning atmosphere in home
5. Lack of motivation on the part of the teacher
6. Improper methods of teaching
7. Lack of understanding of the fundamentals
8. Lack of learning atmosphere in institutions

This suggests therefore, that the Secondary education needs restructuring in content, orienting teachers and parents for better care and guidance training teachers to use proper motivation and methods of teaching, creating a congenial study atmosphere both in home and school. The future planning of Secondary education must emphasise these cognitive and affective dimensions. Teachers of the future should accept students difficulty and offer assistance. Their teaching techniques should be more practical oriented although giving assignments and tests are part of ritual that goes in schools. The remaining information is self-explanatory given in the tabular format.

As regards Vocational education which is skill oriented curriculum the average off school hours of study goes to 8 hours whereas nearly 60 percent of the students do undergo private tuition indicating insufficiency of the system to help them. On the other hand, the areas of difficulties which the students evinced are in the areas of agriculture, commerce and engineering related works. The last being the most difficult and reasons for undertaking private tuition were examined and it was clear that lack of parental guidance because most paramount factor of their difficulty in academics. The other facts are: (order of importance)

- i)** Lack of parental guidance,
- ii)** Difficulty in content
- iii)** Lack of understanding of fundamentals
- iv)** Lack of motivation on the part of the teacher
- v)** Improper methods of teaching
- vi)** Lack of proper guidance by the teachers
- vii)** Lack of proper atmosphere in school
- viii)** Lack of learning atmosphere e in home

Looking at this cluster of factors it is quite clear that is no matter whether students are in the Vocational stream. Or Secondary education they have some genuine difficulty, which force them to go to private tuition for better understanding. The above facts presented the rank order of such difficulties, which suggests resetting the content, motivating the teachers and parents and use of appropriate methods of teaching in favourable climate. The remaining entries from item 11 to item 17 presented in the table do indicate deficiency on the part of the teachers.

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CHAPTER VI

CONTENT ANALYSIS OF SECONDARY DATA

Secondary Education

Secondary education begins to expose students to the differentiated roles of science, the humanities and social science. This is also an appropriate stage to provide children with a sense of history and national perspective and give them opportunities to understand their constitutional duties and rights as citizens. Access to secondary education will be widened with emphasis on enrolment of girls, SCs and STs, particularly in science, commerce and vocational streams. Boards of secondary education will be reorganized and vested with autonomy so that their ability to improve the quality of secondary education is enhanced. Effort will be made to provide computer literacy in as many secondary level institutions as possible so that the children are equipped with necessary computer skill to be effective in the emerging technological world. A proper understanding of the work ethos and of the values of a human and composite culture will be brought about through appropriately formulated curricula. Vocationalisation through specialized institutions or through the refashioning of secondary education will, at this stage, provide valuable manpower for economic growth (NPE, 1986)

Access (POA, 1992)

The NPE, 1986 laid down that "access to secondary education will be widened to cover areas unnerved by it at present". There has been a significant increase in the number of secondary and higher secondary schools and in enrolment during the period from 1987-88 to 1990-91. During this period enrolment at secondary stage increased by 16.8 percent and at the higher secondary stage by 17.6 percent. The number of at secondary schools increased from 54,845 in 1987-88 to 59,468 in 1990-91; corresponding figures for higher secondary schools are 16,460 and 19,151 respectively. The ratio of secondary and higher secondary schools to upper primary schools had declined from 1:1.98 in 1987-88 to 1:1.86 in 1990-91.

Gender disparities in enrolments are significant. In 1990-91 girls accounted for 33.4% of the enrolment at the secondary stage and 32% at the higher secondary stage. The SCs and STs also lag in regard to enrolment. Thus, SCs account for 11.85% at the secondary stage and 9.7% at the higher secondary stage; corresponding figures for STs are 4.21% and 3% respectively

Indicator for Qualitative Improvement

The POA, 1992 specified programmes for providing stage playground facilities, construction of addition classrooms and provision of laboratory facilities, s specified in terms of norms developed by various organization, although **no systematic studies have been conducted to assess the programme of diversification of courses at the higher secondary stage improvement in curriculum, the textural materials, teaching practices, examination/evaluation methods, and for the improvement of pre-service and in-service training programme there is a general feeling that the progress has not been marked.**

Policy Change

The revised policy formulations takes note of the increased demand for secondary education and go beyond NPE, 1986 by calling for a planned expansion of secondary education facilities all over the country. Secondly, they call for high participation of girls, SCs and STs, particularly in science vocational and commerce streams. Thirdly, they call for reorganization of Boards of secondary education and vesting the with autonomy so that there ability to improve the quality secondary education is enhanced. Fourthly, they envisage the effort will be made to provide computer literacy in as many secondary level institutions as possible so that the children equipped with necessary computer skills to be effective in the emerging technological world.

Broad Parameters Of The Strategy Envisaged

They include:

- Extending access to secondary education by setting new schools in the unserved areas and by extending consolidating the existing facilities, with particular emphasis on ensuring substantially increased enrolment of girls, the SCs and the STs.
- Progressively bringing in the higher secondary stage (and all its equivalents) as a part of the school system in all states.
- Formulating a National curriculum framework for the higher secondary stage as well as development of new curriculum and instructional packages based on the semester pattern.
- Reviewing and revising the curriculum of secondary education (classes IX and X)
- Implementing a comprehensive scheme of examination reform
- Improving considerably the physical and infrastructure facilities in secondary and higher secondary schools.
- Reviewing afresh the existing system of pre-service teacher education for the secondary stage and formulating and implementing an improved teacher education system.
- Institutionalizing in-service teacher training.
- Transforming the role of the Boards of secondary education
- Strengthening the academic institutions and bodies concerned with research and development in the areas of curriculum, instructional materials and equipment for secondary schools.

The key issues in secondary education, apart from successes, are quality, modernization, and diversification. Standards regarding minimum facilities such as classrooms, sanitary facilities, science laboratories/ equipments, libraries, etc., will be evolved by the NCERT in consultation with the boards of school education and similarly norms in respect of number and qualifications of teachers will also be laid down. The states and UTs, and boards of secondary education would be advised to enforce these norms. Taking into consideration the past experience that the equipment once given is not replaced and even maintained it is suggested that community participation by way of student contribution at the rate of Rs.10 to Rs.15 per month should be levied, except from girls and others exempt from payment of tuition fee. This collection should remain in the schools for replacement and maintenance purposes. States and UTs, will conduct surveys from time to time about the facilities available in schools so that they can plan their school improvement programmes on sound database. These surveys will also be meshed with the all India Educational survey.

For quality instruction at Secondary level of schooling following recommendations are to be adhered

- i) Redesigning of pre-service teacher education curriculum to suit the requirements of secondary education; design of pre-service teacher education programme specially relevant for T2 stage teaching.
- ii) Reorientation of in-service teachers on periodic basis
- iii) Special training programmes for in-service teachers in subjects like the following for which the facilities are generally inadequate:
 - Work experience
 - Art education
 - Health and physical education

Examinations reform:

- Implementation of continuous, comprehensive evaluation.
- Orientation of teachers in the new evaluation techniques
- Establishment of educational testing services(ETS)

Strengthening of Technical support system:

- Strengthening of existing institutions of teacher training.
- Linkages and networking with university departments.
- Development of CTEs/ IASEs as effective support for in-service education of secondary teachers.

Use of ET:

1. Development of communication Technology for improving classroom transaction.
2. Educational radio/TV
3. A/V cassette service
4. Computers for interactive learning

Secondary education is crucial stage of the formal schools system. It is a gateway for higher education and also a vital link to the world of work. While the developed world has reached a stage where secondary education has become universal, it is under going a transformation in the developing countries. The greatest pressure in the coming years will be to redefine the role of secondary education consistent with the social and economic objective of each country. The secondary education faces a dilemma that most of what the students learn today will be obsolete in the next years. What the students need to know to succeed in the future has not even been invented or developed yet. In addition, the content of learning is not only changing rapidly but it is also expanding exponentially. How to plan for secondary education under such circumstances is a challenge that development planners are facing.

The principle of life long education is very relevant of the secondary education especially for the developing countries as it opens up possibilities for self-fulfillment and training after having joined the world of work after acquiring basic education. The Delor's commission postulates a flexible system of secondary education so that adult can return to the formal education system after having worked for a few years, In order to operationally such a system, the commission has mooted an idea of 'education time entitlement' that can be used throughout life of an individual.

The Delors commission identified three major challenges for the secondary education: the diversity of courses, increased emphasis on alternating study and professional or social work, and attempts to improve quality.

The school of the 21st century will no longer have monopoly over learning and this will be particularly true of the post basic education. In our view, the emerging technologies are opening the possibilities where the concept of formal school will undergo significant changes especially when it is even in the context of life long education. It may no longer be necessary to return to the formal system for upgrading skill and knowledge. The open learning systems may provide vast potential to operational the concept of life long education.

A very interesting phenomenon that is happening is the large expansion at secondary and tertiary levels of education due to push factors resulting from the expanding base as a result of the success of mass education. This is evident as the transition rate between grade 8 and grade 9 increased from 75% in 1951 to 86% in 1994. The historical data has established that secondary education is the fastest expanding level of school education. Despite this development, only 8 % of the population had attained metric/secondary/ sr. secondary level qualification in 1991. Therefore, creating additional school places and diversification of course cannot be separated from each other.

The diversification at secondary level cannot be understood without considering the present and the likely structure of the labour market. Public sector employment, where certification was essential, is getting replaced by private sector employment where employers are giving less and less attention to formal degree and more and more to the short-term courses or even on on-the-job training opportunities. In such cases what should be taught at the secondary stage so that the children can acquire abilities for successful adult life.

For the last four decades, diversification of secondary education and relating it to the world of work has been a major thrust of educational planning in India. The commission recommends that technical and vocational education need to be developed and closely linked to the employment sector. However, the enrolment trends indicate that not more than 5% children are enrolled in vocational courses and the scenario is not likely to change in the coming years. The commission has suggested that the study of language, science and general knowledge should form the core subjects so as to reflect on globalization and sustainable development.

Learning by doing and doing by learning turns out to be the key to the most sought after problem-solving skills required to face uncertainly and the changing nature of work. The world has changed, and Schools, instead of learn the change, are lagging behind it or even resisting it. Despite this, the pedagogy or process of learning will undergo a dramatic transformation in the next century. The commission recommends that linear pattern of learning should be replace by a cyclical path where one studies, works, then goes back to study or do other things, then changes jobs, interchanging study, work and rest periods several times. The commissions has also recommended sandwich courses alternating study with work.

The commission has rightly pointed out that the measure need to be identified to improve the internal and external efficiency of the secondary education. The low levels of internal efficiency are reflected in large scale failures in the public examination and low level of achievement among those who manage to score pass marks. The high transition rates between various level of schools and higher education reflect on the poor external efficiency of the educational system. The colossal wastage in terms of years lost due to poor

performance by the students and the mismanagement of available resources has to be checked as the financial and manpower resources become scarce and costly.

One of the important development in the latter half of twentieth century has been a great leap forward in the development of technologies which have created virtual realities where the time and space have been overcome as far as communication and sharing of knowledge is concerned. These developments have also a profound effect on the way of organizing educational activities. In the future, the computer and the internet themselves will be gateways for diversified as well as specialized education and training.

The issues related to inter and intra-sectoral allocation of resources for education remains a paramount one. While there is need to improve internal and external efficiency of education, the need for additional resources can not be ruled out. How these resources are to be generated and managed? While many models have been tried with varying degree of success, the search for additional resources and cost effective mean of delivery must be continued.

The problem of equity and imbalance in the social and economic development may become serious if the gains of education are confined to select groups of society or regions. Educations must be used as an instrument of economic transformation with equity and social justice as its basic pillars.

Looking into the Future

All education springs from some image of the future. if the image held by a society is grossly inaccurate, its education system will betray its youth", says Toffler.

There is a lot of truth in this statement because, while much emphasis is always laid on past experience, little thought is usually given to the future shape of things, in the absence of which all planning and decision making go haywire. Undoubtedly, a look into the past cannot and should not be ignored, but more important is its projection into the emerging future. This is, in fact, more true in the case of education than of any other field, as education is expected to be influenced and influence by the rapid scientific, technological and other advances which are taking place all over the world, and unless it equips itself to meet the challenges of the future, it will remain a passive instrument of the status quo and fail to meet the aspirations of the people.

While it cannot be gainsaid that each country has to formulate objectives, structures, content, curriculum etc., for secondary education within the overall frame of its national objectives of development in general and education in particular, it is imperative that secondary education should cater to the emerging needs of the society and respond to the developments that take place in other parts of the world, particularly of the region in which it is located. It should, while providing for an indigenous system of education, take into account the reality that modern means of communication have made the world a global village. It would be difficult, may be inadvisable, to think of a system in isolation. Secondary education has, therefore, to cast itself in a mould which is flexible and not oblivious of what is happening elsewhere, more so in the neighborhoods.

If this premise is accepted, it becomes easier to take note of the fact that the world is moving fast towards technologization, and thus like computer aided instruction, open learning system, undifferentiated curricula for rural-urban and male female population, interdisciplinary approached to teaching, integration of education and work, and establishment,

peace and harmony, become some of the important components of secondary education in future.

An issue, which is pertinent to secondary education, is that of making it more relevant to the need of the individual and of society. It is neither possible nor desirable to ruralize secondary education as this may create a caste system in education. Even rural people may reject it and they have rejected it in some countries on the plea that the urban model of education would be for the elite and the rural one for the poor, so that the gulf between haves and have not will continue to widen. Education should not and cannot become an instrument for such a division. What is, therefore, required is to integrate education with development including rural development.

Modernization of teaching - learning

The whole concept of secondary education has, thus, to undergo a change. From traditional stereotyped subjects which have no relevance to actual life situation, it has to switch over to meaningful courses which would, on the one hand make students responsible individual, and, on the other enhance their employability and augment their productivity, which in turn, would contribute to national development.

This would mean greater emphasis on science and mathematics, greater opportunities for project work, and an inter-disciplinary approach, and more flexibility in the choice of subjects, timings, methods of teaching, instructional situation, use of modern teaching aids, computer-aided instruction and self-learning packages.

Even the teacher of secondary school would need to change his teaching practices and teacher training-both pre-service would have to gear his methods to the new requirements. Unless the teaching profession keeps pace with the changing scenario, the gap between what secondary education is expected to perform and what secondary education is expected to perform and what it actually delivers will make the secondary school counterproductive. Secondary school leavers would be a frustrated lot and they would continue to enter colleges and universities aimlessly and endlessly as is the tried today in many countries, particularly the third world, where educated unemployment is soaring high.

Whereas secondary education has to be modernized and made relevant, it is also essential that it develops a complete personality for a society, which is being created. This is to say that a new personality has to be developed and educated for a new society. It is evidently an exceptional only has to be developed and educated for a new society. It is evidently and an exceptionally complex task and perhaps, education has never in its long history, been at such cross-roads and faced so complex and major a task (IIEP, 1978)

The secondary school of tomorrow has to spearhead a movement in which it serves as a nodal point and a resource center for the primary and elementary schools in the neighborhood. The trend so far has been that these junior schools serve as feeder institutions for the senior school. There is, so to say, only one-way, upward traffic. The secondary school has now to perform the role of a 'parent' school and offer its services to the so-called feeder schools. The traditional concept and thinking has, therefore, to be modified and there has to be two-way traffic between the secondary school and the primary/elementary schools.

One of the major areas of concern in secondary education is its examination system, which has become too unwieldy due to the importance the leaving certificate assumes. The certificate that is awarded is more or less a passport to jobs admissions to higher studies

and even matrimony. There is corruption in examination. Apart from large scale cheating which has a highly adverse influence on teaching learning, question papers are sold in open markets. The examination which earlier used to dominate the class room instruction as it was geared to the requirements of the examination, have now practically become a farce. The whole examination system at the secondary stage, therefore, needs to be decentralized. If these examination can be held at inter-school complex level, much of the credibility which they have lost can be regained. It will also have a salutary effect on the teaching learning process as it can then be related to local environment and enough freedom could be given to teacher to experiment and innovate.

The future of the secondary school will be bright if each school undertakes **institutional planning**, as such planning will help to optimize its scant resources. The cost per pupil in secondary education is estimated to be twice the cost per pupil in primary education (IIEP1978). In other words, enrolling one more student in secondary education is equivalent to enrolling two in primary education. Although the latter will continue to occupy higher priority until at least the turn of the present century in most countries of the region, secondary education will also continue to grow. Institutional planning will contribute to optimization of the available funds and meet the growing requirements and the challenges of the future secondary school. It will also enable the schools to undertake self-evaluation and monitor its programmes, projects and activities. Institutional planning will be means to obviate the difficulties which are faced by the inspectorates and provide necessary autonomy to secondary schools to plan and manage their activities.

The secondary education of the future is, thus, full of promise and challenge. It has to mould itself to suit the emerging changes and break away from the traditional rigidities and systems. The present concerns of reforming it provides enough hope that the future is not bleak.

Secondary education : The challenges ahead

Universal access to secondary education is an obligation of the state. Education is a social aspiration it is seen and perceived as the gateway to 'good quality of life'. Such popular perceptions and aspirations are strongly supported by empirical evidences of direct linkage between indicators of quality of life and education: the Human Development Index stands testimony to this. Earlier perception of social aspiration about education is taking a new turn. When poor and relatively low educated parents continue to aspire for some education of their children, the educated middle class aspires for quality education. The proliferation of paid secondary education in private sector is an indication of preference for quality education. The proliferation of paid secondary education in private sector is an indication of preference for quality education.

Expansion

One of the major imperatives is the expansion of facilities for secondary education. According to recent census(2001), number of secondary school age children (14to17 years) is 91.7million. This is 27.8 million over population of the same age group in 1991. By 2011, the size of secondary age group population will be 89.2 millions (Selected Educational Statistics, MHRD,1998-99)

There are divergences in the enrolment figures, according to the current statistics of Ministry of Human Resources Development, the enrolment ratio is 41.7 percent whereas according to world Education, Report 2000, Indian enrolment in 1997 was 59.70 percent of the concerned age group. This difference is largely due to interpretation of secondary

education. World Education Report covers 6th or 7th to 12th grades as secondary education. Aggarwal (2001) offered three alternative scenarios. In the most favored scenario with improved internal efficiency, the current enrolment of 19.7 million in secondary education and 7.8 million in senior secondary classes will rise to 35.6 million and 14.7 million respectively by 2020. In order to achieve the mission on universal secondary education by 2020. The system will have to be geared to provide quality secondary education to as many as 45 million students. From the current to the projected enrolment, the prediction is a quantum jump.

By the end of 10th plan, there will be 4.8 million new students in secondary and about 2.1 million students in senior secondary classes, over and above 19.7 million in secondary and 7.8 million in senior secondary classes in 2000. This additional 6.9 students will demand [@ 50 per class and per teacher], 1,38,000 classrooms and at least equivalent number of teachers. By implication @ 200 students per unit additional 24,000 secondary education units and 10,500 senior secondary units will have to be created during the 10th five-year plan. Instead of setting up new schools it will be wiser to upgrade required number of 8th grade schools and 10th grade schools to 10th and 12th grade schools, respectively.

There is, however, no uniformity in the pattern of enrolment among the various states in India. Rather, there are wide divergences and regional disparities, as evidence by the data.

The system capacity is full to the brim; rather there is a massive shortage of classrooms, teacher, laboratories, libraries, computers, sports and games facilities, and other support infrastructure. In a very crude estimate, India manages to accommodate her 27.5 million students in about 1,20,000 schools with overcrowded classroom, many schools with poor provision for education in science, information literacy and physical education. The challenge is not merely a quantitative jump in number of schools, the challenge also includes qualitative shift in educational provisions, more importantly, in educational 'substance' and 'flow'.

Diversification

Along side the growing demand and consequent expansion of secondary education, the new challenge is diversification. There is a growing discontent about the relevance and scientific basis for a common pattern of secondary education all over this large continent irrespective of culture, social and economic specificities of the learning community. Let us review a few such challenges of diversity.

Age specific attendance ratio by broad age group in general education

State / UT	Rural + Urban			
	6-10	11-13	14-17	18-24
Andhra Pradesh	75	80	38	10
Arunachal Pradesh	65	82	61	21
Assam	73	80	65	25
Bihar	43	58	44	16
Goa	99	89	66	12
Gujarat	80	77	43	11
Haryana	83	87	51	13
Himachal Pradesh	91	94	84	20
Jammu & Kashmir	69	82	61	26
Karnataka	75	70	47	11
Kerala	97	97	75	13

State / UT	Rural + Urban			
Madhya Pradesh	64	67	52	14
Maharashtra	88	85	67	17
Manipur	69	87	74	44
Meghalaya	69	94	74	19
Mizoram	71	88	77	18
Nagaland	71	85	81	40
Orissa	63	66	47	13
Punjab	85	85	55	13
Rajasthan	58	64	47	14
Sikkim	77	90	71	16
Tamil Nadu	91	74	43	8
Tripura	81	84	62	22
Uttar Pradesh	61	66	45	12
West Bengal	67	74	48	13
A & N Islands	94	94	74	21
Chandigarh	87	95	68	25
D & N Haveli	79	55	48	16
Damn & Diu	100	76	52	8
Delhi	84	95	72	26
Lakshadweep	97	98	35	8
Pondicherry	98	93	66	10
All India	69	72	50	14

Courtesy: NSS 52nd round 1995-96 (Based on Household Survey)

Source: Selected Educational Statistics 1999-2000

Academic versus vocational : This is an issue with a long drawn out history of muddling through. Despite major recommendations of Commissions and committees and policy statements Working models for vocationalization of secondary education continue to remain elusive. Major problem lies in separating out vocational education from the academic stream and labeling it for the 'children of lesser God'. Irrespective of the wisdom of the educational policy makers and planners at the national level, separation of vocational and academic stress and channelizing weaker students to the vocational stream is a sharp contradiction to people's ambition; right or wrong, people at large any case, separation of academic education from the vocational precludes the very spirit of Vocationalization. There are just two ways to vocationize or develop vocational skill among all children without discrimination vocationize every subject of study and / or offer vocational subjects at the same level and platter as academic subjects. The latter was successfully experimented by National open school during mid 1990s when a student could opt for science and social science with jute production and the like. The proportion of students opting for one or more vocational subjects in secondary and senior secondary level rose to more than 25 percent when national record of enrolment in vocational courses was at dismal 6 percent. This innovation, however, did not survive the onslaught of the conventional but powered minds.

Quality

Secondary education in India is simultaneously challenged with expansion and quality. The demand for quality arises out of more than one consideration and compulsion. Due to globalization and global competitiveness, India's chance for coming within the competitive range is dependent upon the quality of her manpower. Should we consider secondary education as base - line for the workforce in the coming years as it has already happened in the industrialized countries, acceptable quality of secondary education becomes a necessity, secondary, with increasing democratization as well as spread of adult education, quality

education of emerging as a popular demand. There are developing evidences that people are prepared to pay for quality education as indicated by the growing private tuition and coaching market. Hence, quality is an important issue and concern in secondary education.

In the literature on total quality management in education, students have been given the central place since they are both external as well as internal clients of the system. In the academic domain, the issue of quality revolve around the 'substance' and 'flow' are more meaningful indicators of academic quality, more often results in evaluation and examination are constructed as the indicator of quality. In management terms, shift from substance and flow to results is a shift from input and process that offers quality assurance to output that offers in turn an opportunity for quality control.

- **In the globalize world, curriculum framework must have an international reference: what is the structure of curriculum in other countries both advance like the industrialized countries as well as comparable countries like China.**
- India is probably the most dominant multi-cultural society in the contemporary world. New curriculum must be developed on adequate research on multi-cultural curriculum; it must be evident that the new curriculum is indeed a multi-cultural curriculum; and
- In the development paradigm, India lives simultaneously in three or more century. Uni-level curriculum addresses students belonging to one level of development background. A challenge is to develop multi-level programme. Courses and curriculum so that students can choose ordinary or advanced level programme. A contemporary effort in curriculum development needs to respond to these challenges as well.
- On the issue of flow or the instructional strategies, Indian schoolrooms are still characterized primarily by 'talk', occasionally supported by 'chalk'. Leave alone other technology-supported methodologies; even the cost-free interactive instruction is yet to find any meaningful place in instruction. The shift in instructional strategies an processes seems to be the most daunting task before the system.
- On the issue of evaluation and results, the reference needs to shift to inter-grade transition that should indicate academic quality of the school as a whole. Further, the challenge is to realign and test results so that the latter can be used as a dependable indicator of learning and knowledge. There are important research evidences that even those who perform well in examination do not produce adequate evidence of learning. A recent survey by NCERT, using SOLO taxonomy, indicates that even those, who secure more than 90 percent marks in the final board examination, could not be place at the highest category on the on the basis of leaking taxonomy. The important challenge for quality is hence actual in depth leaching in comparison to current practice of mugging and reproducing in examination.
- Another important area of quality is the nonacademic aspect of student life that includes co-curricular activities and social and moral behavior. Rural areas are deprived of quality schools even for those who can and are willing to pay for education. Navodaya Vidyalayas offer restricted solution. Private initiative has to be encouraged to service the quality schooling needs in rural areas. State governments may sponsor and monitor establishment and management of self-financing (non-profit) secondary schools in rural areas. Kendriya Vidyalays have earned significant reputation among parents for quality education. Self-financing kendriya Vidyalayas, affiliated to CBSE, can be set up on experimental basis in rural areas offering programmes in the same pattern as in the kendriya Vidyalays. In such a scheme, the Union Government can be should offer financial support to cover the initial capital costs.

Capacity Building

There are several complex issues in capacity building of teacher. These are the diversity of subjects and also that of pedagogy related problem like instruction, curricular planning, evaluation, etc. The first and foremost requirement is the need to develop a training policy. For example, the National Policy on Education 1986 prescribed minimum qualification of XII years of schooling followed by two years of teacher training as eligibility for primary school teaching. It also recommended periodic in-service education of primary teacher through the DIETs. Similar kind of training policy is also necessary with greater details about contents of pedagogy and subject specialization for the secondary level.

The first important step in implementing the training policy is developing a mechanism of continuous training-need assessment. Majority of the in-service education programmes for teachers and principles are, however, not mounted on the basis of any training-need assessment. With increasing decentralization of management, the challenge is for every school to develop its staff development blueprint comprising areas of training and mechanism of capacity building for every individual staff member.

Another major issue is orientation versus competency or skill-based training. Training programmes conducted in the IASEs and CTEs as well as in the Institutes of Educational Management and Training are often restricted to orientation programmes, largely in the format of post-graduate programmes in the conventional universities. Such programmes only enlarge the knowledge base, but leaves skill development almost untouched. The major challenge is professionalising the training design.

Related to training design is the training material. Training materials are either conspicuous by their absence or they are in the form of conventional textual material. The challenge is to build more relevant experimental material like case studies and documents. Training modalities or delivery of training is the central issue.

It is, in this context, that it will be necessary to identify training institutions all over the country. In a Centrally Sponsored Scheme, the Government of India has created, through upgradation of the existing University Departments of Education and Colleges of Education, 48 IASEs and 200 CTEs respectively for refresher training of teacher. This is far too inadequate if face-to-face training mechanism is adopted as the single-most strategy. The challenge is to develop a mixed mode where on-line programmes can supplement and complement the on-campus face-to-face programmes. On-line programme can be developed centrally by a few IASEs and franchise it to the other training institutions to facilitate. This would amount to a totally new paradigm of training organizations and management.

Administrative Reforms in Secondary Education

Indian schools education is centrally administered. Inter-state Surveys of Educational Administration carried out by NIEPA generate evidence that inspection and supervision have hardly any impact on schooling. This is equally true about the administrative structure and mechanism at the district and state levels.

Quality being the major issue in the emerging scenario, the management of quality has to be a major domain of the school-based management. It is, in this context that it will be necessary to build a strong, viable and professionally competent internal supervision mechanism to replace the obsolete non-functional external supervision. Equally important is

to build process capability of each school to its optimum, unfolding the unique personality of the school. In a large measure, the process capacity can be enhanced only when the new generation management strategies of participative decision-making, teamwork, backed up by transformational leadership of the principal.

Along with such internal reforms, there have to be several administrative reforms at systems level. Such reforms have been extensively dealt with in a chapter in 'Governance of School Education in India'. The major issues where reforms are needed are creation of grievance-redressal mechanism, de-bureaucratization and professionalization of educational administration at the by inducting professional at the highest level of educational administration at the state and the district level, and better coordination and synergy among the various levels and sectors of education through unification of administration at the ministerial and secretarial levels indeed a massive task phenomenal expansion with quality. But there no option either.

An important possibility is that the case of secondary education may get lost sight of. It is nobody's constituency. Universal basic education is populist issues, hence there are people to en-cash on it, higher and professional education has a far stronger lobby among politicians, bureaucrats and now among the business houses. Secondary education remains an orphan. This is indicated by sheer absence of mention of secondary education in the draft 10th plan document as well as in the report on knowledge society. Similarly the document vision 2020 also skips secondary education covering elementary and higher education (Mukhopadhaya, 2002).

It is important to recognize the cost and the risk in ignoring the demand of secondary educations. The 1st and foremost is the success-induced problem as mentioned earlier. With success in elementary education due to SSA, a large number of children will knock the doors of secondary schools. There is no way that any state government can deny assess. This will lead to over-crowding of classroom, serious crisis in relevant infrastructure including teachers. Steady deterioration in quality of education and chaos in school campus are the foreseeable developments. The cost of ignoring secondary education will be much heavier for the nation than responding to the needs.

The greater challenge is that of optimizing the available resources. As would be evident from the contemporary literature, the salary cost is approximately 92% of total spending on secondary education; teacher being the largest segments of employees in the education sector, probably above 80 per cent spending on secondary education are for teachers' salary. In a calculation using the formula developed by International Institute of Educational Planning, it is found that 50 per cent of the teachers' salary is meant for actual teaching or examination duties whereas remaining 50 per cent is for preparedness to function as a teacher and other forms of contribution in management and para-academic activities of the school. Until and unless the investments in teacher component is optimized to better preparedness, very little can actually achieved. The other important resource grossly under-utilized is the infrastructure. School buildings constructed at millions of rupees are used for five hours a day and 200 days a year. It is indeed a challenge to develop a mechanism so that such infrastructures can be optimally utilized.

Conclusion

Demand for universal secondary education is a typical case of success induced problem. The internal demand for expansion of facilities is largely due to enhanced literacy among parents, greater success of universal primary and elementary education, and growing

awareness about the value of education among people. The internal demand is corroborated by international trends, particularly for improvement of the quality of education.

Quality of atmosphere

There is a need that the secondary schools should create a conducive and congenial atmosphere, which can be rightly called 'Organizational Climate' imbuing appropriate 'work culture' among the teacher, facilitated by participatory approach. This paves a way for the teacher to freely express their ideas and contributes to solve any problem in the system. It calls for right commitment on the part of teachers dedication and devotion to establish true professionalism in the field.

Quality of content

The quality of secondary education would also depend upon the content of secondary education. It must be upgraded to fulfill the standards of excellence. The pattern of courses and curriculum should be carefully planned, well designed and fairly broad based in such a way that they should keep pace with the progress of knowledge in all the fields.

Quality of Recruitment

It indicates that proper attention be given while recruiting teacher. Recruitment should be done on the basis of merit. It is to be noted that a teacher plays a vital role in the human resource development among the individual's teacher should be a model before his students. A teacher, being the member of a noble profession, has a major responsibility of inculcating moral values among the students by the example of his/her own conduct.

Quality of Teachers

The quality of secondary education is greatly determined by the competence of the teacher. A teacher need to be highly committed and should be a life-long student, devoted and dedicated to studied, beside being a good communicator for the dissemination of knowledge pupils. He/she should not only stimulate their minds, but inspire them by developing love and abiding interest towards their studies. Apart from being motivated and committed, a teacher should be a friend, philosopher and guide to the pupils. The teachers should be committed and develop the same commitment among the student. A teacher should attend the in service programmes such as refresher course, workshops, seminar, symposia and orientation programmes to know new methods and techniques of teaching in order to bring about quality learning among the pupils.

Quality of Infrastructure

The physical facilities, especially the school building, the library and laboratory facilities are very important for successful implementation of any quality educational programme at the secondary level. Most of the schools in our country present poor physical infrastructure. They do not have well equipped science laboratories and libraries. It is in this regard that Institutional development is needed in secondary education.

Quality of students

When the teachers are not committed and when the atmosphere is nonconductive to the pursuit of excellence in education. The concept of education gets reduced only to the examination. The students tend to lose their interest in studies and just wait for some

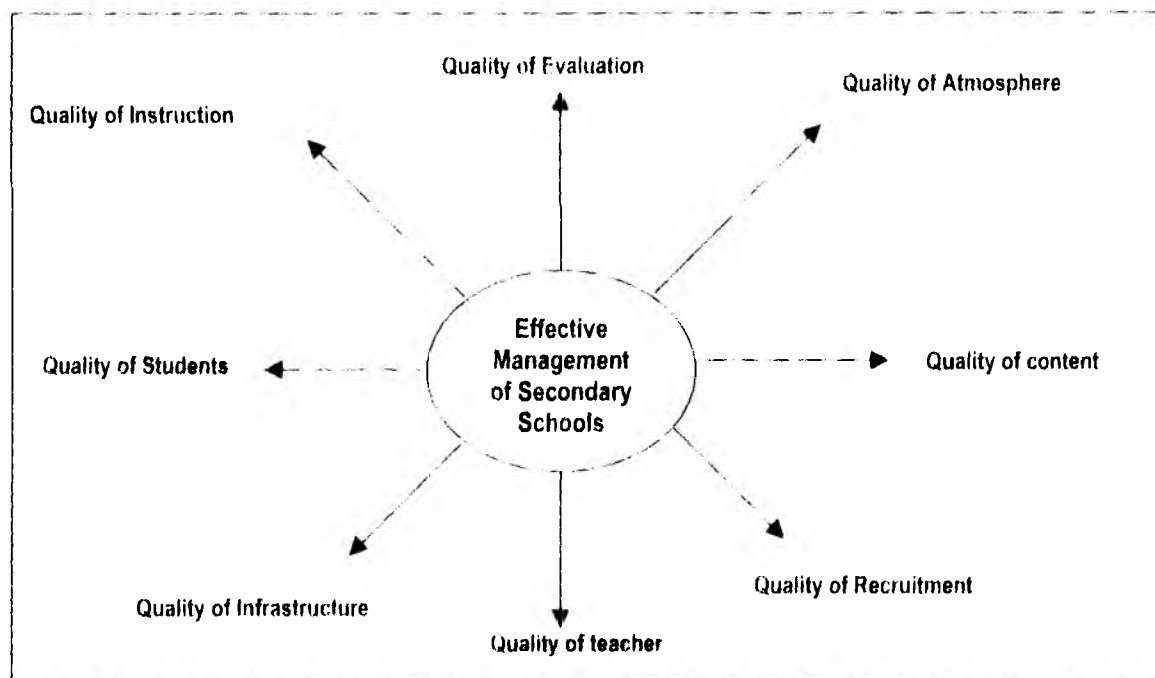
period till the course is over. This results in their superficial studies, indiscipline and irrelevant activities ultimately leading to student unrest.

Quality of Instruction

The quality of instruction plays significant role in bringing effective learning among the pupils. It is far too long that the teachers have employed the conventional lecture method. Today, we have modern methods and techniques including computer technology and Electronic Media for the dissemination of knowledge. The teachers should be oriented in this regard so that the mode of transaction in the classrooms be shifted from lecture method to activity based interactive mode of transaction. They may also be introduced to how to select, organize and apply appropriate media in making teaching-learning process more effective and meaningful.

Quality of Evaluation

It is observed that in most of the secondary schools, there is a lot of subjectivity in the process of evaluation. Hence, there must be a comprehensive and concurrent evaluation in secondary schools in order to ensure objectivity and to achieve quality in the programme.



Quality indicators of effective secondary school management

Resource requirement for secondary education by 2020

At present secondary education appears to be the weakest link in the educational system of the country. Elitist pressures to ensure availability of finances for higher education and to ensure the constitutional directive, to some extent, seek provision of adequate resources for the development of primary education but no such commitments or pressures exist for secondary education. As it is a known fact that the efforts to achieve the goal is on war

footing. The problem of shortage of variety of resources will arise when the nation is expecting to achieve UEF by 2010. From this point of time, the burden of secondary education planning and financing will be abundant if it is not attended now. Thus, an attempt to understand the issues involved in the last decade and finding ways to come out in a brief manner and also to project the requirement

Secondary school enrolment up to 2020

Year	Enrolment growth rate during 1990-91, 1998-99
	Enrolment
1990-91	19.1
	Projected Enrolment
1999-2000	27.76
2000-2001	28.82
2001-02	29.92
2002-03	31.06
2003-04	32.24
2004-05	33.47
2005-06	34.74
2006-07	36.07
2007-08	37.44
2008-09	38.87
2009-10	40.35
2010-11	41.88
2011-12	43.48
2012-13	45.14
2013-14	46.86
2014-15	48.64
2015-16	50.49
2016-17	52.42
2017-18	54.42
2018-19	56.49
2019-20	58.64

Appropriate strategies and policies need to be considered to give place and direction to mobilize resources. A point that needs to be stressed is that not just UEF or UPE is our goal, rather reeducation system as an organic entity compassing formal structure of primary secondary and higher secondary needs to be considered. The linkage, between primary, secondary and higher education are internal and integrated. Hence the issue of resource mobilization too needs to be viewed not in terms of competing claims but in terms of straightening the linkages. In particular, it is necessary to create an infrastructure (physical facilities) as well as teaching and non-teaching staff who will be in flow after implementation of SSA.

The growth of per student cost in secondary and senior secondary education was Rs. 1007.2 during the year 1990-91 and Rs. 4466 in the year 1997-98 at current prices. The growth rate was 23.72 percent. Based on this growth rate, the required amount at the time of 2016 has been calculated

We need to analyze and estimate how much will be required when by 2010 we receive the new SSA pass-outs. The have a rough idea of how much per student cost could be by 2016 has been worked out as presented in Table

**Estimation of expenditure for secondary education by 2020
Expenditure growth rate is 9.51**

Year	Estimated Expenditure (in Crores - Recurring)
1990-91	6552.36
1997-98	12371.16
1998-99	13,547.66
1999-00	14,836.04
2000-01	16,246.95
2001-02	17,792.03
2002-03	19,484.05
2003-04	21,336.99
2004-05	23,366.13
2005-06	25,588.25
2006-07	28,021.70
2007-08	30,686.56
2008-09	33,604.85
2009-10	36,800.67
2010-11	40,300.42
2011-12	44,132.99
2012-13	48,330.03
2013-14	52,926.22
2014-15	57,959.50
2015-16	XXXXX
2016-17	69,507.69
2017-18	76,117.76
2018-19	83,356.56
2019-20	91,283.77

Estimation of per student cost (Recurring)

Year	CGR (1991-1997)	Estimation of per student expenditure (at current Price)
1998-99	23.72016	5525.335
1999-00		6835.945
2000-01		8457.431
2001-02		10463.53
2002-03		12945.84
2003-04		16016.15
2004-05		19815.18
2005-06		24515.35
2006-07		30330.38
2007-08		37524.75
2008-09		46425.62
2009-10		57437.78
2010-11		71062.02
2011-12		87917.93
2012-13		108772.1
2013-14		134572.8
2014-15		166493.5
2015-16		205985.7
2016-17		2,54,845.5

Source : The estimated population in the age group 14-17 has been taken from the documents of MHRD (Selected Education Statistics 1997-1998)

Total requirement on the basis of per student expenditure

Year	Estimated Pop. (Age group 14-17)	Estimated per student expenditure	Total (Rs. In crores) requirement (at current prices)
2016-2017	8,38,87,000	2,54,845.4	213.79

Accordingly, per student expenditure by 2016 could be Rs. 2,54,845. In this circumstance, the aspect of financial management at a macro level is to be reconsidered by the union Ministry of Human Resource Development vis-à-vis State Ministers, how much from the domestic resource and how much can be mobilized from the other sources like donations, foreign aid etc.

Although school education is practically in the State domain, Ministry of Human Resource Development has to maintain an elaborate structure, largely to monitor the utilization of the Grants to State Government and mobilization of resources from other non-government sources.

The contribution of education to economic and social development depends on proper planning and development of education itself. For proper development of education, establishment of educational institutions, requirement of teacher and provisions of other basic facilities are necessary. Further, it also requires balanced development of different levels and types of education.

By using the past trend of the expenditure growth, the expenditure estimated for the year 2016 will be Rs. 63,471.45 crores.

According to the rough estimations, by using per student expenditure, the required amount could be Rs. 213.79 crores by the year 2016 for the Universalisation of secondary Education. The estimated population in the age group of 14-17 will be around 8,38,88,000 (estimation by MHRD). These estimations can help the educational planners to prepare for certain important issues like resource mobilization and utilization for the future.

Integration of Information and communication

With their increasingly ubiquitous presence within and outside the school, information and communication Technologies (ICT) have begun to challenge what schools (all over the world) try to teach and the whole basis of assessing the knowledge and skills that students acquire. The process of education can no longer ignore the social and psychological impacts of the technology that structures information and the possibilities that global information sharing opens up. Furthermore, that these technologies affect the way people think and learn has been widely recognized.

Integration of ICT into schools, therefore, has a strong pedagogical rationale and is a natural sequence in the evolution of the schooling process. But this integration has several implications, which clearly make the following demands:

1. The educational planner looks beyond the current classroom, devises updated plans for education in an electronic environment and expands his designs so that the computer becomes more than a subject of study and is not merely integrated into an existing curriculum, it becomes, instead, an integral part of the schooling process.
2. The educator accepts the broad general principles that he is challenged with there are:

- Creation of a framework for enhancing learning opportunities that computer based learning material and accessible resources offer.
- Access to information, shared educational goals and pedagogy.
- Access to professional development opportunities for teachers which would enable them to act as facilitators of learning;
- Flexible curriculum models which would embrace interdisciplinary and cross-disciplinary thinking.

Curriculum

School education in recent time has emerged as an important segment of the total educational system expected to contribute significantly to the individual as well as the national development processes. In order to do this effectively, it needs to be continuously reviewed and updated. In fact, curriculum development which is at the root of this renewal process has to be seen as a permanent search for qualitative improvement of education in response to various changes in the society. A meaningful curriculum shall have to be responsive to the socio-cultural context of the country.

Details curricula guidelines and models syllabi in all the subject areas will have to be developed along with the coverage in each subject area, its depth and treatment for each stage and grade, keeping in view the learning outcomes to be attained by the learners. The scheme of studies must ensure equitable importance to the scholastic as well as co-scholastic areas. This has to be followed by development, production and introduction of packages of curricular materials.

A major change in the approach, planning, preparation, production and distribution of all the teaching-learning and training orientation materials is the first requisite for any significant improvement in curriculum transaction. Competency-based and process oriented material to facilitate joyful self-learning and self-directed learning experiences in both the formal and the alternative education modes will have to be developed. There has to be a complete modular package of textbooks, workbooks, teachers' handbooks and multimedia materials. These materials must respond to our contemporary concerns, approaches and thinking at all the stages of school education.

In the present scenario, it has also become imperative to develop and disseminate appropriate encapsulated orientation materials for parents, community in general and the managers of education as they are also powerful agents for effective curriculum transaction. Important key ideas and issues are to be put before them in an easily, comprehensible form. This will ensure social regeneration through education.

Modular instructional packages for introduction of instruction and activities in the area of common poor, components and value education will have to be prepared and made available to all the states/UTs for adoption, adaptation and translation into all the national languages. In addition, audio-visual programmes on the themes related to common core components and values may also be developed and disseminated.

Vocational Education

The introduction of systematic, well-planned and rigorously implemented programmes of vocational education is crucial in the proposed educational reorganisation. These elements are meant to develop a healthy attitude amongst students towards work and life, to enhance individual employability, to reduce the mis-match between the demand and supply of skilled manpower, and to provide an alternative for those intending to pursue higher

education without particular interest or purpose. Efforts will be made to provide children at the higher secondary level with generic vocational courses which cut across several occupational fields and which are not occupation specific.

The establishment of vocational courses or institutions will be the responsibility of government as well as employers in the public and private sectors; the Government will, however, take steps to cater to the needs of women, rural and tribal students and the deprived sections of society. Appropriate programmes will also be started for the handicapped.

Non-formal, flexible and need-based vocational programmes will also be made available to neo literates, youth who have completed primary education, school drop outs, persons engaged in work and unemployed or partially employed persons. Special attention in this will be given to women.

The NPE, 1986 advocated a systematic, well-planned programmes of vocational education which would be a distinct stream intended to prepare students for identified occupation. It envisaged that vocational courses would ordinarily be provided at the higher secondary (+2) stage but flexibility was provided to start vocational education after class VIII. The NPE, 1986 set a target to cover 10% of higher secondary students under vocational courses by 1990 and 25% by 1995. A substantially funded centrally sponsored scheme for Vocationalisation of Secondary Education was started with effect from February 1998. The scheme was taken for implementation in all States and Union Territories excepting Tripura, Daman and Diu, Dadra and Nagar Haveli and Lakshadweep. At the end of 1991-92, 12,542 vocational sections were approved in 4400 schools, thereby creating facilities for diversion of about 6.27 lakh students at the +2 stage (@ 25 students per vocational sections in classes XI and XII). This accounts for 9.3% of students enrolled at the +2 stage. Although quantitatively the implementation of Vocational Education Scheme at the +2 stage has been fairly substantial, in qualitative terms, there remains much to be done. Vocationalization of education is identified as priority areas in the Eighth Five-Year Plan (POA/1992) and also in the 10th plan document.

⇒ The following steps need to be taken:

- i)** The state governments / UTs should set up adequate management structures at all levels as envisaged under the centrally sponsored scheme.
- ii)** Personnel working in the management structure should be well trained and encouraged to establish linkages with concerned agencies in the Government, voluntary organizations and individuals with specialized training. They should also remain in position for a tenure of at least three years so as to give continuity to the programme.
- iii)** While giving financial assistance preference will be given to States / UTs which have set up adequate management structure.
- iv)** The JCVE and SCVE should meet regularly in order to provide the required guidance and co-ordination at the National and State levels respectively.
- v)** The CIVE should be made functionally effective as early as possible.

The following steps would be taken :

- vi)** Persuading the states which have not yet adopted the national curriculum design to adopt the design at the earliest.
- vii)** Developing competency based curricula following the national pattern in respect of all new vocational courses.

- viii) Ensuring substantial time allocation for on-the-job training and its proper execution.
- ix) Developing capabilities for teaching the General Foundation Course with particular reference to entrepreneurship development, curricular materials, teacher training, follow up support, etc.

The States will primarily be responsible for the first three steps; the collaborative support of the CIVE would be available to them. The CIVE will have to play a more direct role in regard to the fourth step by bringing in the expertise of other institutions in the field of entrepreneurship development.

Vocationalization is one of the areas to which the NPERC attached great importance and paid a great deal of attention. While sharing some perceptions with NPE, the NPERC had major differences with NPE. Following are the common perceptions :

- i) Vocationalization of secondary education is crucial for educational reorganization and national development;
- ii) The importance of the relationship between education and work which implies empowering people for work;
- iii) The significance of work experience;
- iv) The need for non formal vocational courses for neo-literates, school dropouts, working persons and unemployed or partially employed persons with attention to women.

• NPERC recommended the following:

- i) The existing vocational stream at the +2 level may be suitably strengthened and, wherever possible, the vocational courses may be started from class IX also.
- ii) Generic vocational courses may be introduced on a selective basis; to begin with generic vocational courses may be tried out in about ten percent of the schools.
- iii) The Work Experience programme may be systematically implemented by allocating 12.5 % to 20 % of the school time for these activities; the activities should have a practical orientation in relation to various subjects under this programme. The vocational "core" would find place at the secondary and higher secondary stages; Work Experience/SUPW would relate to elementary education.
- iv) The other recommendations relating to implementation may be taken note of while revising POA.
- v) Greater rigor should be brought to bear on the planning and implementation of the scheme.

Providing More Options In Vocational And Technical Education

In today's technological society people will practical and problem-solving skills have more opportunities. The State, therefore, urgently needs to bring vocational education to centre-stage for students up to the intermediate level. Currently, vocational education is offered through the ITIs, polytechnic institutes, and certificate courses in areas such as pharmacy, nursing, etc. The it is will be strengthen so that they offer a variety of skill-development courses. The State will expand the ITI network, with a special focus on increasing the number of it is reserved for women. In addition, the State will proactively identify subjects in high demand in rural areas and diversify the courses at it is. The challenges will be designing effective curricula; re training teachers to conduct new courses introduced; and instilling confidence in students (and parents) about the utility of these courses.

Managing Vocational Education

The management system for vocational education has to be developed in strength, structure and task delineation's. Close coordination between the national and state level agencies on the one hand and the sectors dealing with employment avenues and assistance in entrepreneurship on the other needs to be planned and established. A meaningful partnership between the programme implementing institutions and the consumer is essential and, in fact, a pre-requisite for making the scheme popular, functional and effective. A sound programme of vocational education requires extensive and broad based preparation through work education and pre-vocational education during the first ten years of formal schooling and a comparable period in the alternative schooling mode. The very approach to work education up to the secondary stage needs to be changed and its effective integration with practically all areas of learning has to be achieved.

At the district and block levels, every school up to the secondary stage has to provide not only to children but also to their parents adequate information on the avenues and potentialities in the field of vocational education. School should arrange to familiarize the students with the various career opportunities. It should also be possible to relate stories of highly successful vocational pass-outs to motivate and develop positive attitudes among other students. The identified district level resource institutions could be of great help in popularizing the vocational stream and giving it credibility in the eyes of the community.

Block level Vocational Education and Training institutes are expected to perform multiple roles. On the one hand, they will be offering flexible, modular, competency based vocational courses catering the requirements of wider target groups, school drop outs, rural youths, neo literates, women and other persons needing up gradation of skills in addition to offering courses under formal stream. They will also act as resource institution for a cluster of neighboring vocational schools, which may not have necessary infrastructure facilities for offering practical experiences to students.

The objective of providing quality school education would not be achieved fully without a broad based and enriched programme of vocational education. Its acceptance would free the youth of the country from the debilitating frustrations.

Universalization of primary education in the country has provided an impetus for children who hail from disadvantaged and rural communities to prolong their education at the secondary stage. There has been increased demand for establishment of larger numbers of high schools and larger admissions into the existing ones. As a sequel, the number of high school leavers has increased while the quality of instructions has suffered rather alarmingly. At present, the number of high school leavers is estimated to be over 2 millions annually of whom 200 to 300 thousand may drop out for various reasons. This leaves about 1.7 to 1.8 million aspiring students who would like to continue their education in one form or another.

The avenues available to the students at this stage are entry into technician courses offered in the polytechnics, craftsman training programmes provided in the Industrial Training Institutes, para-medical courses offered in nursing, dental and pharmacy schools and home science courses offered in home science institutes. A number of commerce institutes also provided training for secretarial occupations. A generous estimate of the number of high school leavers entering all these institutions would be around 2.5 to 3 lakhs. There is still left over a quarter million who cannot enter type of institutions, academic or para-professional.

A logical starting point for formulating and planning education and training system should then be a broad analysis of its present and emerging needs of qualified manpower in critical economic and developmental sectors and the facilities already available. In the modern society a host of new demands has arisen, especially in the field of services requiring specialized technological knowledge and skills in a variety of applications. The number of such skills will grow as technology advances and society presses such advances into human service. In our country, 75 percent of the population resides in the villages and the facilities provided to the rural youth to develop capabilities through education and training are far less than those extended to urban youth.

It can therefore be visualized that any alternative system of education should necessarily take into account the sections of student population for whom the existing systems cannot provide suitable facilities. The new system should take into consideration the service needs of each locality, the economic capacities of aspiring youth, the knowledge and skill requirements for employment, the special traits to be developed for entrepreneurship, and initiate a process which should promote change in the social environment.

Requirements for employment in terms of knowledge and skills vary widely in different occupational sectors and they have to be met by wide-ranging programmes of instruction and training with built in flexibility in their durations. A rigid system, as now prevails will be highly unsuitable as it prevents innovations and design of unconventional programmes. In other words, the new system should envisage unconventional structures to meet the specific and special demands of the world of work, structures characterised by differing duration of study and training. A further characteristic of the new system should be that it builds into the system ample scope for continuing.

Vocational Education System should be flexible in curricular content and period of education and training, and have close linkages with the employment world. The system should also embrace all vocational and para-professional training programmes, to enable the country to plan, organize and execute an integrated manpower preparation scheme and avoid multiplicity of efforts by several departments and agencies simultaneously. The apparently diverse systems operating in isolations at present will become subsystems performing specific allotted tasks without frittering away other subsystems to supplement their efforts and contribute to overall manpower development. The new entrant into this overall system would be the Post-Secondary Vocational Education sub-system whose chief aim and relevance would be to offer relatively less expensive courses of education and training but with the capacity to prepare the required aptitudes for local occupation.

Vocational education with decade ahead

1. Create facility for and offer a variety of vocational programmes to all those whose chief aim is occupational preparation after successful completion of high school education;
2. Design courses appropriate to the different occupational requirements and offer them over duration which would enable students to develop the desired competencies and personality traits;
3. Adopt a semester system for instructions and training and limit admission to each course to 25 to personal attention to students;
4. Establish linkages with the employing agencies to facilitate easy absorption after completion of studies and training and also to secure access to on-the-job training during the courses;

5. Provide for continuing education for all those who are in jobs or who desire to acquire higher levels of knowledge and skills to fit into superior levels of occupations in the chosen field;
6. Develop capabilities for entrepreneurial ventures in the commodity; and
7. Economize on investment by utilizing available local resources, involving participative efforts with prospective employers; and thus make the system less expensive.

To achieve the above objectives, the courses has to be very carefully chosen, based on reliable information and the data on the current and anticipated economic and social development activities of the locality which may well be a district, the local resources of which could be pressed into service for training, curriculum making and collaborative instructions which can translate the concepts into viable action plans. This could be done by a well designed occupational survey and on -the spot study of institutional capabilities

Teacher preparation for unconventional vocational programme is a serious job. To impart skills of required depth and quality only those who have specialized experience will have to be appointed and such instructors are not easily available. While attempts to generate a new class of teachers should be planned, it would be most fruitful immediately to employ part time instructors from the occupational fields and collaborating enterprises for skill instruction. Since the vocational programmes are need-based and their durations differ they cannot fall into a rigid pattern for evaluation and certification of the conventional system.

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CHAPTER VII

EDUCATION OF SC, ST, GIRLS AND DISABLED

The Education of Scheduled Castes

The central focus in the SCs' educational development is their equalization with the non-SC population at all stages and levels of education, in all areas and in all the four dimensions: rural male, rural female, urban male and urban female. Besides, other the NPC connected 1992 highlights.

Secondary Schools (CA 154, IX-X)

Enrolment of SC children in Secondary Schools since 1980-81 indicate two fold increase in absolute numbers 1151896 (including XI-XII) 1724124 (488045 Girls only IX-X) in 1990-91 and this constitutes a stable percentage of total enrolment. The dropout rate in Class X in 88-89 was 79.88 and no recent data are available.

Certain general observations can be made at this stage. The proportion of enrolment of SC children continues to be much less than their population proportion except in the case of primary education where enrolment ratios are comparable to general enrolment. Dropout rate of SC children continues to be high at all levels. Enrolment ratios in respect of SC girls are at a lower level compared to SC boys and the rate of increase from year to year is also quite up to mark.

Any plan of action is not only a time frame but what goes on into the time frame and whether the plan is a plan for a physical expansion of facilities or an extended version of incentive scheme and one has to examine whether the educational plan over the years have taken into account the processes of change which are internal to the learner or the child. Unless that comes into focus, most of the structural plans are only visible but devoid of any impact.

The following instructional strategies for educating the SC children are suggested considering the objectives of instructions and their entering behavior to an instructional situation. Basically there is no difference in the way in which the SC children learn. Their learning process are subject to the same general principles of learning but with a difference in rate, sequence, type of materials and presentation modes. There is a need for (Panda,1999)

- a) A continuous appraisal of progress and comprehensive measure of assessment with a feedback system should become a part of every teaching process.
- b) These students are to be simultaneously trained to achieve knowledge, skills and attitudes.
- c) Since the students come to the school with perceptual and intellectual deficiency an hour may be kept aside for teaching of language, training in how to increase some of their non-intellective characteristics i.e. self-concept, level of aspiration, n-ach, sense of responsibility etc.
- d) Learning of concepts and ideas may be sequenced before they are presented to the SC groups, using more of concrete and life like situations.
- e) Training for analytical thinking may also constitute a part of the instructional programme design

- f) Instructions must be given to children how to place performance according to their ability. The teacher has to ascertain the prerequisites before instructing them to move the next step, and make provision for initial success experiences.
- g) For educating the SC children giving recognition, responsibility tangible rewards, positive affective remarks are to be encouraged in schools
- h) They also need to be acculturate through sensitivity training, exposure to literature, discussions and group contacts, role playing and case conferences.
- i) Self instructional materials may be used best to their advantage.
- j) The curriculum should have direct bearing on their life and work

No single device will suffice to counteract or to remedy the complex factors, those are associated with the education of the scheduled caste. Administratively the problem can also be taken care of by dealing with acculturation problems and school learning by providing early school experience to these children and following an un-graded sequence or multiply entry system. To un-lock the hidden potential among these children, a radical change in curriculum and teaching is required.

In a nutshell it is possible to conceive of education as a countervailing force to overcome the deficits accumulated in SC groups. It is true that it is not the educators function only to reverse the negative impacts of educational deprivation, social and effective insulation, caste discrimination and economic deprivation. It involves all aspects of the community. The task surely calls for creative innovation all along the line. The crucial pedagogical problem involved is that of understanding the mechanism of learning facility and learning dysfunction and applying this knowledge to optimum development of a heterogeneous population characterized by differential backgrounds, opportunities and patterns of social and intellectual function.

Research studies support certain measures : (a) Early modeling and imitation of desirable behavior; (b) Language enrichment programme and stimulation at home; (c) Affective attention and acceptance by parents, peers and teachers; (d) Providing initial success experience to build better motivation and striving for success; (e) Removal of discrimination attitudes on the part of teachers and other members of society; (f) Humanistic approach to teaching the SC in school; (g) Instructional programmes may be geared to their need and ability level; (h) Giving responsibility, recognition, tangible rewards, positive remarks etc.; (i) Exposure to sensitivity training, exposure to literature, discussion and group contacts, role playing, case conference relating to their problems.(Panda,1994)

The Education of Scheduled Tribes

The following measures will be taken urgently to bring the Scheduled Tribes on par with others. The salient features facts are :

- i) The socio cultural milieu of the STs has its distinctive characteristics including, in many cases, their own spoken languages. This underlines the need to develop the curricula and devise instructional materials in tribal languages at the initial stages, with arrangements for switching over to the regional language
- ii) Residential schools, including Ashram Schools, will be established on a large scale.
- iii) The curriculum at all stages of education will be designed to create an awareness of the rich cultural identity of the tribal people as also of their enormous creative talent

The NPERC laid strong emphasis on area-intensive approach and more vigorous monitoring, an emphasis conducive to the effectiveness of programme implementation. The recommendation of the NPERC that a single focal agency should be identified in each State for the purpose of monitoring and reporting to the Central Government is welcome. Particularly in regard to SCs, STs and minorities, there is a multiplicity of implementing agencies in State Governments because of the multiplicity of the problems. Many programmes are administered by the State Welfare Departments and some by the Education Departments. Even in Education Departments activities are spread over many Directorates. There is really a need for a State level nodal agency which can have an overview of the various programmes and can assess what the programmes all add up to. Monitoring has indeed been the Achilles' heel of programme implementation. Effective monitoring systems thereof have to be established. Representatives of beneficiaries have to be associated with the monitoring system so that they can give a fillip to programme implementation from within the system. We also suggest constitution of a standing CABE Committee on education of SCs, STs and other educationally backward sections; educationists from these groups should have representation in that Committee.

Enrolment of ST children in Secondary Schools since 1980-81 indicate two fold increase in absolute numbers 318111 (787206) (80-81) to 640837 (2010526) (91-92) and this constitutes a stable percentage of total enrolment. The dropout rate in Class X is given which is 86.72 in 1988-89.

Certain general observations can be made at this stage. The proportion of enrolment of ST children continues to be much less than their population proportion except in the case of primary education where enrolment ratios are comparable to general enrolment. Dropout rate of ST children continues to be high at all levels. Enrolment ratios in respect of ST girls are at a lower level compared to ST boys and the rate of increase from year to year is also very slow. (Panda, 1999)

Teachers are to be drawn from tribal population and are to be trained to deal with tribal children with more permissive, creative, flexible and motivational approaches. Existing teachers need reorientation through in-service training. While accepting the logic of identification and introjections well with tribal teachers, rooms should not be closed for nontribal teachers to enter into the stream knowing the tribal language and culture. This would break the isolation and segregating influences leading to persistence of prejudices and therefore eventually negative out-group relations based on ethnicity. Problem with us is that when we become interested in tribal education, we impose our discipline. The field requires eclecticism and multiplicity of thinking than egoistic reflections, "I believe so" attitude. Most of our educational planning for tribal education have been sporadic outbursts of certain waves, political or otherwise, but hardly has an empirical base. Holding power of the schools to cope with increased tribal children population and their diversities has also to increase (Panda, 1999)

A lot of parental awareness and removal of negatives and allergy towards education among tribal parents have to be undertaken through mass programmes, mass media. Attitudinal changes will bring education changes.

Social Dynamics

- It goes without saying that development is assured to those people who are concerned about it, have the necessary motivational and attitudinal dispositions, who are eager to achieve, prepare and actually work for it. Their traditional social institutions are embodiments of their social and development concerns which are

deliberated in a democratic manner. So these institutions may be profitably involved in all development plans and their execution.

- If all the rural people are made to go through some common basic education, it will give them the necessary knowledge and information about everything essential for meeting the challenges of modern life and will also equip them to make intelligent decisions on all important matters affecting their lives. Education provided in gradual stages up to the secondary stage might be provided to all. Such educational packages may include a judicious mix of general, vocational, aesthetic and physical culture dimensions aimed to give something like a complete education meant for personal and social development of the beneficiaries.
- Another important issue to be considered is regarding population explosion, depletion of natural resources and deterioration of the natural environment. These have created a new situation, which the evolving societies must take into account. Young people should be trained by a new kind of general education to face the problems of their present and the future.
- Modernization of rural life, aimed at making it more productive and attractive, can be achieved on condition that the modernization of agriculture is accompanied by development of rural education. If people see a positive reason for remaining in the rural area and a promise of a better life there, the problem of revision of curricula in the schools will be of utmost importance and relatively easy to handle.
- If modernization of rural life does not keep step with the development of education, the flight from rural areas will inevitably be accelerated, as escape is seen as the only way of putting the education one had acquired to good use.
- The problems of rural development can not be solved by educational segregation. If ruralisation of education were to make access to secondary schools more difficult, the farming community would interpret it as social segregation.
- Agriculture and the economy as a whole, rural community and the society as a whole are interdependent. Integrated agriculture development can be taken more as a basis for reflection on the definition of an educational system which is geared to the objectives of development. The need for agriculture development on an unprecedented scale calls for an unprecedented development of education in the rural world. The rural world will need competent and dynamic leaders if it is to win the battle against hunger. This can only be achieved on condition that the modernization of agriculture is accompanied by development of rural education and also on condition that rural education is not as an inferior brand of education.
- Under-developed societies, are still farming society and the agricultural economy continues to play an essential role in them. But productivity in the agricultural sector, as a whole, is low and they are progressing very slowly. One explanation for this is the educational system. All citizens should be aware of the importance of the rural world and of agricultural labour in evolving societies. We should inculcate a respect for manual labour and for Nature. The present general education courses have little to say about the battle against hunger and the role of agriculture in the overall development process. The concept of general education, therefore, must be widened to include consideration for diversity as it is training its pupil to assume different roles in the society.
- The pace and nature of developments in science and technology have compelled man to continue to learn throughout life. One of the challenges of the 21st century, therefore, is to plan and implement an education system that develops the ability 'to learn to learn'. This will equip tribal communities as well as others to continue to learn through 'assisted self-learning'. The necessary assistance may come from a variety of sources. The suggestions made will take care of the resistance and lethargy shown by the rural, tribal communities toward modern methods and techniques for bringing about economic development in their areas.

- There is a need to adjust and adapt the thrust areas and content of various courses of study followed by the tribal children in the schools. The catch words must be 'upgradation of content, relevance, flexibility in the selection of course combination and their scheduling, freedom for lateral entry into the formal system of education at selected entry points, a student centered approach to curriculum transaction, provision for job related courses with practical training etc.'
- Various development related departments working in the tribal areas may be profitably involved in the educational activities through mutually beneficial programmes. The aim should be to look at development not in bits, but as a whole, in which resources, technology, structures and processes interact to cause maximum benefit. Education can not cause miracles, but it can assist making choices at various decision making points that would best satisfy the requirements of tribal area development.
- The quality of an educational programme can be adequately assessed only if one can determine the extent to which the programme has directly contributed to the desired outcome. Ultimately, of course, the quality of an educational programme will be defined by input, output and value added measures assessed in inter relationship with one another.
- An educational programme should be appealing to students, to parents, to the community, to the funding sources and to the faculty administrators and staff who will conduct the programme. The programme must also be responsive to the needs, interests and concerns of the community and society in which it exists. A relevant educational programme of high quality will be beneficial to students and teachers in their growth, development, learning and ultimately to the community and society beyond the school.
- The programme for the secondary schools will be of highest quality, however, only when intended learning outcomes have been defined clearly and when achievement of these outcomes has been documented and communicated persuasively. A programme cannot be considered to be of highest quality until the school has taken the risk of specifying and evaluating how it is meeting its intended outcomes. Academic planning should be an exercise in implementation and evaluation, requiring a concern for the specification, achievement and evaluation of learning outcomes.

The school education does not merely aim at providing access to schooling to all sections of society, rather it means providing the opportunities of 'quality' basic education to 'All' which can easily be accessed. It means that unless highest priority is accorded and necessary resources are allocated for the basic school education, the universal access may be attainable but not the universal access to the quality education. The millions of children hailing from the disadvantageous sections and regions of our country need to be provided with the opportunities to avail quality education. The economic status of an individual should not determine the choices in education, rather the need to establish an egalitarian just social order to be the concern and education be viewed as a driving force to bring about the much desired social change. The primary education is the stepping stone for greater achievements such as human development, social development and national development. A society and nation may attain development in the true sense only when the 'majority' of the human beings constituting the society get the fullest opportunity to develop themselves. Thus, the challenge before India in the 21st century is to maximize the development of the majority of Indians and not the attainment of development for a 'minority', providing accessible quality education to all will be a step in this direction, the task of reducing poverty, exclusion, ignorance, oppression and class-caste conflicts in the urban and rural areas may only be accomplished if India accords highest priority to the quality basic education for all.

The issue of education has been considered from the view point of creating educational opportunities in the context of emerging global society and a multi cultural world. But the globalization in the Indian context may not be perceived the same as it is understood widely. More than 70 percentage of the Indian population resides in the villages and *moffusil* towns. For most of them the metropolitan cities of India are just like a multi-cultural world or a global society. The tribal population living under sub human economic conditions, the dalit population deprived of basic social acceptability and a multitude of underprivileged peasants and agrarian workers cannot conceive a global society as they are excluded from the main stream quality basic education. I am afraid the Report has not given much thought to this prime issue of educating the underprivileged in the developing economies of the world. Perhaps, education for the underprivileged deserves to be considered in depth.

The budgetary allocation should not limit the school infrastructure, the quality of the teachers or the availability of teaching learning materials in our schools. The priorities need to be redefined and additional resource mobilization in favour of basic quality education should be done by the State and central governments. The individual and institutional initiatives in this area is far from sufficient and satisfactory. If we have to fulfill our constitutional commitments, the quality basic education for the underprivileged should be our highest priority before we enter into 21st century.

Girls' Education (NPE, 1986)

The National Education System will play a positive, interventionist role in the empowerment of women. It will foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers. Decision-makers and administrators, and the active involvement of educational institutions.

Major emphasis will be laid on women's participation in vocational, technical and professional education at different levels. The policy of non-discrimination will be pursued vigorously to eliminate sex stereotyping in vocational and professional courses and to promote women's participation in non-traditional occupations, as well as in existing and emergent technologies.

Education and Women's Equality

The NPERC considered women's education to be a vital component of the overall strategy of securing equity and social justice in education. It rightly addressed the issue of women's education with reference to the special existential problems of women - such as the prevailing cultural norms of gender behaviour and the perceived domestic and reproductive roles of women which restrict the access of women to education. The NPERC strongly advocated intervention on behalf of women by the State in all its manifestations - the Central Government, the State Governments and the Local Bodies. The NPERC sought to differentiate its perspective from that of the NPE by contending that the NPE seemingly construed that education alone was an agent of basic change in the status of women, the trust of NPE lay in the intervention within the education system and that NPE did not adequately address socio-economic and cultural constraints that were outside the school system and had a direct bearing on education. In essence, the NPERC's perspective is very much in tune with what NPE envisaged in regard to women's education. Paras 4.2 and 4.3 of NPE are very strong statements on the interventionist and empowering role of education. Inter alia, they emphasis the provision of special support services and removal of factors which result in discrimination against women at all levels of education. There is nothing in them to be susceptible of the interpretation which NPERC had made.

Resources are to be earmarked for women's education not only in the allocations of elementary, secondary, vocational and higher education but also in the Special Component Plan (SCP) for SCs and the Tribal Sub Plan (TSP) for STs. However, there is a fundamental difference between education cuts across caste and regional barriers. Therefore, while women's participation in education should be closely monitored and particular attention paid to remove the barriers impeding such participation, the earmarking of funds may not be administratively feasible.

Empowerment of Women [POA, 1992]

- i) Every educational institution will take up active programmes of women's development
- ii) All teachers and instructors will be trained as agents of women's empowerment. Training programmes will be developed by NCERT, NIEPA, DAE, SRCs, DIETs, SCERTs and the University System. Innovative training programmes will be designed with the assistance of concerned organizations and women's groups.
- iii) Gender and poverty sensitization programmes will be developed for teacher educators and administrators. An environment will be created whereby all the sections of the education sector will become alive and sensitive to the role of education in eliminating gender disparities.
- iv) In order to create a greater confidence and to motivate parents to send girls to school, preference will be given to recruitment of women teachers.
- v) The common core curriculum is a potentially powerful instrument to promote a positive image of women. The Department of Women's Studies, NCERT will intensify activities already initiated in the area of developing gender sensitive curriculum, removing sex bias from textbooks and training of trainers/teachers. SCERT and the concerned State level boards and institutions will initiate similar work.
- vi) Improvement of girls' access to technical, vocational and professional education requires a national programme to introduce and strengthen Science and Mathematics teaching in all girls' schools. A special scheme will be designed to meet the shortfall of Science and Mathematics teachers in girls' school. Serious efforts should be made by the Center and State planners, curriculum developers and administrators to consciously encourage participation of girls in non-traditional and emergent technologies at all levels. Guidance and counseling for girls should be undertaken as a necessary precondition to encourage participation.

Education of the Handicapped Policy, Action and Vision

The National policy on Education 1986 (1992-R) emphasized the need for education of and objective should be to integrate the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence. The following measures will be taken in this regard :

- i) Wherever it is feasible, the education of children with motor handicaps and other mild handicaps will be common with that of others.
- ii) Special schools with hostels will be provided, as far as possible at district headquarters, for the severely handicapped children.
- iii) Adequate arrangements will be made to give vocational training to the disabled.

- iv) Teachers' training programmes will be reoriented, in particular for teachers of primary classes, to deal with the special difficulties of the handicapped children, and
- v) Voluntary effort for the education of the disabled, will be encouraged in every possible manner provided participatory learning environment, and activities such as games and sports, cultural programmes, excursions etc

Disability Act (1995) states that every disabled child has to free education in an appropriate environment, there is a felt grave concern on this issue of inclusive of secondary education. The existing system does not provide the necessary scope for meaningful integration and inclusion of disabled children. Hence the need to make necessary adjustment in the curriculum and in the system as recommended. There is need for special orientation of teachers and parents was discussed for effective education, care and rehabilitation of these children. NGOs, along with community members can open the path for providing right kind of education, care and habilitation for children with special needs under the rubric of Rehabilitation Council of India.

The Act (PD, Act 1995) with respect to Education -

- i) Every child with disability should have access to free and adequate education till the age of 18. Students with disabilities should be integrated into normal schools. Special schools should be established in Govt. and Private Sectors and equipped with vocational training facilities.
- ii) Introduce schemes for non-formal education of children who have discontinued their education after 5th class. Conduct special part time classes for functional literacy in the age group of 16 and above and provide each child, free of cost, special books and equipment needed for his/her education, including education in open schools and universities.
- iii) Government shall set up teachers training institutions to run special schools and integrated schools for children with disabilities by trained teachers.
- iv) The Government shall provide to such children transport facilities, remove architectural barriers from educational institutions, imparting vocational training and education, provide books, uniform and other materials to children attending schools, grant scholarships and restructure curriculum for the benefit of students with disabilities.
- v) Government shall promote research for assistive devices to give a child with disability equal opportunities in education.
- vi) Government shall present a comprehensive education scheme including transportation, barrier-free environment and grievances redressal forum.

An ideal **secondary education** system for children with **disabilities** is one which :

- a) creates educational opportunities for the children in the general educational system itself,
- b) prepares the general classroom teachers adequately to address the educational needs of these children with minimal or no assistance from special teachers,
- c) includes all subjects for disabled children with no adaptation or minimal adaptation so as to provide them equal educational experience,
- d) opens up avenues for learning vocational skills too, in addition to formal schooling,
- e) develops instructional materials appropriate for these children for their effective inclusion,
- f) makes available equipment needed by disabled persons at a cost affordable by them,

- g) facilitate the use of alternative educational system for increasing the coverage of disabled children under the ambit of education.
- h) employs information technology judiciously for the educational enrichment of these children,
- i) develops proper guidelines with regard to examinations for persons with disabilities, and
- j) treats education for disabled children as a right and not charity.

In conclusion, **secondary education for children with disabilities is yet to improve. Its present status is far from satisfactory - both quantitatively and qualitatively.** It has to take a giant leap in order to match the existing opportunities created for non-disabled children. Once such a stage is realized, the goal of education for all disabled children can be thought of. It is a gigantic task indeed and the political will at the state and central levels is needed for expanding secondary education for children with disabilities.

Implementing Strategies for Learners with Special Needs

Segregation or isolation is good neither for learners with impairments nor for general learners without impairments. Society requirement is that learners with special needs should be educated along with other learners in 'inclusive schools'; which are cost effective and have sound pedagogical practices (Panda, 1997)

The process of bringing learners with special needs into the mainstream in an inclusive school starts with the assessment of their educational needs and preparation of an Individual Education Plan for each one of them in consultation with their parents. Teaching then becomes learner centered. Besides, group learning and peer tutoring would also be encouraged in an inclusive school. This would bring the learners with special needs into the mainstream, create positive attitude among learners without impairment and foster the attitude and skill of learning together without complexes.

Definite action at the level of curriculum makers, writers of teaching-learning materials and evaluation experts is required for the success of this strategy. This has to include :

- developing appropriate supplementary instructional material for learners with special needs,
- making appropriate modifications in the content, its presentation and transaction strategies to facilitate conceptual clarity among learners with different special needs,
- developing and working out appropriate learner friendly evaluation procedures for learners with different special needs,
- preparing teachers with initial induction and sensitizing them through in-service education programmes to help them attend to the special needs of the learners with various challenges and equipping these teachers with skills, competencies and strategies required to cater to the diversity in an inclusive setting,
- developing comprehensive guidelines for teachers to define educational goals for all learners in the inclusive setting, and
- mobilizing community resources for support to learners with special needs. These could be in the form of resource centers

Vocational guidance and counseling would assume an extremely significant role to play. The entire process would produce appropriately equipped functionaries to make their contribution in all the departments of the stream effectively





CHAPTER VIII

TEACHERS, TEACHING-LEARNING AND EVALUATION

The Teacher

The methods of recruiting teachers will be reorganized to ensure merit, objectivity and conformity with spatial and functional requirements. The pay and service conditions of teachers have to be commensurate with their social and professional responsibilities and with the need to attract talent to the profession. Efforts will be made to reach the desirable grievance removal mechanism for teachers throughout the country. Guidelines will be formulated to ensure objectivity in the posting and transfer of teachers. A system of teachers evaluation – open, participative and data-based – will be created and reasonable opportunities of promotion to higher grades provided. Norms of accountability will be laid down with incentives for good performance and disincentives for non-performance. Teachers will continue to play a crucial role in the formulation and implementation of educational programmes.

Teachers associations must play a significant role in upholding professional integrity, enhancing the dignity of the teacher and in curbing professional misconduct. National level associations of teachers, could prepare a Code of Professional Ethics for Teachers and see to its observance.

Secondary Teacher Education : Present Status

The teacher training programme in India has a glorious past, but it has miserably failed (at least in recent years) to provide teachers, who can inculcate love of learning or co-curricular activities in the students. A typical B.Ed. graduate is characterized by :

- a) Poor surface knowledge of the subject, he has specialized in and an extremely limited ability to apply the knowledge to a new situation
- b) Poor language and poor communication skills
- c) Inability to meaningfully interact with the students to provide leadership, let alone a role model.
- d) Lack of attitude and consequently interest in the profession
- e) Inability to formulate and assist in implementation of student/community/research projects.
- f) Absence of desire to learn (or even read)
- g) Marginal Interest in co-curricular activities.

In general, the training programme is not serious and professional but casual and liberal, at best one learns about education as a subject and does not acquire teaching ability to an adequate extent.

Secondary : The most alarming characteristic of teachers at the secondary (including middle) level is inadequacy in knowledge and understanding of the subjects, taught by them particularly in portions, which have been forced on them by change in syllabi. The refresher programmes have touched too few and even the participants have not been very enthusiastic about them. An obvious fact, usually ignored by professional educationists is the fact that no body can teach, what he does not know

Hence, given the parameters of the present educational system, it is common sense to put equal emphasis on development of understanding of the subject of specialization and ability of teaching. Mere concentration on conventional teacher training programme will lead to further increase in the number of embarrassed teachers and frustrated students, who may, because of incompetent teaching structure have to follow the path of memorization, rather than understanding to get the educational system.

In general, there is hardly any hands on practice in contemporary aspects of evaluation, use of computers, interaction with parents, introduction to special problems of children and some familiarity with use of audio-visual and distance learning techniques. Ability to formulate group or individual projects for children also needs to be developed

Rediscovering our Gurus (India, 2020, Hon'ble President of India)

"If you are teacher in whatever capacity, you have a very special role to play, because more than anybody else you are shaping generations. There was a time in this country when teachers were respected as Gurus. Now, however, the teacher's is often a neglected lot. Many of them work under miserable conditions. We are aware of the need to solve their problems, but even given these, we request that teachers do two things. First, let them think about a developed India in their own ways and enthuse the students. Secondly, they should update their own knowledge because the student is only as good as the teacher. Let them constantly try to upgrade their skills so that they can enthuse the children to think big. Let us not transmit our frustration to them."

Capacity Building of Education Professionals

In the final analysis, the performance of the education system will depend on the quality of the human resources managing the system. This, in turn, depends on the quality of the people entering the service and more importantly on the opportunities available for capacity building while in service. At present, one can enter the administrative cadre in Karnataka either through the Karnataka Education Service, appointed directly as a secondary school headmaster or through the promotion of teachers in high school. Though, promotion is relatively faster for those entering the service directly in administrative posts, reaching higher level leadership positions comes at the end of their career. This is partly because promotions are based almost exclusively on seniority of service and the availability of positions. Discussions with senior officials revealed that this approach acts as a serious disincentive for innovative work and leadership in implementing change processes. As reported in a recent study comparing the situation in different states of the country, "Karnataka has the advantage of having highly qualified personnel at district and block levels because of its policy of posting high ranking officials at lower levels".

Teaching-Learning Process

Teachers have always been valued in our society as a major agents in individual and social development. As we enter the 21st century, the role is likely to become even more critical. The teacher was traditionally a figure of authority and a repository of knowledge and values that he/she transmitted to the students. However, with the great expansion of educational institutions and the mass recruitment of teachers, both the quality and the authority of the teacher have been increasingly called into question. Apart from this, the focus is shifting from the teacher - to a learner-centric mode wherein the needs of the learner are considered paramount. The teacher in this scenario, becomes a facilitator of the learning

process. Are the teachers ready for their changed roles and responsibilities? They ought to do so. (Panda, 1997)

For teachers to perform their roles effectively, the state shall provide :

- favorable conditions for teaching and research
- Training facilities appropriate to their functions.
- Opportunities for participating and cooperating in decision-making processes.
- The necessary democratic, enlightened environment to shape the destiny of their own institutions

Teachers should overcome their present sense of isolation and powerlessness and become agents for effecting social change. Along with the changed perspective, teaching processes are also changing at a rapid pace. With new tools of communication and the advances in technology, teachers will need to be re-oriented beyond their academic roles as subject specialists into media experts, instructional designers, team managers. These changing roles, however, should in no way dilute the basic academic traits in a teacher

At the center of the teaching processes is the learner. With the great advancement in knowledge and its equally diverse and manifold applications, it is clear that no single institution will be able to cater to the needs of the learners – either in terms of course offerings or physical facilities. Co-operation among institutions becomes inevitable.

The Evaluation Process and Examination Reform

Assessment of performance is an integral part of any process of learning and teaching. As part of sound educational strategy, examinations should be employed to bring about qualitative improvements in education.

The objective will be to re-cast the examination system so as to ensure a method of assessment that is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning; In functional terms, this would mean :

- i) The elimination of excessive element of chance and subjectivity
- ii) The de-emphasis of memorisation.
- iii) Continuous and comprehensive evaluation that incorporates both scholastic and non-scholastic aspects of education, spread over the total span of instructional time
- iv) Effective use of the evaluation process by teachers, students and parents.
- v) Improvement in the conduct of examination.
- vi) The introduction of concomitant changes in institutional materials and methodology.
- vii) Instruction of the semester system from the secondary stage in a phased manner, and
- viii) The use of grades in place of marks

The Present Evaluation System

The present system of evaluation at school stage suffers from a number of imperfections. The first and foremost shortcoming of the evaluation system is that it focuses only on cognitive learning outcomes and completely ignores the non-cognitive aspects which are a vital component of human personality. Even in cognitive areas it lays too much emphasis on

memorisation and little on abilities and skills that require higher mental operations like **problem-solving**, creative thinking, summarizing, inferring, arguing etc.

Examinations in their present form are not the real measure of students' potential because **they** cover only a small fraction of the course content that the students strive to learn over a period of one year. Nor do they provide for the application of multiple techniques of **evaluation** like oral technique, observations, projects, assignments etc. as they resort only to use of written tests

The Class-X public examination is held in such an awe by the society that its pattern **percolates** down even to the initial stages of schooling. As a result even small children are **prepared** along the lines of Board examinations right from the beginning and the significant **components** like diagnosis and remediation seldom become a part of the system. Keeping **all these** factors in view, it will be appropriate and very timely for the country to pay heed to **the** recommendation of the *Programme of Action, 1992* that "the predominance of the **external** examinations (should be) reduced." (21.1.3)

Analysis and interpretation of the evidences collected through both the formative and summative evaluation may be viewed in three **different** ways; first, by assessing the **students'** progress with reference to their own selves (self-referenced), secondly, with **reference** to the criteria set by their teacher (criterion-referenced), and thirdly, with **reference** to the progress made by their peer groups (norm-referenced).

One special feature of evaluation at this stage will be that no student will be declared pass or fail. Courses will be modularized for the purpose of organizing them into **four semester**. The evaluation will be predominantly school based with special emphasis on diagnosis and **remediation** aiming at ensuring the mastery level. Students' achievement in **different** subject areas will continue to be assessed periodically by employing criterion referenced **tests**. The performance of students will be graded on a nine-point scale using absolute **grading**. Attributes pertaining to the co-scholastic areas will be assessed through **observation**, checklists and rating scales and will be reported using a five-point direct **grading**. Cumulative record cards for individual students will be maintained indicating their **performance** assessed through various tests, rating scales etc. The portfolios of individual **students** will also contain their self-appraisal and peer evaluation besides their cumulative report cards.

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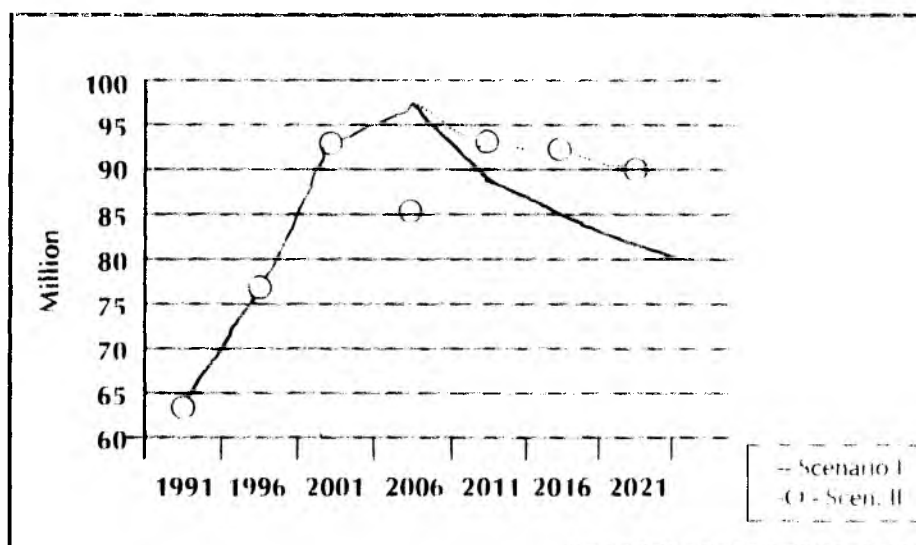
CHAPTER IX

INTERNAL EFFICIENCY AND MANAGEMENT OF SECONDARY EDUCATION

Internal Efficiency of Secondary Education

There are two important aspects of internal efficiency that affect the secondary education scenario. First, the holding capacity of the elementary education and secondly, the internal flow of students within the secondary school system. The repetition and drop out continue to remain high even at the secondary stage.

Lack of student flow data at secondary stage is an important factor impeding the analysis of the internal efficiency. In the absence of such a data, the observations of internal efficiency remain unconfirmed. The latest estimates indicated that 36.6 per cent of Grade-I enrolment was in Grade IX after eight years. It is also observed that the holding capacity of the system has improved considerably over the years. Similarly, about 60 per cent of Grade-V and 80 per cent of Grade VIII enrolment were present in Grade-IX. While the Grade-VIII to Grade-IX transition has been fluctuating between 83-88 per cent range, there was a significant improvement in holding capacity from Grade I to Grade-IX. Thus, the intake at Grade-IX is constrained by the internal efficiency of the elementary education and the availability of facilities for the secondary education. As the internal efficiency of the elementary education system improves, the demand for secondary education would also improve. Universalisation of Secondary Education (USE) would be possible only when all the children of the eligible age group are in the schools. This is subject to the condition that universalisation of eight years of education is also attained before USE could be achieved. However, with the development of alternative modes of education and introduction of multiply entry points, the condition of UEE through formal schools, can be relaxed.



The secondary education, as has developed over the years, is examination-oriented. The main objective of the schools is to prepare the children to maximize the score in the Board Examination conducted at the end of Grade-X. Almost all the states have established secondary boards of education which are responsible for organization of common examination and to award certificates to successful students. The students are

classified/ranked according to the overall scores/ranks in the subjects of study. The present system suffers from a number of problems, which have accentuated over the years. These are (a) the examination system promotes rote learning and reproduction in the examination to secure the highest marks, (b) there is no standardization of the examination results of various boards with the result that it is difficult to establish national standards of learning achievements, and (c) the curriculum for the secondary schools is academic in nature and there is not enough evidence to link it to the needs of the adolescence population and the requirements of the labour market.

The analysis of examination results of the secondary boards of examination from various states shows that, on an average, 44 per cent of all students appearing in Grade-X are able to complete secondary education successfully (1993 Board Examination results). Based on whatever data was available, the corresponding pass percentage for SC and ST students was calculated as 29 and 35 per cent respectively. Therefore, more than half of the students are rejected for admission to Grade-XI and this portion is much higher for the SC and ST candidates. The inter-state variations in pass percentage are extremely large. The UP Board Examination results were quite revealing. In 1993-94, about 1.5 million children appeared in Grade-X examination and three out of four children failed to pass the examination. The examination results dis-aggregated by caste and gender of the students were not available for most of the Boards. The proportion of students who passed with first division was just about 20 per cent. The remaining 80 per cent are equally divided among the second and third division. The more worrying aspect of the internal efficiency relates to the decline in pass percentage over the years. Therefore, the quality of teaching-learning and the evaluation processes require immediate attention. The problems with Grade-XII examinations are equally serious. The pass percentage in most of the Boards was not much different from Grade-X examination. Further analysis indicated that majority of students fail due to poor score in Mathematics and Science subjects.

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2000 :
Regular District-Wise Overall Result Statistics

District Name	No. of Schools	No. Appeared	No. of 1 ST	No. of 2 ND	No. of 3 RD	No. of Total	% of Pass
Kalahandi	187	6556	356	596	710	1662	25.42
Nuapada	92	2742	96	251	294	641	23.38
Baragarh	223	9954	684	1477	1665	3830	38.80
Sambalpur	151	6483	597	1094	1364	3060	47.41
Deogarh	63	2302	67	293	474	834	36.29
Jharsuguda	85	3877	235	500	615	1352	34.96
Subarnapur	93	3817	65	279	402	936	23.30
Balangir	225	7926	414	695	822	1931	24.54
Sundargarh	266	12200	1240	1862	2031	5162	42.51
Gajapati	48	1471	106	191	222	556	37.80
Ganjam	405	15744	1915	2568	2203	6690	42.59
Boudh	51	1641	108	189	239	536	33.07
Phulbani	86	2527	183	273	339	790	31.60
Koraput	103	1024	428	538	504	475	41.75
Malkangiri	43	1227	103	153	174	430	35.04
Nawarangpur	67	2063	172	277	326	775	37.57
Rayagada	67	2628	229	338	396	974	37.08
Jagatsinghpur	256	15772	1828	4513	2657	8938	59.02
Angul	197	8929	780	1112	1240	3132	35.49
Dhenkanal	232	10034	783	1524	1675	3983	40.48

District Name	No. of Schools	No. Appeared	No. of 1 ST	No. of 2 ND	No. of 3 RD	No. of Total	% of Pass
Jajpur	166	8856	648	1731	1813	4192	47.40
Kendrapara	141	7530	471	1183	1174	2828	37.77
Cuttack	84	3964	315	196	450	1161	30.23
Cuttack	335	19119	1903	2549	2754	7210	37.95
Jajpur	223	9983	691	1533	1813	4037	40.78
Kendrapara	175	9250	638	1754	1497	3839	42.22
Keonjhar	385	10972	763	1390	1862	4023	36.95
Balasore	446	16630	1629	2980	3479	8094	48.94
Bhadrak	270	1350	832	2027	2564	5433	39.74
Mayurbhanj	472	14748	1099	2010	2351	5491	37.96
Puri	291	14532	1188	1695	1903	4786	32.91
Nayagarh	183	6343	610	833	850	2293	36.36
Khurda	272	16906	2439	2676	2610	7739	45.80
Total	6383	273745	23633	41480	43472	108749	40.04

Source : Board of Secondary Education, Orissa

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2001 : Regular
District-Wise Overall Result Statistics

District Name	No. of Schools	No. Appeared	No. of 1 ST	No. of 2 ND	No. of 3 RD	No. of Total	% of Pass
Kalahandi	187	6532	351	666	796	1814	28.01
Nuapada	96	2694	107	254	374	735	27.42
Baragarh	224	9678	586	1268	1674	3530	36.94
Sambalpur	151	6700	595	1089	1348	3033	46.21
Deogarh	64	2474	103	344	484	931	38.03
Jharsuguda	85	4177	233	501	634	1370	33.64
Subarnapur	93	3500	173	302	393	868	25.20
Balangir	225	7847	460	679	934	2073	28.53
Sundargarh	267	14208	1169	2012	2363	5561	39.48
Gajapati	49	1671	114	202	240	568	34.03
Ganjam	414	15766	1895	2513	2755	7163	45.56
Boudh	53	1498	119	194	254	567	38.08
Phulbani	90	2845	200	272	327	799	28.34
Koraput	103	3451	378	524	487	1394	40.64
Malkangiri	45	1067	89	152	164	406	38.09
Nawarangpur	69	1859	193	215	325	733	39.56
Rayagada	70	1456	213	318	366	903	36.95
Jagatsinghpur	257	15437	626	1890	2214	4730	31.37
Angul	196	8231	845	972	1109	2927	35.90
Dhenkanal	232	10038	690	1418	1565	3673	37.00
Jajpur	167	9025	800	1981	2068	4849	53.83
Kendrapara	142	7475	390	1092	1053	2535	34.96
Cuttack	84	3690	317	435	402	1154	31.63
Cuttack	337	16673	1897	2195	2122	6214	37.61
Jajpur	222	9801	749	1388	1816	3953	40.49



District Name	No. of Schools	No. Appeared	No. of 1 st	No. of 2 nd	No. of 3 rd	No. of Total	% of Pass
Kendrapara	174	8625	457	1062	1377	2896	34.37
Keonjhar	390	11010	791	1303	1725	3823	35.10
Balasore	451	15183	1456	2503	2784	6743	44.65
Bhadrak	272	13307	881	1946	2459	5826	39.97
Mayurbhanj	173	13974	992	1705	2111	4813	34.83
Puri	292	11947	1023	1537	1817	4377	36.94
Nayagarh	184	5747	587	812	850	2249	39.37
Khurda	274	15031	2337	2516	2607	7460	50.16
Total	6431	263617	21818	16280	43472	100157	38.38

Source : Board of Secondary Education, Orissa

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2002 : Regular
District-Wise Overall Result Statistics

District Name	No. of Schools	No. Appeared	No. of 1 st	No. of 2 nd	No. of 3 rd	No. of Total	% of Pass
Kalahandi	190	6348	374	943	1087	2404	38.40
Nuapada	99	2611	134	307	432	873	33.55
Baragarh	232	10187	678	1789	1635	4104	40.53
Sambalpur	159	6837	593	1114	1432	3142	46.85
Deogarh	67	2450	126	426	525	1077	44.52
Jharsuguda	88	3760	266	602	671	1540	41.52
Subarnapur	94	3330	193	377	448	1019	30.73
Balangir	233	7617	494	819	956	2269	29.95
Sundargarh	273	13225	1128	2092	2358	5589	42.44
Gajapati	53	1846	97	183	262	548	29.75
Ganjam	436	16759	1964	2553	2828	7348	43.49
Boudh	53	1532	103	174	223	500	32.79
Phulbani	97	2438	230	326	378	934	38.37
Koraput	108	3348	407	505	488	1406	42.02
Malkangiri	47	1056	97	131	180	408	38.67
Nawarangpur	72	2007	192	260	325	777	38.83
Rayagada	73	2324	270	347	315	935	40.23
Jagatsinghpur	258	11706	615	1015	1280	2910	25.08
Angul	203	8616	781	993	1204	2979	34.86
Dhenkanal	234	9493	847	1533	1716	4197	44.62
Jajpur	174	8739	587	1441	1809	3837	44.01
Kendrapara	138	6222	207	450	664	1321	21.68
Cuttack	91	3233	330	518	419	1267	39.68
Cuttack	334	13424	1843	2236	2293	6373	47.59
Jajpur	219	9369	614	1315	1876	3805	40.91
Kendrapara	178	8272	317	673	1010	2001	24.73
Keonjhar	399	11176	763	1496	2108	4367	39.38
Balasore	455	13702	1418	2483	3253	7156	52.40
Bhadrak	277	12669	878	1931	2634	5443	43.28
Mayurbhanj	479	13466	1057	1900	2599	5563	41.61
Puri	297	9459	1075	1583	1917	4575	48.51
Nayagarh	184	5495	606	849	957	2412	44.01
Khurda	281	14087	2402	2507	2534	7448	52.97
Total	6575	246803	21686	35971	42816	100528	41.01

Source : Board of Secondary Education, Orissa

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2000 :
Regular Sex and Caste-Wise Result Statistics

	Men				Women				Total			
	SC	ST	Other	Total	SC	ST	Other	Total	SC	ST	Other	Total
TOTAL	23044	17403	117509	157956	14346	9039	94853	118238	37390	26442	212362	276194
APPEARED	22781	17160	116618	156559	14194	8945	94047	117186	36975	26105	210665	273745
1 ST DIV.	903	483	13112	14498	429	177	8529	9135	1332	660	21641	23633
2 ND DIV.	2476	1652	19595	23723	1440	741	15576	17757	3916	2393	35171	41480
3 RD DIV.	3273	2679	19492	25444	1836	1165	15027	18028	5109	3844	34519	43472
SING. SUB.	7	3	86	96	4	4	60	68	11	7	146	164
TOT. PASS	6659	4817	52285	63761	3709	2087	39192	44988	10368	6904	91477	108749
% PASS	29.54	28.00	45.00	41.13	26.30	23.41	41.90	38.60	28.29	26.73	43.75	40.04

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2001 :
Regular Sex and Caste-Wise Result Statistics

	Men				Women				Total			
	SC	ST	Other	Total	SC	ST	Other	Total	SC	ST	Other	Total
TOTAL	21795	17329	111421	150545	13925	9968	91545	115438	35720	27297	202966	265983
APPEARED	21547	17031	110619	149197	13772	9856	90792	114420	35319	26887	201411	263617
1 ST DIV.	875	449	12132	13456	349	186	7817	8362	1224	635	19959	21818
2 ND DIV.	2076	1445	17277	20798	1176	709	13597	15482	3252	2154	30874	36280
3 RD DIV.	3155	2571	18699	24425	1790	1340	14442	15572	4945	3911	33141	41997
SING. SUB.	3		34	37		2	23	25	3	2	57	62
TOT. PASS	6109	4465	48142	58716	3315	2237	35889	41441	9424	6702	84031	100157
% PASS	28.79	27.00	44.00	39.90	24.24	22.84	39.74	36.42	27.01	25.23	42.12	38.38

Board of Secondary Education, Orissa
Annual High School Certificate Examination - 2002 :
Regular Sex and Caste-Wise Result Statistics

	Men				Women				Total			
	SC	ST	Other	Total	SC	ST	Other	Total	SC	ST	Other	Total
TOTAL	19352	16483	104196	140031	12937	10091	85984	109012	32289	26574	190180	249043
APPEARED	19143	16220	103344	188707	12808	9973	85315	108096	31951	26193	188659	246803
1 ST DIV.	805	447	12198	13450	381	194	7661	8236	1186	641	19859	21686
2 ND DIV.	2178	1650	17011	20839	1205	885	13042	15132	3383	2535	30053	35971
3 RD DIV.	3174	2813	19252	25239	1734	1476	14467	17577	4908	4289	33619	42816
SING. SUB.	3		32	35		1	19	20	3	1	51	55
TOT. PASS	12782	11121	54072	77975	9411	7376	49852	66639	22193	18497	103924	144614
% PASS	32.52	31.00	47.00	43.31	26.08	25.73	41.31	38.07	29.93	28.76	44.58	41.01

An analysis of the results of the high school certificate examination spread over three years reveal a dismal picture of student achievement and a failure of the system for achieving the target of learning to its upper limits. It is something mysterious that when abilities and aptitudes are normally distributed across the world, there may be certain dramatic pitfalls in our secondary school teaching system and/or evaluation for which the percentage of pass rarely crosses the 40% limit. Probably our policy makers and administrators of the board seldom put their mind into analyzing the predisposing factors that has precipitated this inevitable deplorable flight among our student causing tension, anxiety and hatred for the school system. It is high time that anyone who really means a business for improving secondary school education in Orissa should make an in depth analysis about the curriculum, the teaching practice, the evaluation procedures vis-a-vis the management of the school. Unless corrective measures are taken at an early date through empirical research a prescriptive model of bringing changes would not deliver the good no matter whether it is expensive or it has sprung from armchair speculative philosophy. Probably the

policy makers thinking of education for 2020 should refresh their thinking right from now or never.

Lack of facilities, failure, improper infrastructure, ineffective manpower, all contribute to holding power of schools since enrolment is not enough nor it is ideal. Retention and success building are subsequent steps not only for holding the system, but sustaining it. The following table gives trends of the holding capacity of the school education system over four decades at different tiers of education.

Trends in holding capacity of school education system

Year	Grade 1 to 9	Grade 5 to 9	Grade 8 to 9
1960	17.3	48.6	83.5
1965	21.0	58.9	86.4
1970	18.1	52.1	82.2
1975	17.8	52.9	83.2
1980	18.1	57.9	88.4
1985	30.9	64.3	86.7
1990	31.5	68.4	87.7
1995	25.8	68.1	76.3
1998	36.6	60.8	84.9

The question of internal efficiency of secondary education can not be separated from the curriculum, instructional materials, teacher preparedness and their ability to handle the teaching of modern science and mathematics. Recruitment policies for the secondary teachers also need to be reviewed to meet the future challenges. It is all the more important if the linkages between the world of work and school education are to be strengthened. With all the inadequacies of the examination system, some important questions about the availability of infrastructure facilities including classrooms, design and development of instructional materials, laboratories, libraries, **relevance of the secondary education, diversification and linking to the world of work, quality of teaching-learning and evaluation methods would have significant bearing on the internal and external efficiency of the secondary education.**

The Management of Education

An overhaul of the system of planning and the management of education will receive high priority. The guiding considerations will be :

- a) Evolving a long-term planning and management perspective of education and its integration with the country's development and manpower needs,
- b) Decentralisation and the creation of a spirit of autonomy for educational institutions,
- c) Giving pre-eminence to people's involvement, including association of non-governmental agencies and non-voluntary effort,
- d) Inducting more women in the planning and management of education,
- e) Establishing the principle of accountability in relation to given objectives and norms.

Strengthening Administration

The strengthening of administration has not kept pace with the expansion of education and its diversification. In the case of secondary education, this strengthening should take into consideration the following :

Professionalization : Education needs to be planned and administered by those who have the requisite competencies particularly in the form of a sound knowledge base of education. Over the years, professional approach to education has been seriously eroded by the induction in key decision making positions of "generalist" administrators. The promotion of personnel from within the education sector must take into consideration their qualification, experience and ability to perform the functions of the new position. The formation of an India Education Service, as recommended in the National Policy on Education, would have helped in drawing to education professional expertise apart from ensuring continuity in policy and programme development which at present is adversely affected by the short tenures and frequent turnover of key personnel.

Unified Structure : It is necessary to create a unified planning and administering structure for education more particularly for secondary education which needs to be looked at in relation to the requirements of the economy of knowledge and skills. In fact, the Education Commission had recommended a unified structure for education encompassing the entire gamut of general and professional education and vocational training to allow an integrated view of general and professional development in relation to national development. The creation of separate directorates/departments for elementary and secondary education (and sometimes separately for higher secondary and vocationalization) creates problems of overlap and of coordination, apart from preventing from making it difficult to develop an integrated plan. The National Policy's recommendation to establish District Boards of School Education to manage education upto the higher secondary stage needs consideration.

Strengthening Supervisory Machinery : Secondary education has over the years not only grown (number of institutions, students and teachers) but also become considerably diversified - in the nature of institutions and their managements, diverse curricula and courses and the various programmes of intervention such as vocalization, computer literacy, value orientation, to name a few, which have been initiated. The deficiencies of inadequate supervision of schools stem from a number of factors : inadequate numbers and consequent work load that the staff has to bear, lack of adequate academic preparation on the part of personnel, absence of managerial skills among the staff, lack of facilities for transport etc. As a result of these and other deficiencies, schools remain unsupervised for years and do not receive the support and guidance that they need. The few supervisions that take place are seldom followed up.

Specialization of Functions : The diversities of administrative functions require specialized competencies on the part of personnel. Over the years, educational litigation and redressal of grievances, to mention a few examples of the tasks that educational administrators are required to perform, have emerged as significant areas of concern, particularly at sub state levels where administrative personnel have to spend considerable amount of time and energy on dealing with them. With unionization of teaching profession, insistence on effective performance of their assigned roles has emerged as an area of major administrative concern. Absenteeism among teachers as also the use of "contract" teachers are reported to have assumed alarming proportions. Dealing with these and other issues, including litigation, requires specialized competencies on the part of personnel. The other area of importance is the supervision and academic guidance of schools which require the competence to function as facilitators/counselors.

Delegation of Authority : The hierarchical consideration, approval and execution of proposals has prevented responsibility and accountability of personnel for decisions. Of particular concern are the implementation of proposals involving disbursement of grants to institutions and scholarships and fee concessions to students. Delays in them have become endemic, causing considerable disaffection with the system.

Lateral Induction : Promotions need not be the sole mode for career advancement of administrative personnel. Managing modern organizations requires competencies that might not be available in the administrative machinery which has evolved over time. There is an urgent need for lateral induction of personnel with new competencies now required in the system.

Use of Technology : Administrative procedures have tended to remain archaic – based primarily on the upward and downward movement of files. Apart from the delays that occur, there has grown the tendency to shift the responsibility to take decisions. A serious attempt need to be made in computerization of records – particularly those dealing with service matters of personnel and information pertaining to schools and students. Technological aids – computers, fax machines, telephones and E-mail facilities must be provided and increasingly used in administration and for linking of institutions and organizations.

Political Interference

Education has, over the years, witnessed considerable amount of politicization. Political interference in the working of educational institutions takes many forms : proposal for recruitment, placement and transfer of teachers and other personnel, pressure for recognition of institutions, use of teachers and other employees for non-academic purposes, pressures for inclusion in curriculum and teaching-learning materials ideologically oriented content, party support to students' and teachers' unions, use of students and teachers for various kinds of rallies etc. These and other developments have tended to seriously erode the academic basis of education and affected adversely the working of institutions. They have also affected the responsibility and accountability of role performance of teachers, including their ability to influence students' behaviours as envisaged in value orientation of school education. Serious consideration needs to be given to insulation of educational institutions, teachers and students against political interference and their unions needs to be developed and enforced.

Democratic Decentralization

The seventy-third and seventy-fourth amendments of the Constitution have their Eleventh and Twelfth Schedules prescribed the following functions for Panchayati Raj Institutions and Municipalities :

- **Zila Parishads** : Education including primary and secondary schools, Technical training and Vocational education, and Adult and non-formal education.
- **Municipalities** : Promotion of cultural, educational, aesthetic aspects, subject to government guidelines.

Democratization must not be seen as dilution of standards though often it is interpreted so to defend sectarian interests. Selection according to capability and aptitude need not mean exclusion. For formerly exclusion meant denial. And the secondary education of the twenty first century must become more open, accommodative and inclusive by providing access to all segments of society. If school education has to respond to the multi-dimensional demands of the information age, they must become more open, flexible, cost-effective and responsive to changing social and economic needs. Distance education and open learning can broaden the options for programmes at relatively low costs. The methodologies evolved using both high and low technologies can be used to offer vocational training, professional and personal development programmes as well as awareness-raising courses on a large scale to lead towards a learning society. But the quality issue still remains unaddressed.





CHAPTER X

RESTRUCTURING OF BOARD OF SECONDARY EDUCATION

Some Sallent suggestions Task Force 1997, GOI.

1. While Primary education was neglected for a long time, it is to some extent now being given the requisite attention. Higher and professional educations have always been at centre-stage since the last century. It is secondary education which has not received its due all these year.
2. Largely for historical reasons, School Education Boards have looked upon themselves mainly as examining bodies and little more. Consequently, the Boards have never functioned as organizations which were responsible for secondary education in the complete sense of the word.
3. In terms of allocation of funds too, secondary education has never been in focus.
4. This situation has to change both in the interests of secondary education and higher education. The experience of other countries, particularly in East Asia as also other not so developed countries, shows clearly that without a strong and self-reliant system of secondary education, no country can.
5. If this objective is to be achieved, it is a matter of supreme importance that School Education Boards are reorganized, strengthened, diversified in their approach and functioning and made responsible for the entire spectrum of education from the primary to the higher secondary stage. In other words from being mere examining bodies which they have been for more than half a century, they have now to become academic bodies which determine and shape the direction and quality of education at the school level.
6. Schools should be seen as part of an independent system of education which responds to the needs of the society. It is, therefore, important to ensure that the school system becomes autonomous in character and learns to operate on its own.
7. The Boards should have a statutory status. This, in a sense, is a precondition for ensuring autonomy to the Boards.
8. There is a need to ensure that School Boards are insulated against political interference. To achieve this objective it is important to build certain checks and balances into the system of the appointment of the chief executive which protect it against political interference.
9. If, at any stage, the government has to intervene, it should do so only in matters of high policy which must be conveyed to the Chairman of the Board name formal manner through a written communication.
10. Depending on the size of the state, the Board's functioning can be decentralised through the establishment of regional offices. These offices may be mainly given the job of issuing roll numbers, evaluating answer scripts and declaration of results.
11. Secondary education should be treated as terminal in character and should be autonomous in outlook and functioning. An unerring indicator that this stage has been reached will be when secondary education becomes vocational : that is to say that it equips students for entry into the world of work also.
12. Everything connected with school education-students, Teachers, curriculum academic issues, management, health, sports and cultural activities-should fall within the purview of the Boards.

In order to fulfil their mission, the Boards must remodel themselves in such a way that they have different divisions looking after the relevant sectors of activity. The board's work may be divided as under :

Proposed Board Structure

Academic Orbit	Examinations	Administration
Academic Division	Examination Division	Administration-cum-Finance Division
In-service Training	Research Division Recognition Division	Recognition Division
Division Research Division Recognition division	Computer and Information Unit	Grievances redressal Cell Legal Cell
Vocational Education Division Sports & Co-curricular Activities Division Library & Documentation Cell Computer & Information Unit	Information Unit Grievances Redressal Cell	

13. Every three years, there should be a mandatory review of the working of the Examination branch by a committee appointed by the Boards for this purpose.
14. Both efficiency and transparency used to be looked upon as the corner stone of how the work of the Examination division is to be organized. The Chairman of the Board in his capacity as the chief executive must ensure that whatever is laid down is fully and faithfully implement. This responsibility of the Chairman is non-transferable in character.
15. Continuous and comprehensive evaluation (C&CE) is an important reform, which needs to be introduced to improve the quality of school education. While scholastic achievement is important, non-scholastic achievements are equally important and need to be identified as assessed so as to get a total picture of the student's ability and personality.
16. Each Board should have a Vocational Education division. It should be well staffed and it should become the starting point of the new initiative and the controlling authority in the comparatively new area of activity.
17. If there is one area of activity in the field of secondary education which requires massive support from the government and the industrial sector, it is vocational education. The Central government can help with funds for engaging new teachers, re-training them and acquiring new equipment whereas industry can help with its expertise.
18. It is for the Department of Education to decide about the implementation of this report. Whatever part of this report is accepted by the government, there should be planned follow-up action.
19. Curriculum at the secondary level was last reviewed a decade ago. Another round of revision is likely to be initiated shortly. As and when it is done, we would expect that certain aspects of the scheme which have not received as much attention which they deserved would now be given due attention.
20. If the quality of secondary education is to be improved, and this is the basic thrust of this Report, the single-most important step which needs to be taken is planned and systematic re-training of teachers.
21. The actual job of training would have to be done by the Boards themselves with the assistance and cooperation of NCTE, SCERT, training colleges, university departments of education and other institutions.
22. The country does not have enough resource to work according to the traditional modes of re-training. Non-traditional modes like the open learning system will have to be adopted

Agenda for Future

Education of 14-18 age group : Expansion and Need for reorganization.

The secondary education is a fast expanding system. It would usher in a silent revolution perceived by Maharshi Aurobindo and Gurudeo Rabindranath Tagore as a transformation of adolescent into "Complete Man" through an educative process for an all round development of the individual. The secondary education sector is characterized by fast expansion despite the low literacy rates during the last five decades. Literacy rate increased from 16.67 per cent in 1951 to 65.38 per cent in 2001. However, the enrolment at Secondary/5th Secondary stages increased from 1.5 million in 1950 to 27.8 million in 1998-99. The grade nine to grade eight enrolment ratio is 86 per cent. Presently 46 per cent enrolment is in private aided schools, 45 per cent in government schools and about 9 per cent in private unaided schools. In states like Rajasthan, 84.6% enrolment is in government schools, 9% in aided private schools and 6.5% in unaided private schools. The enrolment data regarding the above mentioned categories in different states of India is heterogeneous in nature. This scenario presents before us challenges such as :

- i) Enhanced and accelerated access to schools.
- ii) Universalization of secondary education by 2010-2020 and capacity creation in terms of number of schools.
- iii) Open and informal lateral entries at secondary and senior secondary stage.
- iv) A progressive increase in GER by 10/20/40 per cent every five years after 2000 and reaching to a level of 100% in 2020.

Reorganization of the School Boards to meet the requirements for this fast expanding system, in terms of conduct of examinations, regulation and affiliation and accreditation, curriculum reforms, textbooks and inclusive education is a great necessity with holistic vision. The Boards cannot continue to play the role of examining bodies when the role of external examination is expected to shrink in its dimensionalities. Quality is basic to future development of secondary education. The development of five decades and near absence of impact of secondary education on our social fabric under the Directorates of Education in all the states do convey a message that administration of education wither in terms of curriculum reforms or modernized transaction, in-service training of teachers, use of educational technology, inculcation of values and competencies in vocational skill, requires to be replaced by "quality-oriented management". The USE and quality Secondary Education which is more relevant and innovative in its objective, contents, means and process can be implemented by providing a role of apex body to Boards for its implementation. The Amrik Singh committee report, inter-alia, dealt with these aspects in much greater details. The over-shadowing by universities or their dominance and administration of teachers and schools by the Directorate have been major reasons for non-attainment of achieving the above mentioned goals. The School Boards being a powerful vehicle for transformation of secondary education, the restructuring of their roles is the need of the hour.

National Curriculum and Futuristic Framework for School Boards

The POA, 1992 stressed the need for modernization of curriculum. Eight plans also suggested that necessary changes be initiated by NCERT. Now it has brought out National Curriculum Framework for School Education. The formation and prescription of secondary and higher secondary school curriculum has been the responsibility of Boards of secondary education in each state. The SCERTs, Textbook Bureaus generally catered to syllabus and textbooks up to elementary levels.

The requirement of National Curriculum Framework makes it mandatory for states that there should be a school Board for curriculum prescription from class 1 to 12. It should be inclusive of technical and vocational education as well as open and distance education. The other functions of curriculum transaction can be continuously carried out by different implementing agencies such as boards of technical education, vocational education and allied agencies. In some states, the SCERTSs/SIERTs are doing the work of curriculum formulation for classes 1-8. There is a need for convergence of these functions in one agency for co-ordination if secondary education is to grow from *within* the primary education. These assumptions have been envisaged in policy documents on education which refer to secondary education as a terminal stage of schooling.

Examination and School Based Evaluation

The existing role of Boards of School Education with respect to conduct of examination cannot be accomplished without academic functions par excellence in view of the transition from external evaluation to school based evaluation. The objective of a comprehensive evaluation is that it takes cognizance of both cognitive and non-cognitive capacities of students. Therefore, restructuring of the examination by the Boards will be required to have the following features :

- Formative evaluation i.e. school based comprehensive and continuous evaluation (CCE).
- Semesterization
- Increased weight age to semesterized school based evaluation in summative evaluation.
- Grading on nine-point scale to restore the faith and trust of students in examinations
- IT based evaluation procedures for improving the management of evaluation system and computer administered tests.

According to Dr. R.N. Mukherjee "worse than India's community ridden, social and political system is her examination ridden educational system". Therefore, emancipation from this role of school Board does not lie only in reforming the examination and evaluation system, but recognizing the Boards for new responsibilities and challenges from curriculum transaction to management of education with full autonomy. Boards can function with a mission-oriented approach in this direction.

Academic Reorganization of the Boards

- i) A meaningful school curriculum has to be responsive to the needs and aspirations of the learners, society and nations, inclusive of the struggle against inequity. It should be built on three pillars of Relevance, Equity and Excellence.
- ii) Impact of IT on education: The information and communication technology (ICT) revolution has a tremendous potential to transform school education. The integration of ICT in schooling would place new demands before the knowledge-driven society. Both the learners and teachers will be required to look beyond the classrooms. IT will be integral part of schooling process resulting in universal computer literacy, computer aided and computer based learning.
- iii) Education for Life Skills: The linkage of school education with life skills and value education are other areas of learning which are necessary for all-round development of the learners
- iv) Quality Oriented Approach

The New Role of DPI and Quality improvement in School Education

The Indian Education Commission or Radhakrishnan Commission (1948-1949) recommended that Director of Education should be the main officer responsible to advise the Minister of Education. It suggested that Director of Education should be the Chairman of the Board. The Mudaliar Commission deliberated on the organization of school education and objectives of Secondary education. The Kothari Commission, while recommending a uniform 10+2+3 structure and defining the role of school Boards, concentrated on setting up State School Board and National School Board and suggested that it has to function as an integral part of the education department. A clear cut role for the three players in school education i.e. school boards, directorate of education and district education officers, need redefining. The directorate of education has been given the role of inspection and not policy formulation. The Boards have always been considered an examining body. The articulation to implement the agenda of school education was never given to them.

School education in India needs radical change so as to accommodate the scientific and technological developments and the continuous flow of information into the child's world through different media. It was felt that school education should aim all round development of the child's personality by rebuilding the four pillars of learning, i.e. learning to know, learning to do, learning to live together and learning to be.

Based on the content analysis of State school curriculum and the implications of Delors report for curriculum developers, planners and implementers in the given Indian context, there the need for re-look at the curriculum both at elementary and secondary level for its utility in the present and future context. Reflecting on the existing curriculum, they expressed that the existing curriculum, at secondary level, is overcrowded, bookish and examination oriented. To improve the quality of education, there is need to examine the curriculum across subject areas keeping in view the phenomenal changes in economy, science technology and other aspects of human life. Against the core national curricular framework and within it, State can further develop its own detailed curriculum. There is a need for contextualised curriculum, suited to local needs and local requirements.

The secondary stage of school education in Indian context, need to be defined under proper perspective of national socio-economic objectives. The serious concern at the secondary level is the high dropout rate, difficulty in coping with the world of work and in leading a successful adult life. Kothari Commission reiterated the diversification thrust way back in 1964-66. The same was emphasized by other Commissions and Committees on education. Technical and vocational education need to be developed by linking it with employment sectors. The study of language, science and general knowledge should form the core along with options for diversified courses. There is a need for strong policy implementation mechanism, and careful assessment of pupils' aptitude with the help of professional guidance counselor. The group also emphasized that in the context of life long education, the concept of diversification of curriculum needs to be re-looked at as the '**Open Learning System**' has come up with vast potential.

There is also a need to improve the internal efficiency of secondary school system through improvement of infrastructure, teacher preparation, flexibility of curriculum materials, properly written textbooks and community involvement. The negative aspect of secondary school system should be viewed seriously. In this respect, contextuality of curriculum, teaching learning process, issue of equity and quality were emphasized.

The potential of non-formal education should be harnessed by strengthening, rebuilding and promoting awareness of open-learning system to the children. In this context, a relevant

curriculum model/package will have to be visualized. The strategies require overcoming the existing problems in development of curricular materials and diversified courses to meet the incumbent requirements. There is therefore the special preparation of teacher of alternative schooling system. In India and the State, alternating study and work require meticulous planning and widening the horizon of learning processes to prepare each individual as a life long learner.

The strong and unequivocal support of the Education Commission and subsequent policy resolution has failed to create conducive climate in the country for its implementation. The neighbourhood school system, National Policy on Education (1986) conceived a National System of Education, in which all the students irrespective of caste, creed, location or sex will have to access to education of comparable quality. It was mentioned that the concept of neighbourhood school shall have to be adopted to implement common school system and to implement the concept of common school system, every child should get admission in neighbourhood school. Further, the group viewed that, to generate demand among disadvantaged sectors, the provision of opportunity and financial support need to be ensured. As neighbourhood school system could be implemented with the backing of a strong political will and social acceptability of the same. Government alone can not improve the system. Hence, community shall have to come forward in a big way to contribute to education endeavour. The local community should also be involved in the mobilization of essential resources for strengthening the neighbourhood school. The implementation of neighbourhood school would definitely resolve the problem of equity, quality and language policy.



CHAPTER XI

A LOOK INTO THE FUTURE : VISION 2020

On the basis of what has been stated and analyzed at different points of the analytic cum empirical study on Secondary/Vocational Education certain glaring visualizations could be conceived for dissemination, probing and arriving at consensus both in terms of logistics and operational strategies. It is therefore thought necessary to spell out certain projections without being repetitive and redundant. Attempt has been made here not to further elaborate what has been stated earlier but to bring into focus, certain parameters which seem relevant, practical and feasible in terms of policy implementation provided there is a will to implement.

Need for Changes : All these factors will impel education to undergo vast changes in respect of objectives, content and methods. It will have to bear momentous responsibilities for generating new vistas of knowledge and wisdom, bolder forms of courage and heroism, unprecedented arts of harmony and beauty and unimaginable skills suited to developing technologies and crafts. It will also be required to set more exciting standards of excellence and perfection.

Information and communication Technology : The world is entering into an Information Age. Developments in communication and information and technology will open up new and cost-effective approaches for expanding the reach of education to children, youth as well as to those who need continuing education to meet the demands of explosion of information, fast-changing nature of occupations and life-long education.

The convergence between Information and Communication Technologies (ICT) has opened new vistas for social and economic development. After having missed the industrial revolution, the country is well poised to take full advantage of the ICT revolution. It is estimated that the contribution of knowledge led business to global GDP will double in next ten years and would account for two-third of the growth in global GDP. Being the largest producer of scientific and professional manpower, India has already established its comparative advantage in knowledge led business. In this context, education would be playing a significant role both as a producer of world-class manpower as well as in using ICTs for its own transformation and reaching the un-reached to ensure minimum levels of educational attainment by all citizens. While ICTs offer enormous potential for improving the delivery of services, the emerging digital divide between the rich and poor and between the rural and urban population has to be bridged by a judicious choice of policies and programmes for social development. Introduction of computers in schools is a major step in preparing the next generation workers. A number of innovations, including the smart schools, are underway for popularizing the use of information technology in education and training. As a result of the recent initiatives of the Government of India, a policy framework and information technology action plan has been prepared for the long-term human development. The ICTs will succeed in achieving these objectives only if the administration is positive and is adequately equipped to handle these technologies. Therefore, a number of management development activities are also being initiated for the administrators in general and for educational administrators in particular. **The objective of a complete education for a complete human being will need to be underlined as of highest importance.**

Setting New Objectives

A most difficult task ahead is to conceive certain new objectives of education. It will not be enough to promote specialized knowledge and skills of professional excellence; a deeper and subtler aim will be to develop abilities to think globally and to resolve emerging tensions between rationalistic, ethical, aesthetic and spiritual elements of personality. The objective of a complete education for a complete human being will need to be underlined as of highest importance.

Designing New Content

Another major task will be to change the content of education. Appropriate courses have to be designed so as to achieve a proper blending of wide general knowledge and such specialization which would have built-in facilities to renew relevant knowledge and skills at increasingly shorter intervals and even on a continuous basis. Increasing freedom of choice in selecting subjects of studies has to be ensured, and interdisciplinary studies will have to be so devised that they will foster understanding and appreciation of national history in the context of the global or multi-cultural understanding and of creating in the world a harmonious human family appropriate to the ancient Indian ideal of "Vasudhaiva Kutumbakam".

Student-Centred Education and Dynamic Methods

Methods of education also have to be appropriate to the needs of learning to learn, learning to do, learning to be and learning to become.

Student-centred education and employment of dynamic methods of education will require from teachers new attitudes and new skills. Methods of teaching through lectures will have to be subordinated to the methods that will lay stress on self-study, personal consultation between teachers and pupils, and dynamic sessions of seminars and workshops. Methods of distance education will have to be employed on a vast scale.

Towards a Learning Society

As we move towards a learning society, every human activity will require contributions from experts, and this will place the entire sector of education in sharp focus. Although the priorities, which are being assigned today to the task of 'Education For All' will continue to be preponderant, the country will have to prepare itself to invest more and more on all levels of education and simultaneously measures will have to be taken to refine, diversify and upgrade education and research programmes.

Teachers – New Dimensions of Their Role

Special emphasis on value-oriented education will impart a new dimension to the role of the teacher, for, value orientation cannot be imparted without teachers' own value-orientation. Again the objective of integral development of personality cannot be fulfilled without teachers developing their own integral personality.

It is increasingly recognized that if defences of peace are to be built in the minds of men and women, and if the qualities of cooperation, mutuality and harmony are to be fostered in humanity, the role of the teacher will include the task of changing the tendencies of egoism and domination that are the ultimate causes of division and war. It is particularly for this reason that a new programme for teachers' training has to be envisaged, and this

programme will not clearly cater to the continuous development of professional skills but also continuous development of teachers' ethical and spiritual abilities.

Secondary Education :

1. School particularly secondary/vocational education should aim at the all-round development of a child's personality by rebuilding it around the 'Four Pillars of Education' as suggested by Delors' Commission : '**Learning to Know**', '**Learning to Do**', '**Learning to Live Together**' and '**Learning to Be**'.
2. It is necessary to review the school curricula of secondary levels in the light of their present contexts. The curricula include across specific subject areas keeping in view phenomenal changes in science, technology, economic structures and other aspects of the society. Curriculum renewal should provide the scope for applying thinking skills.
3. There is need of paradigm shift in schooling processes; schooling ought to concentrate on generation of skills rather than dissemination of information. Schools should provide the platform to acquire communication skill, technological skill and skill to work together.
4. **For ensuring equity, the concept of neighbourhood school should be implemented. This can be made possible only with the backing of strong political will and social sensitivity.**
5. Internal efficiency of the schools can be improved by providing adequate infrastructure, planned and organised assignments by teachers, flexibility in the curriculum, properly written textbooks and involvement of community.
6. Secondary education should be diversified. Language, science and general study should form the core along with options for other diversified courses.
7. Technical and vocational education should be linked to the employment sector.
8. At the secondary stage, employment and education need to be combined so as to provide relevant technical skills.
9. Necessary adjustments should be made in the curriculum and the education system including teachers' training with a view to ensure that disabled children have adequate access to education. NGOs can provide leadership in this direction
10. Top priority should be given to improve the quality of instructional material.
11. There is need to explore and expand the potential of open learning system.
12. There has to be partnership between government, NGOs and private sectors in education as Government alone is not capable of providing all the services. Partnership, however, does not mean sub-contracting but working as equal partners.
13. Analysis of 'O' base results over 3 consecutive years in secondary schools reveal along with other analysis. Basic infrastructural facilities like classroom, library and science equipments in private areas should be provided.
14. Steps should be taken to fill up the vacant posts in secondary schools for creating proper teaching learning atmosphere leading to completion of courses.
15. Academic supervision and monitoring of schools should be strengthened, specified by the Inspector of Schools giving responsibility to Class-II OES Officers in each educational district
16. Continuous updating of knowledge of teachers through inservice programmes need be strictly followed and provision be made for the purpose.
17. Teacher education institutions preparing professional secondary school teachers should by all means have more professionalism built into their functioning.
18. Each secondary school has to be formally assessed like NAAC of UGC, by a mechanism developed in the State SAAC (State Assessment and Accreditation Council). A similar step has been taken for NGOs in the disability area by Commissioner of Disabilities at the center.

19. Grant-in-aid system be performance linked. Teacher tenure system be scrupulously outlined and introduced.
20. While evaluation of performance in the academic domain has been recommended to be grade linked, similar procedure be followed for uni-scholastic areas. Both should be streamlined.
21. Institutional culture be built up with principles of Total Quality Management.
22. Secondary schools can be opened in low literacy Tahasils or Blocks wherever it does not exist with proper preparation and back up.

Education of ST

23. Naming schools for tribals as Kanyashram, Sevashram, TRW high schools give spoils a negative tilt and students a stigma due to such leveling. They can be designated other schools to avoid stigma and leveling effect.
24. Curriculum adaptations should develop cultural identity of tribals, dispel feeling of alienation by restructuring contents and process of education including method of teaching.
25. There is a need for changing the concept from welfare to education and develop readiness programmes, enrichment programme, language interventions etc. as a regular programme.
26. State secondary education curriculum should be re-designed in terms of National framework keeping class-IX and X, XI and XII under secondary education and take back VIII to the upper primary level (VI-VIII).
27. Encourage self-financing public schools to address quality, access and equity issues as well as for USE.
28. Schools are economically unreliable should be abolished.
29. Contextuality be one of the guiding principle for providing secondary education, and as such reasons, groups be identified.

Manpower Capacity Building

30. The role of teachers requires drastic overhauling. They should move beyond their present roles as mere transmitters of knowledge and information but transformers of knowledge and information. The new role shall enable the facilitation of child learning.
31. There has to be a new kind of curriculum for teachers in order to enable them understand and develop and go ahead with change.
32. Both pre-service and inservice programmes should be improved.
33. Proper coordination ought to be maintained between theory and practice to enable the teachers face the future challenges with confidence.
34. Norms and standards must be developed for various categories of teachers' training institutions. These should form the basis of recognition of teachers' training institutions of various types. Entry qualification of elementary teacher education programme should be uniform across regions.
35. There is need to develop quality material for teacher educators of elementary teacher training. Teachers must be involved in preparation of material.
36. Teachers should be specifically trained to teach disadvantaged groups.
37. There is need to update and improve teachers' knowledge and technique throughout their lifetime. The latest educational developments should be reflected in the inservice programmes.
38. Teachers' organizations ought to play a crucial role in institutional capacity enhancement.

Vocational Education

39. While +2 stage in Higher Secondary Education has streamlined for taking up vocational education courses of years durations – courses offered in the area should be based on manpower requirement and possibilities of self-employment. Courses which are timely and viable such :
 40. Computer/information technology
 41. Pharmacy
 42. Nursing
- may be opened in addition to existing Agriculture, Commerce, Home Science, and Engineering related courses.
43. The Pandit Shankar Lal Central Institute of Vocational Education (PSCIVE), Bhopal has brought out a State wise report on types of vocational courses to be opened in each state to promote employment and facilitate self employment. A copy of this is available for Orissa in PSCIVE, Bhopal
 44. In order to make vocation education more effective and viable permitting vertical mobility a 3 year vocational course be conceived in relevant areas and organizations such as APTECH, OCAO, NIIT may be requested to open up computer as electives in secondary schools.

Educational Policy, Planning and Management in Secondary/Vocational Education

45. State has to assume major responsibility in bringing about changes necessary for the developments earmarked to take place in the 21st century. Once basic education becomes a fundamental right, the role of the State would automatically acquire greater importance, particularly, in the respect of children below the poverty line. The state will have to provide guardianship besides providing accessibility and assuring conditions for the success of such children.
46. A standing partnership between the state and the community shall prove to be effective for imparting and promoting education. NGOs will also have to participate in this project of education.
47. To enhance quality education, a certain portion of the fund should be earmarked for infrastructure and developmental activities.
48. Education for life, through life and throughout life has to be implemented through open learning and distance education. Alternative modes of education should also be strengthened. Facility of open learning and distance education must be fully exploited.
49. For enhancing quality of education, proper evaluation system is needed.
50. To achieve institutional effectiveness, the capacity of planners and administrators need to be raised by organizing training/orientation programmes
51. Information system for education should be improved for any realistic assessment of the present situation, which is necessary for formulating good plans and good policies

People-centred Growth Oriented Governance

52. Refocus its priorities and spending, that is, concentrate its attention and resources on those sectors of the economy that needs its intervention and let market forces govern the rest. For those sectors, Government will act as a facilitator and catalyst of

growth. At the same time, it will remain sensitive to the need for social equity and well-being.

53. Decentralize governance and ensure that people will have to decisive say in local administration.
54. Introduce 'Electronic Government' i.e. use IT based services to demystify procedures and improve the citizen government interface.
55. Become a SMARI (Simple, Moral, Accountable, Responsive, Transparent). Government by improving transparency and accountability and ensuring effective and responsive services.
56. Enhance its capabilities and encourage and ethos of public service to strengthen policy making and performance
57. Take a leadership role in regulatory and other reform.
58. If quality and improvement is the concern it is essential that we invest adequately in building leadership and management capabilities among school principals, and other senior staff of secondary schools. In fact, this is of special significance in the context of the move for changing the structure of school education and possible integration of secondary and higher secondary education.
59. Government secondary schools functions under an unidentified mega system. Schools do not carry any special identity. They are managed by an administrative hierarchy and no one is accountable. It is suggested that school based management be introduced which has been developed in many developed countries.

Conclusion

Education is an asset, too valuable and vital to be left to the vagaries of market forces. The state must play a key role by basing educational policies on a consensus and a long-term futuristic perspective. Keeping the aspirations of a pluralistic society in mind, the state can regulate the organization, management and resource allocation of secondary education accordingly. Centralized dominance replaced by local dominance by the privileged of the same variety is no solace. Quality and efficiency are not to be narrowly judged by market forces. Their social and human denomination must never be forgotten.



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SECTORAL STUDY ON SECONDARY / VOCATION EDUCATION IN ORISSA

TEACHERS

- 1. Age :
- 2. Sex : Male / Female
- 3. Years of Teaching Experience :

Teacher Training :

- 4. a) Have any orientation training programmes / refresher course you have attended ?
- b) Do you think these training programmes were useful ? Yes / No
- c) If yes, please specify as to how they have helped you in the teaching learning transaction :
 - i) Content Enrichment
 - ii) Methodology
 - iii) Classroom Management
 - iv) Evaluation
 - v) Content Analysis
 - vi) Lesson Planning
- d) If not, Why ? Please explain :
 - i) Repetitive
 - ii) Duration was less
 - iii) Too theoretical
 - iv) No scope to clarify our doubts
 - v) Not useful for classroom teaching
 - vi) Resource Persons were not effective
 - vii) It does not help in improving the performance of students
- 5. How many periods do you teach a week ?
- 6. a) Are you able to complete the portions well on time ?
- b) If no, kindly tick any of the reasons given :
 - i) Syllabus is heavy
 - ii) Due to other institutional workload
 - iii) As individual attention has to be given for slow learners
 - iv) As there are no facilities for conducting classes before / after school hours.
 - v) As the number of holidays are more in number
 - vi) Examination focussed

7. Do you revise the lessons / topics / chapters before that final examination? : Yes / No
 If yes, which type of lessons / topics / chapters do you revise :
 i) Difficult ones
 ii) What the students ask
 iii) All
8. Do you give home work / assignments? : Yes / No
9. Do you hold class tests? : Yes / No
10. What do you look for when you correct papers? :
 i) Length of answers
 ii) Hand writing
 iii) Content
 iv) Language
 v) Presentation
11. i) Do you identify students with learning difficulties? : Yes / No
 ii) What steps have you taken to overcome these difficulties? :
12. Do you give progress reports for students after tests and examinations? :
13. Do you use teaching aids in your teaching regularly? : Yes / No
14. What methodology do you adopt while teaching? :
 i) Lecture Method
 ii) Demonstration
 iii) Discussion
15. While teaching, what is the percentage of students who interact in class? :
 i) Less than 25%
 ii) 26 to 50%
 iii) 51 to 75%
 iv) 76% and above
16. Use of Laboratory Is the equipment relevant to the present syllabus? : Yes / No
17. Do you have access to latest information? : Yes / No
18. Do you find the present textbooks used in schools :
 i) Heavy in terms of content
 ii) Not sequential in content presentation
 iii) Language used is difficult
 iv) Students cannot understand the material in the book



SECTORAL STUDY ON SECONDARY / VOCATION EDUCATION IN ORISSA

STUDENTS

1. Class in which the student is studying : **VII** **IX** **X**
 2. Age :
 3. Sex : Male / Female
 4. Caste (Tick the appropriate) : **SC** **ST** **General**
 5. Name of the high school where you studied :
 6. How many hours do you devote for studies beyond school hours? :
 7. Do you go to private tuition? : Yes / No

About Your Education :

8. Difficulty level of each subject (for high School) :

Subjects	Very difficult	Difficult	Not difficult
Languages : I. II. III.			
Mathematics			
Science			
Social Science			

9. Difficulty level of each subject (Vocational Subjects) :

Subjects	Very difficult	Difficult	Not difficult
Languages : I. II. III.			
Trades : I. II. III. IV.			

Nature of Difficulty :

10. What are the reasons for not being able to understand the lessons ?
- i) Medium of Instruction
 - ii) Difficulty in the content
 - iii) Lack of understanding of the fundamentals.
 - iv) Lack of motivation on the part of teachers

- v) Improper methods of teaching
- vi) Lack of proper guidance by the teachers.
- vii) Lack of proper guidance from parents
- viii) Lack of learning atmosphere in the institution
- ix) Lack of learning atmosphere at home
- x) Lack of concentration
- xi) Difficulty in following the teachers' language
- xii) Long term absence in school
- xiii) Subject teachers are not there to teach the subject
- xiv) Any other, specify

11. a) Have you expressed these difficulties with your teachers? : Yes / No
- b) Does your teacher help you in clarifying your doubts? : Yes / No
12. While teaching, do the teachers use teaching aids? : Very often / Sometimes / Not at all
13. While teaching science subject, do they conduct experiments? : Regularly / Sometimes / Not at all
14. Do you get home assignments? : Yes / No
15. Do your teachers check the home work? : Regularly / Once a Week / Not at all

Class Tests :

16. How often are the class tests conducted in the following subjects (for high schools)?

Subjects	Once a Week	Fortnightly Once	Monthly	Three Months Once
Languages : I. II. III.				
Mathematics				
Science				
Social Science				

17. Does your school has library facility? : Yes / No

For Vocational Students only :

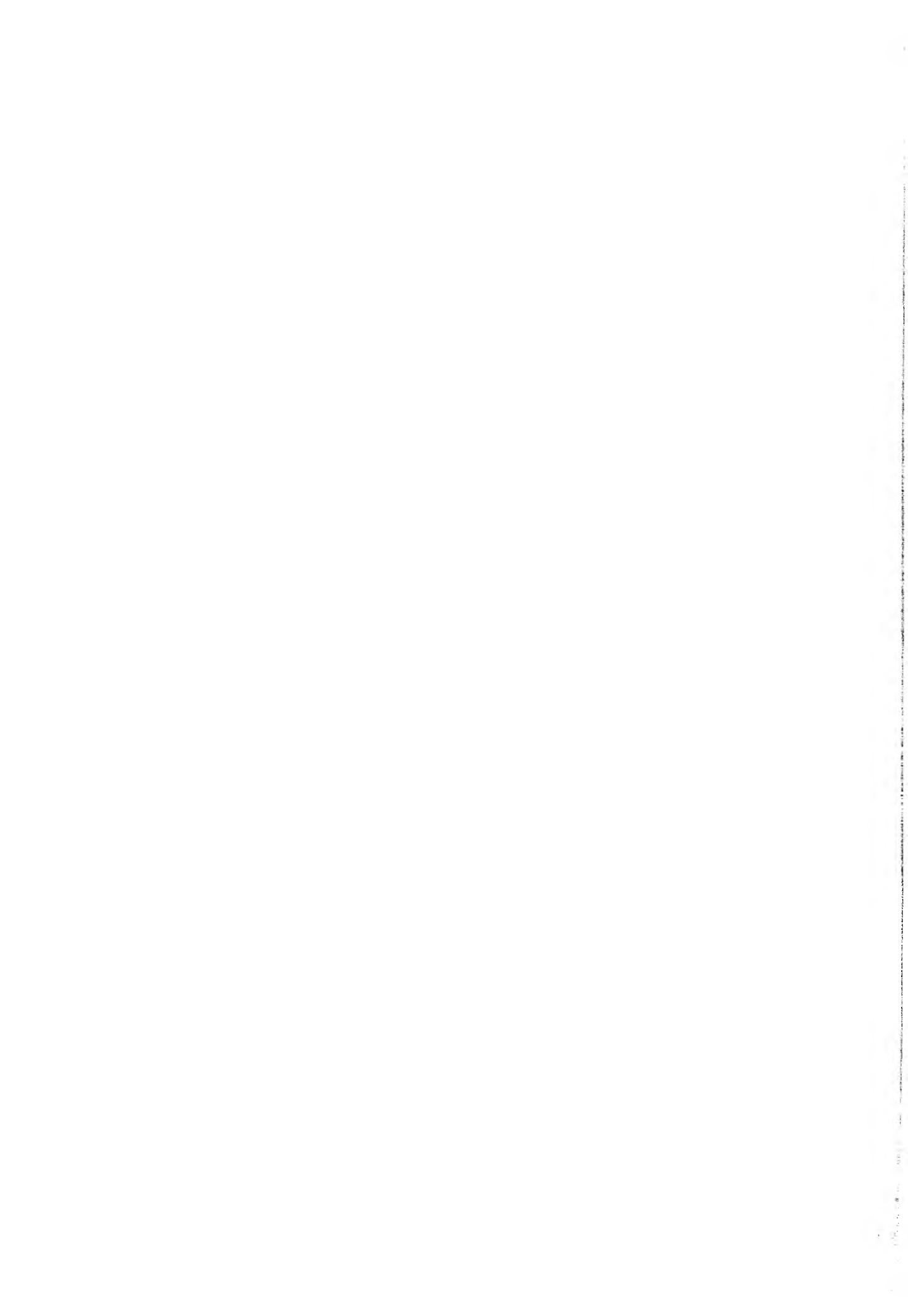
18. a) Does your teacher take you to laboratory to perform experiments? : Yes / No
- b) If yes, do you work in individually or in a group? : Yes / No

Sector Study IV

**PROMOTING CORE COMPETENCE, CAPACITY BUILDING OF
TEACHERS, STAFF DEVELOPMENT AND GOOD GOVERNANCE**

Shri P.K. Patnaik

2003



Where is the life
We have lost in living ?
Where is the wisdom
We have lost in knowledge ?
Where is the knowledge
We have lost in information ?
The cycles of heaven
in twenty centuries
Bring us farther from God
And nearer to dust

T.S. Eliot : Chorus from "The Rock"

One of the major problems in the education sector is the lack of a framework of analysis. Not to speak of a future, even the present reform context is missing in all debates. The developing nations are often told that they lack humane governance reflected in the oppression of backward communities, women and children, while dictatorial regimes survive in their ability to create their own illusory make believe world. Addressed to the 'third-world', the 'first-world' created two new 'worlds' - tribal forming the 'fourth World', and women and children forming the 'fifth'. The rise of competing identities claiming attention in democratic polities, provide daunting challenges to our societies. And in these challenges lie opportunities for reforms and good governance that need to be recognized.

"Today's reality, may prove an illusion tomorrow" (Luigi Pirandello, Six Characters in Search of an Author). If we do not face up to these realities, we would only be adding to our problems to which we seek solutions today. With the seemingly rapid expansion of education, we have been deluding ourselves with its spread, ignoring quality. There has been very little transformation in the education sector. The greatest barrier to the radical reorganization of education is the economic and social structures. Since independence the important role of education in national development, no doubt has been recognized. But this has not been built into the strategy for educational reconstruction.

While reforms in the field of education have always remained on the agenda, these reforms have not really percolated down the system. There has been no corresponding increase in the quality of governance. Despite education being a joint responsibility of the Centre and States with the enactment of the forty second amendment of the Constitution of India, government exercise very little power over education. Teacher's unions and associations are a control unto themselves. The old Soviet adage applies perfectly - 'they pretend to teach and we pretend to pay them'. We have the shortest school year and the shortest working day in the civilized world. In absence of necessary empowerment the community has played virtually no role in the management of education. The country is letting too much of its human capital go to waste; the gap between the rich and poor, the elite and masses has widened. In the last five decades although things have changed, the more things change the more they look alike - *plus ça change plus ça meme chose*, as the French would have expressed it.

Good governance is the key to pragmatic implementation of reforms. Good governance means enhancing capabilities of all those who implement reforms and work within the system. Since it is the people who matter in the ultimate analysis good governance means empowering people and providing security to the people. There is need for reworking the system. The need of the hour is to make the system work. The state administration need to be geared to adjust itself to the many challenges facing education. There is need for inter and intra sectoral convergence of basic needs for holistic development of education.

Panchayati Raj institution (PRI) must be empowered as a firm expression of the political will, and determination of the government for educational reconstruction and development in the state.

The Human Development Report, 1999 says, "Accordingly, the governance must be seen by the people as operating in their own interests - transparent and accountable to all its constituent and conducive to building a society in which all believe they are treated fairly and decently". This is elaboration of the World Bank perception. The World Bank, which put the word to use, perceived it as "the manner in which power is exercised in the management of a country's economic and social resources" No matter how power is exercised, it must be seen by the people to be transparent and in which all believe that they are treated fairly. Transparency and accountability are the twin attributes of good governance.

At a time when financial crunch affects adversely all development activities in the state, staff development becomes a debatable issue. Whether it is pre service, training of staff, re-training of existing staff to update their knowledge, or appointment of new staff, staff development poses serious problems. Staff development related to structural reforms and to good governance raise serious questions.

Structural reforms are necessary to relate the past with contemporaneous needs. It is necessary to capture the challenge of change, as often change is not recorded, and therefore, not reflected in contemporary texts and institutions. Since education is the medium through which information, knowledge, skills and values are transmitted from the ancient to the modern, it assumes critical importance on a certain urgency.

While talking about reforms in the educational sector, one has to look into the needs of the learner, teacher, and infrastructure. Among the learners it is necessary to distinguish those enrolled, those enrolled and dropout, and those who are repeaters. Those who are not enrolled constitute 11 per cent of the children of the relevant age group. 80% of those dropouts, do so before the completion of the elementary stage.

It is evident that we do not distinguish between education and schooling, between schooling and learning, between learning and achievement. The 'great debate' is whether primary education ends at class IV or V ? Whether elementary education ends at VII or VIII ? Whether class VIII is part of elementary or secondary education ? Whether secondary education terminates at class X ? Whether it should include class XI and XII since 12 years of basic education form part of school education all the world over? Whether education should be concerned with information, knowledge, or should also include training, skill development, upgradation of skills to cater for the needs of the world of work ? Whether education is seen as a value in itself or as a means to certification of certain qualifications ? All these issues arise out of the challenge of education and would need to be looked into seriously. The only ground available for building the democratic city of reason and its good life is EDUCATION.

The right to primary education is enshrined in the Universal Declaration of Human Rights (1948, Article 26) and the UN Convention on the Rights of the Child (1989, Article 28). The international targets to ensure development through education require Universal Primary Education for all by 2015 and Gender equality and Empowerment of Women demonstrated by elimination of gender disparity in primary and secondary education by 2005. The ninety-third amendment to the Constitution of India making education a fundamental right within the meaning of Article 21A, the National Policy on Education approved by Parliament in 1986 as modified in 1992 envisaged free and compulsory education for all children until

they reach the age of 14. The goals under the Sarva Shiksha Abhiyan provide that all children of age group 6-14 must complete primary education by 2007 and eight years of elementary education by 2010. It also makes it imperative to bridge all gender and social category gaps at the primary level by 2007 and at elementary education level by 2010.

Social exclusion of minorities may create chaos in governance. When a child is disadvantaged because she is a tribal child, or she is a child from a linguistic minority group it may lead to confrontation, particularly because a child not belonging to these categories is in a sense 'privileged' because of the language of initial instruction. Refugee children add to the confusion. India with its 3000 mother tongues, mapped into between 200 and 700 languages belonging to six language families, with 4000 castes and communities, 4000 faiths and beliefs is a country of minorities. Scheduled Caste and Tribes together comprise nearly 40 per cent of the Orissa's population, and constitute the weakest link of the social fabric. Good governance can be ensured only when the competing needs of a pluralistic society is recognized and accepted as a part of policy and its implementation.

Structural reforms in the education sector therefore acquire a certain urgency in the context of the essential need for good governance and assumes special significance.

Teachers constitute one of the four main pillars of education, and the principal support on which the edifice of the education system must rest. Next only to students, teachers form the single largest input into the education system; teachers are also the determinants of the quality of education imparted. Staff development in this context would necessarily mean increasing the core competence of teacher, enhancing the capabilities of the teacher and all those educational administrators involved in the process of implementation of reforms and improving the delivery of services. Professional development of teachers is, therefore, central to improving the quality of education. The demands on teachers' competence, professionalism, motivation, and dedication impose on them an enormous responsibility. The importance of the quality of the teacher and the quality of teacher education in any education system must therefore be recognized. Improving the quality of education would depend essentially on improving first, the recruitment, training and conditions of work of teachers.

The disposition of teachers in the state according to their age-group and professional training at various stages of education is indicated below :

Stages of education	Teachers		Percentage of teachers according to age in years									
	Total	Untrained	Below 25		26-34		35-44		45-54		55	
			Total	Untrained	Total	Untrained	Total	Untrained	Total	Untrained	Total	Untrained
Primary	99530	7977	4.23	33.21	30.05	39.99	30.25	14.51	30.11	12.28	5.36	3.01
Upper Primary	37828	4727	1.97	8.04	21.65	19.41	44.94	40.60	25.64	29.09	2.80	2.86
Secondary	44995	6741	5.22	10.90	39.88	46.67	34.55	30.99	17.72	9.41	2.63	2.03
Higher Secondary	3617	1918	10.31	12.77	65.88	71.70	17.03	13.29	5.67	1.93	1.11	0.31

Source : Sixth All India Educational Survey Orissa

The survey conducted by the NCERT in 2001, goes to show that 40,000 primary school teacher posts are lying vacant in the State while more than 20,000 persons are available who already received teachers training with C.T. or B.Ed. qualifications. It is rather distressing to note that not a single primary school or upper primary section has been opened in the State during the Ninth plan period. Under the scheme of Operation Blackboard, 10,023 posts of additional teachers in primary schools were sanctioned in the financial year, 1998-99. Posts of additional teachers could not be created due to interim

stay order of the High Court (*Orissa Education Profile*. <http://www.sietorissa.nic.in/oriedu.htm>) The state government have, instead resorted to the practice of appointing Siksha Karmis and Siksha Sahayaks under the Education Guarantee Scheme (EGS) with a view to providing facilities for education to the unenrolled children in the State. It is difficult to believe that the objective of universalization of elementary education (UEE) could be achieved without opening new schools, or appointing additional teachers through such adventitious means which provide but an easy option of dubious merit. The need for providing quality education to our children demands that the consequences of entrusting the future of our children to untrained, or inadequately trained, stipendiary teacher's care should be studied carefully with a certain degree of seriousness it deserves.

The multiple goals of holistic development of education in the State, must converge on promoting the 'core competence' of the teacher, and building the teachers' capacity to implement the reform agenda. This would demand that a pragmatic approach should be adopted to teacher education and staff development in the State.

Government of Orissa have created a separate Directorate called Directorate of Teacher Education and SCERT since 1990 to create 'enabling' conditions to initiate reform and renewal movements in building the competence and commitment of teachers. A network of a new generation institutions, comprising (49 Government Secondary Training Schools existing earlier), 13 DIETs, six CTEs and three IASEs has been established in accordance with the recommendations of NPE, 1986 mainly for promoting better performance of teachers. The major activities of Directorate of TE and SCERT can be broadly categorised as follows :

- management of all teacher education institutions both elementary and secondary
- development and renewal of curriculum and textbooks, teachers handbooks, workbooks, training manual, etc. for Class I to VII
- planning and organisation of pre-service course such as C.T., B.Ed, M.Ed and M.Phil (Education) in Teacher Education Institutions
- capacity building programmes for inservice elementary and secondary school teachers in content upgradation / enrichment
- new pedagogy and specific areas, capacity building of the faculty members as well as educational supervisors and
- improving quality of science and mathematics education and organization of science exhibitions and seminars etc.

In the mean time, the Government of India have sanctioned another four DIETS which will be made operational very soon. The major activities of the DIETs are as follows :

- conduct of pre service teacher education, inservice training of the primary school teachers
- curriculum material development and evaluation
- planning and management
- working as District Resource Unit (DRU) and
- ensuring capacity building of the teachers and other activities.

In the Tenth Five-Year Plan the commitment of the state government include providing training to all untrained in service teachers, providing DIET in each district, revamping, strengthening and restructuring existing TE institutions.

This process of decentralisation of teacher's training is further extended under the externally aided projects through the establishment of Block Resource Centres (BRC) and Cluster Resource Centres (CRC).

The Directorate of Teacher Education and the State Council of Educational Research and Training is functioning at present as the apex body at the State level and provides resource support for all types of teacher education programmes. The responsibilities of the Directorate, *inter alia*, include development of curriculum and textbooks for the elementary grades (classes I-VII in Orissa), supervision and monitoring of teacher education programmes, introduction of innovations in classroom practices and institutional management. Its main objectives are stated below :

- Planning and implementation of all types of teacher education programmes (pre-service and in-service) for school teachers all over the State,
- Implementation of externally aided projects and programmes related to school education
- Promotion of Science and Mathematics education in schools, development of curriculum and textbooks for elementary grades (classes I - VII), conduct talent search examinations for school children in the State
- Promotion of language education, particularly language as subject and language as medium. Linking languages keeping in view the needs of multi-lingual and pluri-cultural society should receive priority attention.

National Policy on Education (1986) and POA (1992) emphasise highly on teacher training and competence building as a basic requisites for achieving UFE. The National Policy on Education recommended decentralising the technical and academic support mechanism by establishing a District Institute of Education and Training (DIET) in each district, exclusively to cater to the development needs of elementary education of the particular district. It has also recommended to upgrade some selected Secondary Teachers Training Colleges to complement the work of SCERT. State policies and programmes for Teacher Education are informed by the premise that teacher competence, commitment and performance depend, almost entirely, on : *first*, the quality of candidates who seek admission in Teacher Education institutions, *second*, the quality, relevance and rigour of the pre-service preparation / training, *third*, the breadth and depth of inservice training programmes for practising teachers; and *fourth*, the self-propelled motivation of teachers, both prospective and practising for professional development. The basic provisions and issues and concerns are indicated below :

Provisions :

- Innovations and experiments in improved Classroom processes, evaluating learner performance and positive practices in primary schools are being tried out and put in place.
- Massive capacity building programme for teachers is taken up by DIETs, CTEs and IASEs on a regular basis in four major areas : (i) content upgradation and enrichment, (ii) emerging pedagogy, (iii) contemporary concerns and themes, and (iv) school-based management.
- Pre-service Certified Teacher (CT) and B.Ed. training is offered in Teacher Education Institutions of the state
- A Distance Education Course has been launched to train around 12,000 untrained elementary school teachers of the state

- An elementary cadre for teachers has been created providing scope for vertical mobility of teachers solely on seniority basis
- As per recent policy each of the 30 districts shall have a DIET or a District Resource Centre (DRC), a scale-down structure of DIET for smaller districts, during the Tenth Plan (2002-2007). This will substantially improve the quality of elementary education in the districts.

Concerns :

- The NPE (1986 and modified in 1992) and POA (1992) envisaged radical restructuring and re-organisation of teacher education. The new generation Teacher Education Institutions such as DIETs, CTEs and IASEs that came into existence in the wake of NPE have, by and large, remained in their old role mould. Barring a few areas, they have confined themselves to their conventional roles. They have to move radically away from their earlier moth-eaten roles.
- Creation of a separate Directorate for Teacher Education in 1990 has, of course, created an enabling condition to meet the mandate of restructuring and re-organisation of the Centrally Sponsored Scheme of Teacher Education Programme. Notwithstanding this, the absence of a cadre of Teacher Educators, both for Elementary and Secondary level, stifles motivation of Teacher Educators for improved performance; formation of a cadre of teachers, it is expected, will boost their morale and professional commitment.
- Non-creation of required number of posts, teaching and supporting, and non-filling of posts created in DIETs, CTEs and IASEs have remained persistently unresolved issues since 1988-89. This has inevitably led to two major problems : (i) non utilisation of substantially large Government of India funds provided for salaries and programmes; (ii) difficulties to take on innovative and non-traditional programmes due to shortage of academic staff; and (iii) inability to reach out more and more schools and teachers for building their capacity and competence which adversely affects their performance.
- The Directorate of TE and SCERT and its network of DIETs are severely constrained in coping with the magnitude of work in respect of its own capacity building programmes of DPEP, SSA and Janshala Project due primarily to a large number of vacant posts in DIETs and placement of inappropriate officers in SCERT. The SCERT, therefore, needs placement of competent, committed and qualified officers suitable for its diversified programmes and activities. What is required is selection and placement of appropriate officers with commitment and training.
- While the elementary teacher education institutions comprising 13 DIETs under the Centrally Sponsored Scheme of Restructuring and Re-organisation of Teacher Education, prescribe higher qualifications for Teacher Educators, the 49 Government Secondary Training Schools have teaching staff with lower qualifications. Similarly, while the former are affluent institutions in terms of infrastructure and other support systems, the latter are deprived of such facilities. Thus, these two sets of institutions offering same pre-service course (CT) are not comparable. This reflects the absence of equity between these two distinct groups of elementary teacher education institutions. This disparity needs to be removed.
- Teacher education being a professional course must be linked with manpower requirements of the state. The mismatch between demand and supply of teachers creates problems. In order to ensure balance between demand and supply, short-term and long-term manpower requirements need to be worked out.

- The National Council for Teacher Education, a statutory body created by an Act of Parliament, has hitherto confined itself to ensuring norms and standards with regard to infrastructure, staff, and other support systems. Hardly has it gone beyond the physical inputs of the system. It is high time that the NCTE should seriously look into the quality dimensions of Teacher Education programmes. This will certainly add to the credibility of NCTE for co-ordinated development of Teacher Education Programmes in the country.
- Selection of candidates to the pre-service teacher education courses (CT and B.Ed.) is done exclusively on the basis of career assessment. This has inevitably led to selection of candidates who do not have the right kind of attitude, aptitude and interest that are required for an effective teacher. Selection of candidates solely on career assessment has become obsolete. What is, therefore, required is a selection based on performance in an entrance examination of tough order and followed by a rigorous mechanism for personality appraisal.
- The Teacher Educators have an extended role for teaching, research, and extension. Besides this, capacity building of practising teachers is their mandatory responsibility. This necessitates possession of mastery in the subjects being taught in elementary and secondary schools and essential pedagogical skills for effective curriculum transaction. This necessitates that Teacher Educators must continuously upgrade and update their own knowledge and competence.
- To this end, the SCERT should prepare a systematic plan for staff development within the shortest possible timeframe.

The need for teacher training is based on (a) appointment of trained teachers in ME Schools - 12,762; (b) the replenishment of retirees and filling of vacancies due to death, resignation etc. - 5% of 44,385. HS teachers : 2220; (c) requirement of around 500 teachers for new schools. Total number of graduate trained teachers required is 15,482. The total demand of CT teachers is 6,636 per year.

The functions of the composite Directorate of Teacher Education and SCERT may be broadly arranged under three categories :

- Teacher Training programme and all types of teachers education both pre-service and in-service for school teachers
- Research into and strengthening of pedagogy component including curriculum development for all elementary grades (Class I - VIII), development of curriculum and instructional material - textbook, workbook, teachers handbook for elementary school teachers, strengthening the teaching of science and mathematics in schools; and
- extension activities, including the flow of all the skills and expertise from the State level to the classrooms which also include preparation of state report, training and pedagogy, district plans, conducting baseline assessment studies (BAS), mid term assessment survey (MAS) and terminal assessment study (TAS) in all districts covered under the DPEP and Sarva Shiksha Abhiyan, and
- intervention strategies to improve the quality of school education and teachers education.

Paradoxically, while there has been significant improvement in the quality of teacher training, of late, and increasing awareness of the need for improvements in teaching methods, there is no corresponding improvement in the quality of teaching. Virtually there is no quality teaching available in most of the state run schools, particularly in far-flung

rural areas. The problem has been compounded further by the twin evils of teacher absenteeism and the practice of private tuition prevalent on a large scale which bedevil the teaching-learning environment in our schools.

What can be done with respect to teachers who do not teach? Strict vigilance and better supervision, no doubt, can improve the situation to some extent. No radical improvement can, however, be achieved by better supervision alone. The teaching community, as a whole, should take up the challenge; the problem may be posed to them. There are indeed many teachers who act with remarkable commitment and their dedication can be enhanced further through increased consultation, provision of better facilities, regular inspections, and the operation of a good incentive system. Thousands of teachers function under extremely difficult circumstances. Despite the adverse conditions in which they work, there are indeed, many teachers who are deeply committed to their work. The large majority of teaching community would not allow a few black sheep among them to tarnish the traditional image of dedication, the teacher still enjoys in the society. We ought to tap their potential far more positively, creatively and effectively for improving the performance of teachers in our schools. A system of incentives to reward efficiency and enhance the morale of efficient teachers must be devised. This can only be achieved by exercise of collective will of government, the community through their representative bodies for effective improvement in teacher efficiency, elimination of the problem of teacher absenteeism and the practice of private tuition, at considerable expense to the teaching-learning endeavour in our schools.

It is imperative that the following steps be taken to improve the quality of school education and teacher education :

- Special attention should be paid to improving recruitment, condition of work of the teachers as well as teacher educators and enhancing their social status to enable them to play their roles effectively in the ultimate renewal of educational practice. To ensure that good teachers are attracted to the profession, salary and condition of service of teachers are sufficiently attractive compared to similar types of employment requiring comparable levels of training, the process of selection of teacher educators and pupil teacher at the entry point should be based on well identified qualitative norms and rigorously implemented. The qualification for pre service teacher education may be enhanced and enforced rigorously. The goal should be two-year B.Ed. Course and the one-year programme should be considered transitional.
- Development of in service training programmes for teachers be geared to acquisition of special pedagogical skills and upgradation of skills, introduction of new technologies for teachers and new approaches to teaching should be developed which should place emphasis on innovative practices. In service programmes are of two types, one is training of untrained teachers and the other is updating and upgrading of skills of all teachers.
- The role of the teachers in awakening the curiosity of the pupils, stimulating independence in thinking and creating condition for success in formal, non-formal, and continuing education should receive special emphasis in all types of teachers training and education programmes.
- Improving motivation of teachers is an essential pre-condition of quality improvement in teacher education, which should focus on promoting the 'core-competence' of teachers and engendering professionalism in their work.
- Good quality training entails bringing trainee teachers into contact with senior experienced teachers and researchers in their particular disciplines. Regular

opportunities should be offered for practising teachers to gain knowledge of innovative approaches to learning through in-service courses. In-service training facilities offered should be flexible in form so as to draw out *educere* (Latin, which means to 'draw out'), the best from each teacher trainees and enhancing his / her skills and motivation.

- Manpower needs of teachers in coming five years may be assessed with a view to quantifying the existing additional requirement of teachers and taking in hand programmes for their training and development. The scope of existing programmes for staff development need to be expanded and extended to meet the demand for training.
- As trained graduates are posted as Headmasters of upper primary schools as per present practice in the state, introduction of B.Ed. (Elementary Course) on lines similar to those provided by the Regional Institute of Education (RIE) may be considered. Alternatively, special training capsules may be devised and training programmes organized for senior teachers teaching elementary grades with the collaboration of the Regional Institute of Education leading to the award of B.Ed. (Elementary Course) prior to their posting as Headmasters.
- For language teacher education B.Ed. of Delhi University may be considered as a model which can be suitably adapted to the requirement of schools in Orissa. Language laboratory may be provided in each of the training institutions.
- The Directorate of TE and SCERT should be strengthened with development of multiple linkages with similar institutions. Linkages may be developed between Teacher Training Institutions and Universities to allow free flow of academic inputs for training and development of teaching and what is more important, use of these inputs in the teaching learning process in classrooms.
- A monitoring cell may be established in the Directorate of TE and SCERT to closely monitor the progress of implementation against milestones to be developed in each area such as teacher training programmes, strengthening of pedagogical components, development of curriculum and instructional materials, and extension activities.

The following aspects need be considered for strengthening the system of school education :

- Teacher recruitment may be made more stringent based on a set of objective criteria encompassed as career, aptitude, attitude and competence.
- A cadre for Teacher Educators separately for Elementary and Secondary teacher education for each cluster separately. All efforts be made to instill a strong sense of motivation among the teachers. Every teacher should develop a sense of pride in his profession. Suitable incentives for excellence need be instituted and opportunities for upward mobility for the teachers may be provided in the professional ladder.
- In order to develop professionalism in the prospective teachers, the quality of the pre-service training programmes may be substantially improved. Chances are high that many teachers have not had the benefit of a good pre-service training preparing them for the task.
- Special attention should be paid to the recruitment and upgrading of the skills of teacher educators, so that they can fully and effectively play their roles in the ultimate renewal of educational practices and pedagogical skills.

- Teacher competence and motivation is a function of teacher status, working conditions, promotional prospects, etc. There is a need to link promotion to performance.
- It is necessary to provide contextualized teacher training at the district level through the District Institute of Education and Training (DIET) for elementary school teachers. The Teachers Training Colleges, Colleges of Teacher Education (CTEs), Institutes of Advance Study in Education (IASEs), and Board of Secondary Education (BSE) should take the responsibility for organization of training programmes of secondary school teachers. Experience of the teachers in the field needs be utilized for retraining of the teachers and their orientation.
- It is necessary to provide suitable orientation and training of functionaries who discharge responsibilities as Sub-Inspector of Schools (SI), District Inspector of Schools (DI) and Circle Inspector of School (CI). The training modules for these functionaries must provide for training to build managerial capabilities, educational administration and management of finance. Training in computers must constitute a vital element in the training of all educational administrators.
- Evaluation of teacher training programmes needs to be taken up. Standardized formats for school inspection may be developed for the guidance of those in-charge of supervision and management.
- Teachers should be divested of non-teaching work like preparation of pay bills entrusted to Sub-Inspectors of Schools at the block level which take a lot of their time at present.
- Teacher should be taught about governance in general and governance in the educational sector in particular, which is mainly concerned with management of institutions at the local level.

Administrative Structure :

The command structure providing administrative support for school education programmes at the state level, comprise the following Directorates which function under the control and jurisdiction of government in School and Mass Education Department.

Director, Elementary Education
Director, Secondary Education
Director, Mass Education
Director, Teacher Education and State Council of Educational Research and Training (TE and SCERT)
Director, Text Book Production and Marketing
Superintendent Sanskrit Studies

The following autonomous agencies are constituted to provide technical and resource support.

Project Director, Orissa Primary Education Project Authority (OPEPA) under the District Primary Education Programme (DPEP)
Board of Secondary Education Cuttack
Education for All (EFA)
State Resource Centre for Adult Education (SRC)
State Institute of Education Technology (SIET)

Both the OPEPA and the EFA which are autonomous bodies are registered under the Societies Registration Act, 1861.

The Superintendent Sanskrit Studies is also one of the Directorates under the School and Mass Education Department.

The English Language Teaching Institute (ELTI) and the State Institute of Educational Technology (SIET) are autonomous agencies, which provide resource and academic support to schools.

At present the following functionaries are responsible for universalization of elementary education in the state who report government in the Department of School and Mass Education

Director, Elementary Education

State Project Director, DPEP (exclusively for District Primary Education Programme)

Director, TE and SCERT

Director, EFA Cell

Director, State Institute of Educational Management and Training (SIEMT) (created as per the guidelines under DPEP)

Director, Textbook Publication and Marketing

It is surprising that while Sanskrit, Hindi, Urdu and English have separate bodies to train teachers and conduct research, there is no organization for Oriya. It is essential that an autonomous organization for Oriya is set up urgently.

The structure of the elementary school inclusive of Classes I - VIII according to national pattern is not being followed in Orissa. In Orissa primary school comprises of Classes I - V and upper primary school Classes VI & VII. (Class VIII forms part of the secondary school at present comprising three disjointed Classes VIII, IX and X). The responsibility and jurisdiction of Director, Elementary Education, Director, District Primary Education Project and OPEPA is limited to Classes I - VII only at present; all the support institutions like the Directorate of TE and SCERT, EFA Cell, SIEMT, ELTI, Textbook Printing and Marketing (TBPM) confine their activities to Classes I to VII only.

The common school pattern of twelve years of school education : eight years of elementary education, two years of secondary, and two years of higher secondary education (8+2+2), according to the National Policy on Education, though formally adopted by the state government has not been actually implemented in Orissa.

While Class VIII which should be a part of the upper primary school is presently under the high school, classes of Class XI and XII of the higher secondary stream are located in the College which come under the administrative jurisdiction of Director, Higher Education.

In the secondary education sector, the Director, Secondary Education supervises implementation of school education programmes up to Class X. A separate Directorate of Vocational Education was created in August, 2000 for implementation of Vocational education at the higher secondary stage. The higher secondary segment of Class XI and XII comes under the supervisory jurisdiction of the Director, Higher Education.

The Board of Secondary Education, Orissa, is responsible for conduct of examination to Class X.

The Council of Higher Secondary Education conducts examination to Class XII and comes under the administrative jurisdiction of Secretary, Higher Education.

The constitution of a single body for conduct of examinations of class X and class XII may be considered. The two examination boards may perhaps be merged.

It is essential that Class VIII should form part of the control and supervisory jurisdiction of Director, Elementary Education and DPEP. Similarly, +2 segment at present comprising part of the higher education stream must revert to the school. Vocational Education which comes under the administrative jurisdiction of Secretary, Higher Education must also form part of the Directorate of Secondary Education.

Directorate of Mass Education is responsible for all programmes relating to Adult Education, Post Literacy Programme (PIP) and Continuing Education (CE). The Director, Mass Education is responsible for Adult and Continuing education programmes in the state. The State Resource Centre provides academic support towards programmes and academic supports to all adult education programmes in the state.

The IASEs, CTEs and DIEFs have completed 15 years of existence. The DPEP have completed one phase of their existence. Their work needs to be evaluated and the institutions need to be streamlined. The existing deficiencies need to be remedied.

Seen in the context of an effective span of control and management, it may not be possible for a single authority namely, the Secretary to Government School and Mass Education to supervise the functions vested with so many Directors in different functional areas of activity. Keeping in view, the functional responsibilities that would devolve on Directors, staff reorganization is suggested below

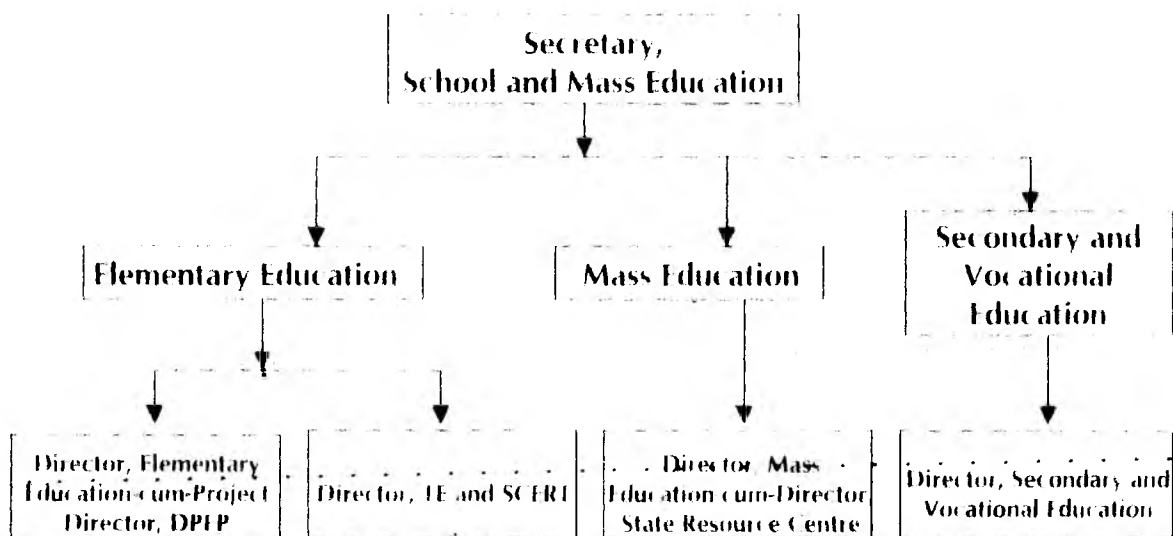
Director, Elementary Education-cum-Project Director, DPEP which involves abolition of one of the two separate posts existing at present;

Director, TE and SCERT to whom should also be assigned the functions of Director, SIEMT created specifically under the DPEP Project guidelines. The post of Director, EFA Cell may be merged with the TE and SCERT.

The **Directorate of Mass Education** and the **State Resource Centre** should function as a composite Directorate. The SRC at present is an autonomous agency. In the interest of a unified command, the Director, Mass Education should be designated as Director, *ex officio*, State Resource Centre.

Director, Secondary and Vocational Education should constitute a single authority; he may remain in-charge of two Directorates with whom the authority for supervision of +2 institutions should vest

The **Director, Higher Education** should be made exclusively responsible for programmes of higher education. He may be divested of responsibility in respect of the higher secondary segment of school education.



The command structure under the Secretary, School and Mass Education (present nomenclature) will include :

- Director General for Elementary and Mass Education and
- Director, Secondary and Vocational Education

The Director General, Elementary and Mass Education will also function as Project Director, District Primary Education Programme (DPEP). He will receive resource support from Director, TE and SCERT in regard to all programmes relating to universalization of elementary education (Classes I - VIII). The Director, Mass Education-cum-Director, State Resource Centre will, similarly, provide resource support in respect of programmes of universal literacy programmes and continuing education.

The Education for All (EFA) Cell, State Institute of Educational Management and Training (SIEM&T) may be abolished. The SIEM&T created as per the guidelines under DPEP may be merged with the composite Directorate of TE and SCERT. Similarly, the existing posts of Director, Elementary Education and Director, Adult Education and Director, Vocational Education (under Higher Education Department) may be abolished.

Management and Supervision : There is a multiplicity of authority at present having responsibility for implementation of projects; several functionaries are simultaneously responsible for ensuring implementation of universalization of elementary education. While the Director, Elementary Education is responsible for UEE the Director, DPEP is responsible for implementation of primary education projects exclusively included under the DPEP for which funds are provided by the World Bank and DFID. The Director, DPEP is also in-charge of State Institute of Educational Management and Training (SIEM&T). The Director, Elementary Education is also designated to remain in-charge of EFA Cell in addition to his own duties. There should be a single focus under one umbrella for implementation of all programmes leading to the overall objective of achieving universalization of elementary education. And universal literacy. Since universalization of elementary education and universal literacy are linked to each other, it is our considered view that there should be single authority for achievement of these twin objectives and implementation of these programmes within the identified time frame i.e., by the year 2007. The multiplicity of authority existing at present should be done with.

The post of Secretary, Education should be in the rank of Principal Secretary to Government who should oversee both the Department of School and Mass Education and Department of Higher Education. He would bring under one authority all education programmes run by different agencies including government departments. In lieu of the existing post of Secretary, Higher Education Government may consider posting a special secretary, who will exclusively look after higher education.

On the pattern of the National Literacy Mission established at the central level, there should be a single authority for School and Mass Education. The multiplicity of authorities of elementary education should be done away with. The Director General for School and Mass Education (in the super-time scale of IAS) should be made responsible for universalization of elementary education and universal literacy. The post may be filled up by selecting a suitable officer with the necessary experience in education and commitment. He should be allowed a fixed tenure of five years on the post.

(This would not involve creation of any new posts, in fact, it would result in abolition of one post of Secretary in the cadre of Indian Administrative Service, and re-designation of the present posts of Director, DPEP, Director, Elementary Education, and Director, Mass Education as a single authority). This would, in fact, result in abolishing of existing post of Director, Elementary Education, Director, Mass Education and Director, Vocational Education two of which are manned by the IAS at present).

It is suggested that a State Board of Elementary Education may be established, fully autonomous in character, preferably, constituted as a registered society which can function as an umbrella authority in respect of implementation of all programmes relating to universalization of elementary education.

District Boards of Education for regulation and control of programmes relating to school education may be constituted for each district which should function under the Zilla Parishad.

Reforming the system is the *sine qua non* of good governance. The need for reform and its acceptance require that a Task Force for planning and management is located in the government under the Chairmanship of Education Secretary to examine our recommendations of the Task Force, prioritize the programmes, and prepare a programme for implementation within a well-identified time schedule. This Task Force should concern itself with all aspects of planning and management, including programming, organizing, directing, control and coordination, and provision of resources. Implementation of the programmes may be reviewed regularly for which suitable monitoring mechanisms may be identified, at the state and the district level. A critical path (CPM) need also be drawn up, for facilitating monitoring and review of the programme of educational reconstruction in the state by the Chief Minister.

It is noted with concern that there is no reliable database on education at the state level or district level containing relevant data on schools reflecting accurately the number of schools in each district with the required infrastructure, level-wise; number of teachers sanctioned according to yardstick and actually in position (trained and untrained); number of classes / sections in each school; physical dimensions of the school including the number of classrooms and additional classrooms to be constructed; availability of staff quarters / living accommodation for teachers; availability of teaching material, charts and maps, science kits, library and laboratory; and play-fields which together should form the optimum

requirement of each school. While some data is available with the DPEP, this is confined only to district primary education project (DPEP) and the Sarva Shiksha Abhiyan.

Establishment of a full fledged data bank relating to twelve years of school education (Classes I - XII) is an essential requirement of implementing reforms and reorganization in school education sector. The existing data bank on elementary education and teacher education in the Directorate of TE and SCERT may be enlarged to include the relevant information on secondary education and located in the SCERT. The SCERT which provides resource support should be in a position to disseminate the relevant data to concerned organizations, and also serve as a link with the NCERT and the State Government. Establishment of such data bases at the state and district levels (under District Board of Education) should facilitate effective monitoring of programmes with reference to certain critical parameters as may be identified.

Necessary monitoring mechanisms may be instituted at the state and district levels. A reporting system may be evolved based on the monitoring of the priority programmes critical to the implementation of reforms, which to start with, may include progress of different components under Sarva Shiksha Abhiyan, including construction of school buildings and appointment of teachers; computer education in schools; and vocational education. Other priority areas may be added as may be necessary in due course. Quarterly progress may be reported to the Chief Minister and Minister Education.

It is noted that much of the time of Secretary Education and the Directors is taken up by matters relating to pending litigation in the Courts. It is, therefore, suggested that a well-thought of grievance redressal mechanism may be instituted at the government level to deal with the genuine problem of teachers and solving them locally which could save the teachers the trouble of approaching higher authorities, Courts and Tribunals.

Similar grievance redressal mechanisms need also be instituted at the district level subject to classification, control and appeal rules, the closure at the district level may be Circle Inspector of schools.

Performance appraisal systems may be developed to appraise the performance of educational functionaries in the field, with necessary provision for rewards and incentives for good work and punishment for any lapses.

At present, all funds for implementation of the programme relating to universalization of elementary education is credited into the Orissa Primary Education Programme Authority (OPEPA) registered under the Society Registration Act, with Chief Minister as President of the Governing Body.

Good Governance necessitates acceptance of reforms in the education sector as an essential pre-requisite of the agenda for educational reconstruction. Determined political will is necessary for pushing reforms for educational reconstruction in the state. The **Vision 2020** can only be actualized and its goals delivered by a firm commitment of all those who are involved - the students, the teachers, the local community, the Panchayat Raj institutions, and the government. This should call for participatory management structures from the grass roots level upwards. Expeditious and informed decision making, planning and execution of the reform initiatives in the school are essential to engender a culture for facilitating the development of the school education system in the state. This would necessitate decentralized management structures and devolution of authority and funds to the Zilla Parishads. The Sarva Shiksha Abhiyan *inter alia* aims at community ownership of schools through effective decentralization with emphasis on quality. This can be translated

Empowering the people and their representatives to enable them to exercise their roles and responsibilities effectively should receive special emphasis.

The Grama Sabha has been created as a Constitutional forum for direct democracy with special powers for overseeing the local development and expenditure. The Grama Sabha may be empowered in exercising the function of performing 'social audit on schools' at the village level.

Greater awareness of the growing responsibility at the village, block and district level institutions for management of education must be promoted. This will engender a culture for institutionalizing a participative management from the grassroots level upwards and generate the interest of the local community, leading ultimately, to its participation and involvement in effective functioning of schools.

This would call for training programmes to be organized at the Panchayat, Panchayat Samiti and Zilla Parishad level in each district to educate the representatives of people on their duties and responsibilities relating to decentralized management and devolution of authority.

The Kerala experiment of devolution of authority on the Gram Panchayats is an example of empowerment of institutions from the grassroots level. In Karnataka similarly, the 'district government' concept virtually aim at decentralization of functions in the social services sector at the district level. In Rajasthan and West Bengal government have also effectively involved the Panchayats with the management of their own responsibilities including education. This is an exercise which needs to be taken up in the Panchayati Raj department to spell out the mechanics of democratic decentralization and devolution of authority.

The attempt to decentralize government must result in bringing the ownership of the schools to the local community and empowerment of the people at the local level for effective functioning of local institutions. From government control and direction to community management and ownership - this should be the single agenda of reforms in the education sector. The local community must be empowered to take control of local institutions for their effective functioning. This alone, will engender the necessary culture for institutionalizing a participative management structure at the grassroots level. To this end empowerment of Panchayati Raj institutions, the administrative mechanism of the state need to be strengthened so as to ensure achievement of goals and objectives and effective delivery of services promised to the people. Action in respect of the following matters is called for without any further delay.

- The state government should transfer to these Panchayati Raj bodies at the Gram Panchayat, Panchayat Samiti and Zilla Parishad the authority to develop and implement policies relating to UFE.
- **Planning** exercise for management of education including higher secondary education need to start urgently. There should be greater awareness of the growing responsibility for village, block and district level institutions for management of education. What matters most is, what the students learn from school, retain and apply in life. Cost-effective strategies must be developed for increasing the percentage of children aged 6 - 14 who complete elementary education, improving the general levels of learning and reducing gaps associated with gender, poverty and tribal or caste affiliation. This will be the key to planning and the real test of implementation.

- Simplification of administrative procedure. It is necessary to make decisions faster. Faster decision making and faster communication pave the way to success in achieving the desired objectives. Transparency in the functioning of the government at all levels must be seen so that the people could perceive the seriousness of the public functionaries in the quicker delivery of services.
- Productive and purposeful spending should reach the specific identified target groups and avoidance of wasteful expenditure.
- Making people in-charge accountable for their actions is the only way to promote efficiency in the administration. Staff development programmes including training should be so organized as to make the functionaries at all levels understand their role and responsibilities and help institutionalizing a culture for timely and effective delivery of services.
- Efficient delivery of services to specify target groups. This would require development of processes for delivery of services to the specified target groups, where people matter. Incentives should also be provided for the efficient delivery of output.
- Institutionalizing a participatory management culture from the grassroots level upwards, an involvement of a local community in effective functioning of institutions and implementation of the programmes.
- Marshalling public action to involve diverse section of the community in the process of own social and economic transformation.
- Recognition of multiple linkages between education, basic health services, family planning, nutrition, programmes meant for development of women and children and training in skill development and upgradation of skills.
- Convergence of a basic need strategy and services for delivery to the targeted population to promote holistic development through education. This should place emphasis on inter-sectoral and intra sectoral convergence.
- Application of a community-oriented human resource development strategy for delivery of services. If the idea is to make available to people, better nutritional standards, basic health care, elementary and adult education to all those who are deprived of it, this would necessitate certain fundamental changes in the entire structure of health, education, and nutrition – both at the state and local levels.
- Convergence of community based micro planning at local levels with the state plan and macro planning at the state level.

A State Board of Education on the model of Ucha Siksha Anudan Ayog, Madhya Pradesh, may be constituted as a statutory authority and strengthened so as to ensure accountability of functionaries responsible for all educational activities in the state. It should be the umbrella organization with enhanced power and responsibility to enunciate the necessary guidelines, provide management support and review the progress of implementation of all educational programmes up to the higher secondary level.

The existing setup for coordination of education programmes at the district level include 19 Circle Inspectors and 3 Regional Joint Directors appointed by the Department of School and Mass Education and 4 Circle Inspectors under the Department of SC / ST Welfare. There are 75 District Inspectors of Schools appointed by the Department of School and Mass Education and 8 District Inspectors of Schools appointed by the Department of SC / ST Welfare (for the education of SC and ST) who supervise implementation of elementary

education programmes. What is now required is that there should be a strong mechanism of coordination not only between the Education Department and the Welfare Department and Urban Development Department at district level but with other departments also like, transport, health, PWD, planning, rural development and Zilla Parishad so that integrated planning and management strategies could be worked out and followed. Better coordination is also needed between the block and education district and the education district, and education circle and at regional level. The mechanism of coordination would help if it is done on the regular basis instead of the routine monthly meetings at district and circle levels. Evaluation of educational programmes is also an area where much work desires to be done. This should be taken up regularly and on periodical basis (R.S. Tyagi and P.C. Mohapatra : *Educational Administration in Orissa - Structures, Processes and Future Prospects*, NIEPA, p. 182)

District Boards of Education proposed to be set up in accordance with the recommendation of the NPE, 1986 may be established soon. There shall be a District Board of Education in each of the thirty districts. The jurisdiction of the Education Circle under the Circle Inspector will be co-terminus with the revenue district. Since there are 19 Circle Inspectors it may be necessary for some of them to remain in-charge of more than one district. If necessary, considering the workload of the newly created districts the post of a Circle Inspector may be created and filled up in due course of time. The District Boards of Education may be provided necessary statutory and legal support and may function under the umbrella of Zilla Parishad.

District level planners and village education committee members and school headmasters need to be trained. The operational mechanisms need to be identified and the roles defined precisely. The participation of educational functionaries at the district, block and village level planning exercises for school improvement is essential for improving the quality of education.

A Local Education Authority (LEA) corresponding with the territorial jurisdiction of each of the District Inspector of Schools need be established to provide management support, monitoring and supervision of programmes relating to universalization of elementary education (UEE) and universal literacy. The jurisdiction of the local education authority may correspond to that of the Panchayat Samiti. This requires convergence of all programmes relating to Elementary and Mass Education at present being implemented by diverse functionaries. There are at present 75 District Inspectors of School and 56 Deputy Inspectors School. The jurisdiction of each of these officers need be defined linking them to the jurisdiction of the Panchayat Samiti. Convergence essentially means a unified structure, unity in command and single hierarchy. The Sub Inspector of Schools who is now being used as a Block Level Extension Officer and used for multifarious activities including preparation of pay bills of teachers should be divested of all such duties which do not strictly come under education. They should be kept under the direct control of the District Inspector of Schools.

Board of visitors for secondary schools on similar lines may be constituted.

Rationalization of educational administration at the district, block and village levels may therefore, be taken up urgently to ensure a single line authority for management and supervision of educational programmes

It was observed that at present elementary schools (*classes I to VII in Orissa*) are run by a number of departments : Department of School and Mass Education, SC / ST Welfare Department, Urban Development Department and Labour Department. During consultations with field level functionaries, a consensus of opinion emerged that **there should be a single authority for implementation of all elementary education programmes and universal literacy at the field level**

Formats for **inspection of schools** may be devised keeping in view, certain objective criteria to elicit relevant information on the functioning of the schools, the deficiencies and scope for improvement. The Headmaster of each elementary school may be required to furnish information in these formats. A Board of visitors to inspect each elementary school may be appointed which will include educationists living in the local area, retired teachers, members of DIETs, Secondary Training Schools (STEs), and representatives of the Panchayati Raj bodies. The membership may not exceed 5.

The emphasis will be on the good governance in implementing the agenda for education and achieving the objectives and specific goals. This will involve determining methods of implementation and choosing from among technically feasible alternatives. To this end, the following steps be taken:

- All the bodies spend the bulk of their time within regulatory activities. Action research must be encouraged and strengthened so that they devote the time to more of development activities relating to education.
- The capacity of the district education committee, block education committee and village education committee at the Zilla Parishad, Panchayat Samiti and Gram Panchayat levels need to be strengthened.
- A new management information system needs to be established to provide accurate and timely data on education at all these levels.
- Building managerial and institutional capacity is an urgent necessity. Education management at all levels need be strengthened with in built mechanisms for monitoring the process of implementation and improving its quality of programmes. To this end increased technical support by state level institutions like SCERT, SCTE, SIEM&T, SIEI, ELTI may be provided at the state level and NCERT, NCTE and NIEPA at the national level.
- As responsibility for education becomes decentralized, district level personnel, school headmasters and village education committee members will acquire many new responsibilities and face new challenges. This will necessitate careful planning at the district, block and village levels involving all those who are required to participate in the implementation of educational programmes.
- Training programmes may be organized at the Panchayat, Panchayat Samiti and Zilla Parishad level in order to educate all the concerned functionaries on the roles they are required to play in achieving the objective of universalization of elementary education and ensuring quality of education at all levels of education including the higher secondary stage.

Good governance for human development involves recognition of the linkages between the three principal elements - health, nutrition and education, and the management of all such processes that permit individuals access to these basic amenities like health with a view to being able to enjoy a decent standard of living and have a socially meaningful life, good governance dedicated to securing human development must enable individuals to raise their

capability levels, to help build their capacities, and provide opportunities to individuals to participate in the process of implementation in the management of community's resources through cooperative action. This must necessarily emphasize the essential need for marshalling public action to involve diverse sections of the population in the process of social and economic transformation. Interrelationship between education, health and nutrition need be reinforced. This also necessitates recognition of multiple linkages between these elements which contribute to the ability of people to enjoy a decent standard of living. This must necessarily place emphasis on effective participation of the people in activities that are conducive to human development. Therefore, if the idea is to make available to people better nutritional standards, primary health care or elementary or adult education, to all those who are deprived of it, this would require certain fundamental changes in the entire structure of health, education and nutrition, and delivery of these services. The only effective way to apply a HRD strategy is to make it community oriented. Without involving the community not only are these programmes likely to remain bureaucratized, but they also remain at a distance from the people and often beyond their reach.

The school remains, in fact, the foundation of the education system of the country. It is only in the school that the building blocks of a vibrant learning system have to be laid to provide a 'world-class' education. The 'school' has to be re-invented; the abode of learning - **vidyalaya**, has to be strengthened so as to engender an environment of learning that can promote 'world-class' education. 'Re-engineering' the School has become an urgent necessity. It has to be done now. "Re-engineering does not seek to make incremental improvements.... The aim of re-engineering is a quantum leap in performance that can follow from entirely new work processes and structures"¹. This calls for a radical approach in planning and providing for education of our children.

From schooling to learning—this should form the core and essence of the process of educational reforms. The school will be strengthened principal portal of learning with the provision of necessary information and institutional support. The desired outcomes of the education process, and its renewal, can be obtained, only if the learning environment in our schools is strengthened and recharged with life. What is required is a change in the existing mind-set. We have to promote a positive culture and provide an environment that can lead to major restructuring of education and its reconstruction in the coming years, which alone can lay the foundations of a 'world-class' education system.

The most important thing that must happen is the replacement of the 'normal' culture with the 'radical' culture. The technologies, the process and methodology, the management style, the negotiating strategies, the planning and scheduling strategies must change.² Decentralization of authority and devolution of powers on Panchayati Raj Institutions (PRIs) must result in bringing the ownership of schools to the local community. People at the local level must be empowered to take control over local institutions and must be made responsible for their effective functioning. **From government control and direction to community management and ownership** - this should be the single agenda of reforms in education of our people and upgradation of the quality of human resources of the state.

¹ Michael Hammer and James Champy. *Reengineering the Corporation*

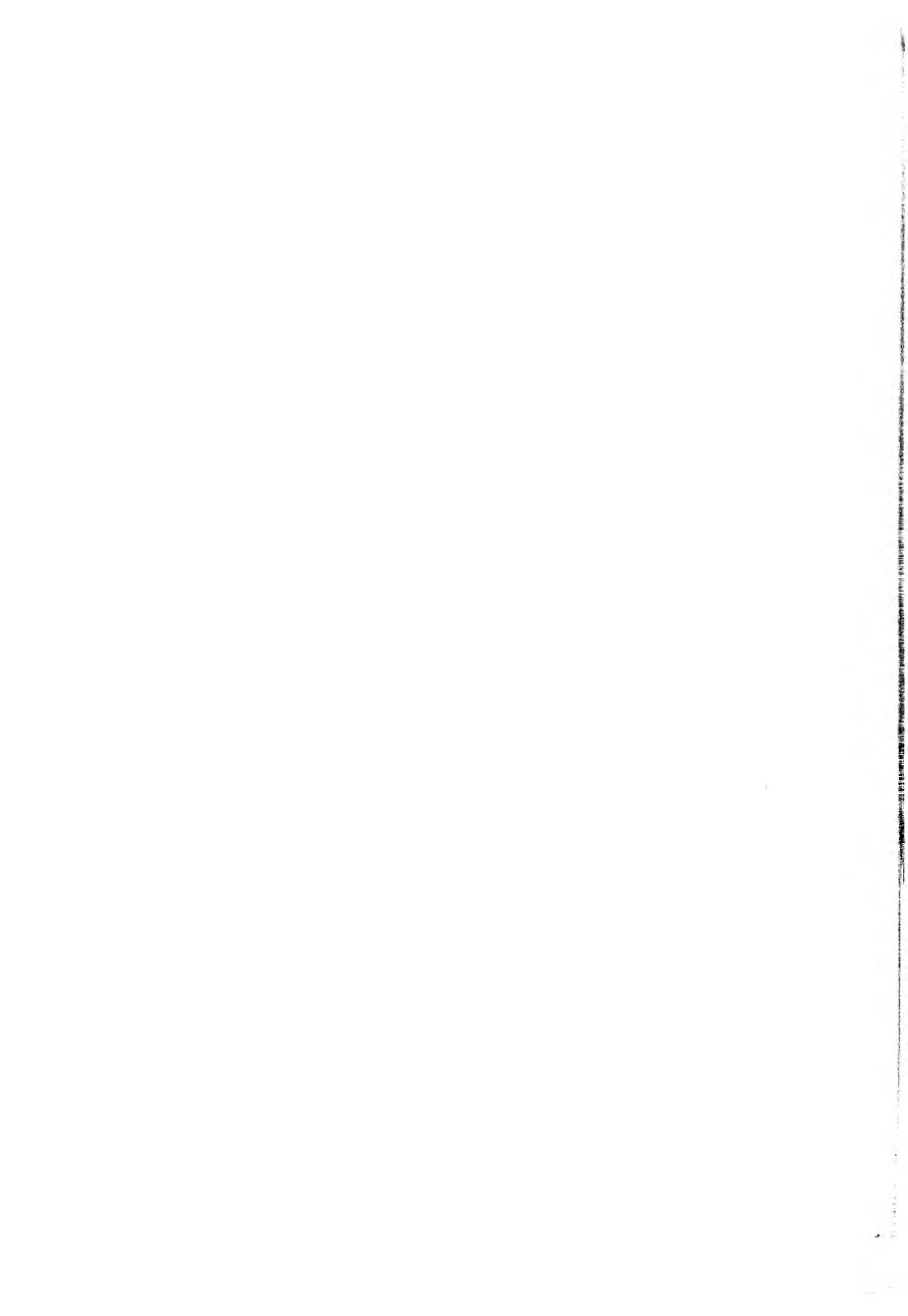
² Edward Yourdon : *Death March*

The state has to take the initiative. There is need for strengthening discipline and diligence from the administration; enhancing work ethic and productivity. There must be an element of challenge, of striving for perfection, or at least improvement. There are many ways in which people can work to help other people. The creativity latent in our people must be unleashed. This responsibility can only be discharged in partnership with the people, their democratically elected representatives, the local community, and the teachers.

Taking the concept of "human investment revolution in economic thought" (Schultz), a step further, we would suggest developing a "basic needs strategy" toward educational development designed to promote development of the human resources of the state, and its continuous upgradation. To this end, we have suggested a Human Development Compact, and constitution of a Human Development Security Fund (HDSF). This may be constituted with immediate effect. Considering the limited provisions available for education in the Tenth Five Year Plan, we would suggest that contributions to the HDSF, at the rate of 10 to 15 per cent, may be quantified by each of the department concerned, during the current year (2003-04) itself, by way of supplementary provisions to facilitate opening of new schools.

Can we, also think of a "social compact" involving the government, the community, Panchayati Raj institutions, the non-governmental agencies, and the teachers to fulfil our Constitutional obligations and achieve the goal of universalization of elementary education, universal literacy by 2010 and universalization of secondary education by 2020? A positive answer to this holds the key to the future.





Sector Study V

COMMUNITY PARTICIPATION IN SCHOOL MANAGEMENT

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2003



EXECUTIVE SUMMARY

The study on community management in education was conducted to provide feedback and recommendations to the "**Vision 2020 Task Force**" for education. The study focused on community management in elementary education and not the generic range of education.

A vision is more than a projection of empirical trends or a set of possible scenarios. A vision covers different perceptions, standpoints, models and approaches. In case of universalizing primary education in Orissa, it should be a vision of a learning school where community and users of the services are in the management of performance outcomes from the school system. This entails school planning system, capacity building of different stakeholders, investment in institution building, adopting a demand responsive approach, policy influencing and social engineering. In other words, an integrated approach to village development, keeping the school as the center of action.

The understanding of community may vary from context to context. For this study, the community is primarily conceived of the local Ward/ Village community institutionalized through the 73rd and 74th Constitutional Amendment Act. Family, School, Community based organisation like women self help groups, youth clubs, religious institution in the village and primary service providers complement this conception of community in an interactive way.

The major findings and recommendations:

The 73rd & 74th Constitutional Amendment Act provides the necessary institutional space for community to manage the elementary education. In all the study villages, the **respective Panchayats do not have any committee on education**. Nor their representation in the village education is there. Wherever this is found, this is by chance, and not by design. In the education committees that have a member from the local body, they have been able to mobilize resources.

As a strategic policy imperative, it is high time that **powers be decentralized to the local governing institutions like the Panchayats and the urban local bodies**. It is recommended to actualize the provision of establishing the education sub-committee in the Panchayat structure and make it functional.

Transparency and accountability at the Ward / Village level and responsiveness from the governmental authorities is at serious fault. Ensuring this (transparency and accountability at Ward level and good response from service providers) will expedite community management and make it effective. Thus the government needs to find mechanisms where social audit processes can be conducted regularly in the Ward/ Palli Sabha level.

This may be achieved by undertaking school improvement planning at the Ward/ Palli Sabha level, community education and awareness building, training and sensitizing the Panchayat Representatives, developing local level advocacy and action groups at Ward/ Palli Sabha and Panchayat level for education. Facilitating community-monitoring operationalised through regular Ward Sabha and Palli Sabha and public-hearing can significantly contribute to community management in education.

Teacher attitude and behaviour needs special attention in current socio-political situation for both making the school a cherished place for the children as well as community management a reality. Teacher aptitude and attitude assessment during recruitment, and

capacity building during service will be key to actualizing community management in elementary education.

At the operational level, organizational mechanism like the Village Education Committees (VECs), Parent Teacher Associations (PTAs), Mother Teacher Association (MTAs) may be helpful, but suffers from design problems to address practical equity in representation and decision making on the one hand, and largely dependent on the way it is implemented. It is seldom understood by the general community as an operational mandate for them to improve school functioning and management, and has remained as another requirement compliance to satisfy authorities by the school system rather than achieving the spirit. However, the effectiveness and relevance of these organizational mechanisms can be enhanced in various ways.

In this context, there are 2 set of recommendation for existing committees and for new committees. They are: -

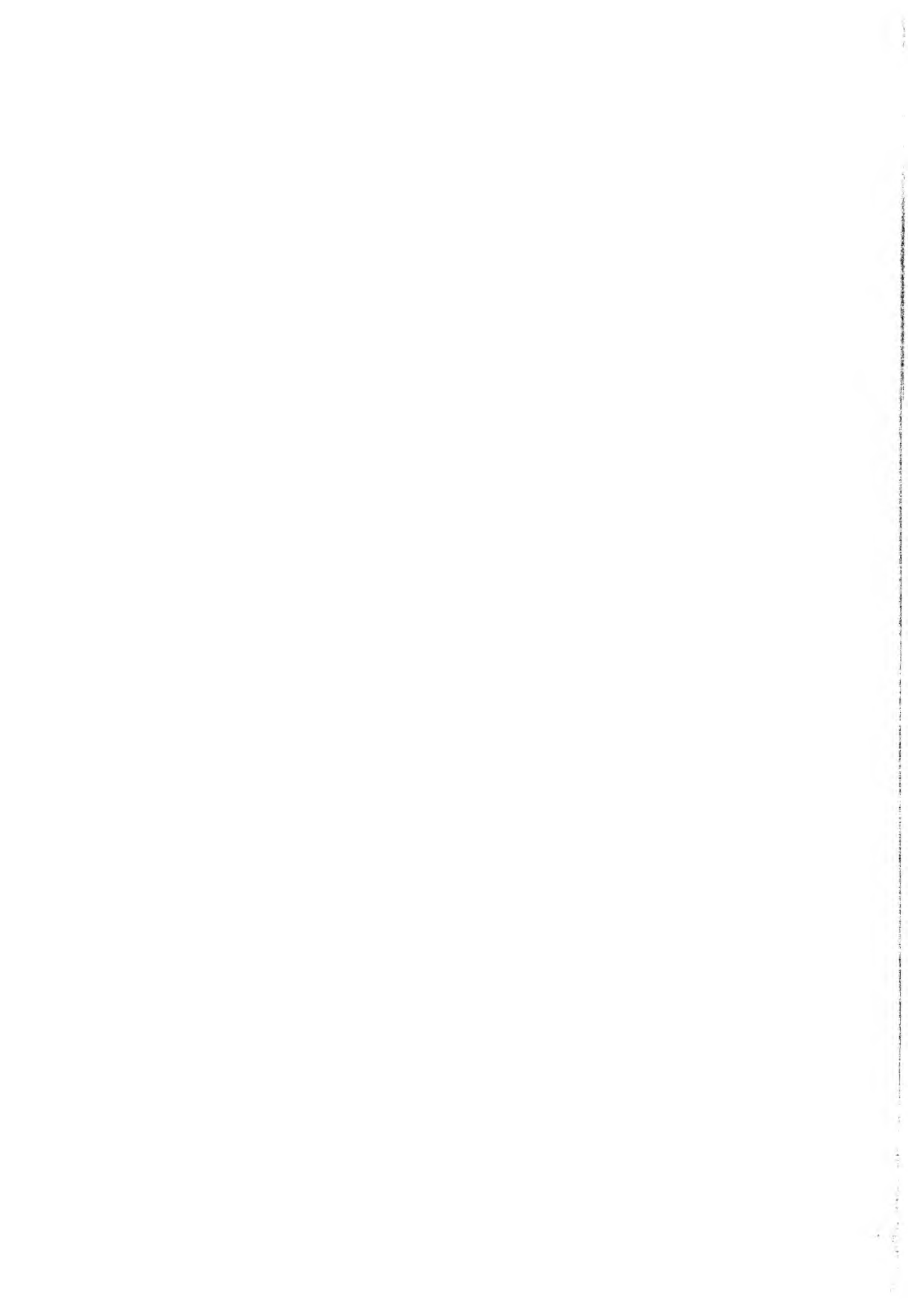
For existing Committees:

- a) Orientation of VECs about their holistic role in relation to high quality and full coverage of primary education needs to be carried out. Such orientation should be on a regular basis and focus on village specific issues
- b) Wherever possible, village level bodies and Panchayats could be more actively involved in the membership as well as functioning of the VECs. Special camps, workshops and other forms of consultation with the panchayat and village leaders could provide this.
- c) With the help of the head master and the VEC members, orientation of the village community should be undertaken to explain their role in ensuring high quality and full coverage of primary education in the village as well as effective functioning of the VECs.
- d) Since head masters play a key role, their orientation may be particularly paid attention to in relation to VEC functioning and community management. Motivated and competent head masters can play an ongoing role in deepening the sense of ownership of the village.
- e) The involvement of village community and orientation of the VEC should be particularly focused on the challenges of ensuring sustainability of community management in achieving quality and full coverage of primary education. This is where close linkages with the panchayat and other local bodies as well as integration of VEC with village community may become crucial dialogue on future of education in the village and VEC as a village institution can be helpful.
- f) In the regular training of teachers on curriculum and pedagogy, some orientation on community participation and roles of VECs may be added to bring about ongoing attention to this issue at the school level. This will ensure mainstreaming of community management in all the primary schools
- g) With the support of block and district level officials, VECs should be involved in carrying out education micro planning and village survey around primary education. This involvement will enhance the role of VEC and promote concrete engagement of the village community at large. A small financial incentive could be provided to each VEC to initiate such an activity.
- h) Wherever possible, local NGOs with experience in community mobilization and participation could be invited to support the head master and VECs in this important area.
- i) Strategies of community mobilization and parent motivation must be pursued.

- j) Strengthen the capacities of intermediate supporting organizations like the teacher training institutions, on community participation and demand responsive approaches

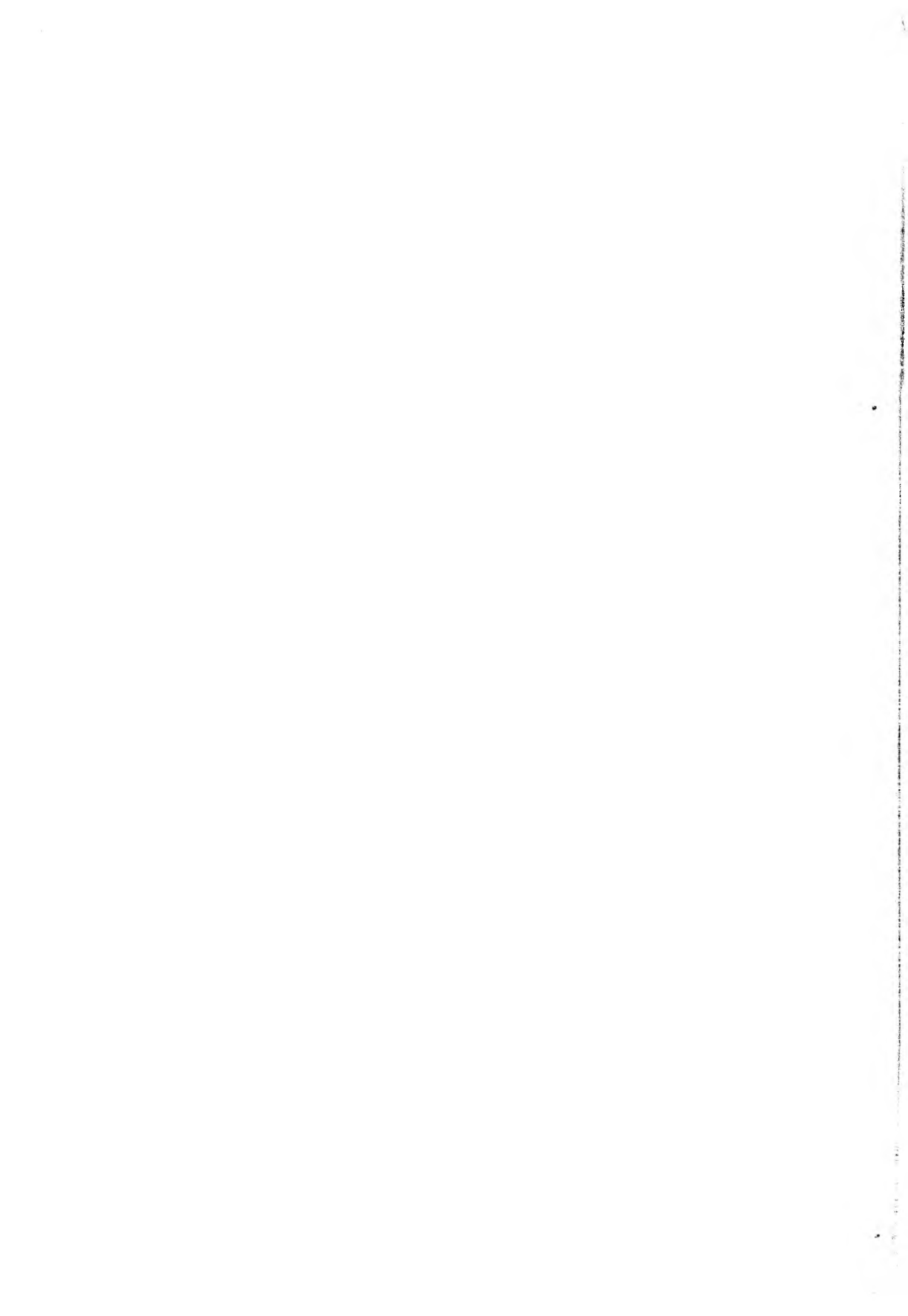
For New Education Committees:

- a) Importance of widespread community consultation before the formation of VECs needs to be emphasized for district and state education officials. Such consultations can be used to share information about the universalisation of elementary education and roles of the villagers.
- b) If necessary, simple educational learning materials could be prepared to orient education officials and the head masters. The same materials could also be adapted for use with villagers.
- c) Systematic village education micro planning could be used as a basis for identifying individuals who show interest in the issue of primary education at the village level. By using a variety of participatory tools, an initial consultative process with the village community could also become the basis for village level planning for quality and coverage of primary education. Formation of VECs after this will create more organic relationship between VEC and village as a whole.
- d) It is important to clarify to the education officials and the headmasters that VECs are village representative mechanisms for building the interface between the village and the school.
- e) Specific guidelines on educational profile of VEC members may be issued to ensure that VEC membership is reflective of the larger village population. This will enhance identification of illiterate parents and family with the VEC.
- f) Planned orientation and support to education functionaries needs to be created for community participation. An informed and innovative headmaster can contribute positively to wider community management and effective VEC functioning.
- g) At the district level, efforts should be made to encourage linkages with other agencies and programmes like Mission Shakti, voluntary agencies, citizen associations, media etc. Such linkages at the district, block and village level contribute positively towards enhanced community management and improved functioning of the VECs.
- h) Enhanced resources and detailed plans for capacity building at all levels will go a long way in accomplishing the community management in schools. Improved methodology of training of trainers is needed to build confident and competent trainers. More active follow up of training with specific learning objective can greatly contribute to the enhanced capacity of headmasters and the VECs as a whole.
- i) Special and targeted efforts need to be made to secure active participation of women in VECs. Special awareness campaigns, motivational camps, information dissemination and exposure visits could be utilized to energize women's participation for education.
- j) Greater visibility needs to be given to achievements and challenges in promoting community management in education through special studies, documentation, use of media and other means of communication.



"In community, instead of being ignored, denied, hidden, or changed, human differences are celebrated as gifts"

- **M SCOTT PECK, THE DIFFERENT DRUM**



Background of the education initiatives in the state

The initiative by the Government of Orissa to formulate an Education Vision Paper for the future Education Policy of the State with definite and visible qualitative and tangible indicators set to be achieved by 2020 is a remarkable and welcomed step towards Universalisation of Elementary Education in the state of Orissa. The committee headed by Sri P.K. Patnaik, Former Deputy Chairman, State Planning Board (Retd.), Orissa who was part of the national team in formulating the NPE, is in a process of finalizing the vision document "Education 2020".

Bharat Gyan Vigyan Samiti ((BGVS) Orissa had conducted the **Great Debate on Education** to strengthen vision document 'education 2020' by initiating a statewide consultations in 15 Districts of Orissa. During these consultations, it was a very common observation of all the participants along with the resource persons in all the districts that without active and effective community participation at the local level, the basic objective of "*Every Child in School and Every Child is Learning*" can not be a reality one. Discussions on community participation in the education system at the local level, many factors have been deliberated on, which have no uniform basis for arriving on a conclusion about the core factors that arrest the Community Participation in the Education System at the local level. On the other hand, there have been quite a good number of exemplary cases where community participation has been able to ensure regular functioning of the schools along with ascertaining the effective teaching-learning with the regular presence of teachers and students in schools, despite the existence of various limiting factors.

Thus, this is an attempt to find out the factors that really debar and hinders the community members in taking active role in ensuring an effectively functioning education system in all most 90% of the villages of the state, how to get rid of these barriers and overcome the hindrances along with the factors that have made the effective and successful functioning of education system in many of the exemplary villages are the aspects need comprehensive study to reach upon a conclusion for making the education system at the local level a Community-Owned One.

Objectives of the study

- To identify the major factors that debar and hinder the active and effective Community Participation in the Education System at the local level
- To Document the successful case studies of the villages where 100% enrolment and retention of the children belong to school going age along with regular functioning of the schools have been ensured by the VECs, PTAs, CBOs, NGOs and Community Members through out the year.
- Documentation of the schools where the process of teaching learning is both Joyful and Relevant for students as well as teachers.
- At the end of the study, to make the relevant and necessary recommendations for ascertaining the active and effective Community Participation in the Education System at the local level.
- To recommend, after categorically distinguish the means that should be taken care of by the local CBOs, NGOs, and other institutions at the local level, the role of the PRI members, the role of the Education Department of the Government at the Panchayat, Block and District level and (If necessary) what sort of changes should be made in the present Education Policy of the State Govt., in order to make the Education System at the village level a Community-Owned One.

Scope and Methodology of the study

With in the scope of Vision 2020 time frame, the study covered five districts in the state. The study also covers a few interactions with civil society actors in Orissa, and tried to understand their perspectives in making community management a reality in education.

This study is primarily qualitative, analytical and descriptive in nature as the dimensions involved are perceptual and process oriented. The research instruments are primarily participatory tools, individual semi structured interviews, group interactions, school observations, and documents at the community and panchayat levels. Both, primary and secondary sources of data are used. But the factors that affect behaviour are not easily amenable to quantitative reasoning to draw inferences, and heavily depend on contextual factors. Hence the study focused on :

- Intensive interaction using semi-structured interviewing guide with the parents, teachers, local CBOs, NGOs, PRI members and VEC members along with PTA members (Wherever it functions) about the factors that hinder the active and effective community participation in the proper functioning of the Local Education System
- Detail discussions, dialogues at the local level about the means to overcome the hindrances and to enable the community members to take active and effective role in the proper operationalization of the local Education System
- Documentation of the successful case studies in different villages having 100% enrolment and retention of the students of school going age and regular and joyful functioning of the schools with active interest of the teachers and monitoring by the Community Members.

While making an analysis of the aspects of community participation in elementary education, the study explored the following issues in sample villages:

- Institutional mechanisms VEC and education sub-committee within the Panchayat Raj institutions framework in the context of the 73rd and 74th Constitutional Amendment.
- What is the experience so far in terms of actualizing community participation/management in elementary education?
- NGO/CBO participation in realizing universalisation of elementary education
- Status of PRIs- exploring the relational dimensions
- Issues in making the partnerships - education departments experience
- Stakeholders' boundary limits
- Capacity building in the community and the teachers - events versus programmatic, supportive skills for the supervisors
- Participation of youth groups/ women SHGs, religious leadership, adolescents participation etc
- VEC versus other village institutions.

The study adopted the following steps:

- a) Design of the study instruments, areas to be probed and guidelines for facilitators
- b) Orientation to the field facilitators from the districts

- c) Sample fieldwork in one village by the field facilitators
- d) Feedback on the first sample studied by the field facilitators, and examining the appropriateness of the processes followed
- e) Completion of the rest sample villages
- f) Analysis, and sharing with the facilitators.

Perceived outcome of the study :

The study aimed at making suggestions and recommendations to the government (The Vision 2020 task force) for adopting appropriate policies and argue for investment needs in the vision document for making community management a reality in universalizing elementary education in the state. It is also essential to identify possible shortcomings in the current mechanisms for further improvements in the education system for enlisting community participation. The study is meant to be used as a reference for designing and implementing the future programmes, and facilitate negotiation among different stakeholders including the donor community

Discussion

The conceptual underpinnings

A vision is more than a projection of empirical trends or a set of possible scenarios. A vision covers different perceptions, standpoints, models and approaches. In case of universalizing primary education in Orissa, it should be a vision of a learning school where community and users of the services are in the management of performance outcomes from the school system. This entails school planning system, capacity building of different stakeholders, investment in institution building, adopting a demand responsive approach, policy influencing and social engineering. In other words, an integrated approach to village development, keeping the school as the center of action.

An emphasis on participation has links with the interest in democracy in community organization and in self-help and political incorporation in the community development tradition.

Instead of seeking to help deprived communities to improve their social and environmental circumstances, the new community work activists urge that people take direct political action to demand changes and improvements' (Midgley et al 1986: 20)

Theoretically three distinct types of community organizing may be understood:

Locality development: typifies the methods of work with community groups used by community development work. A major focus is on the process of community building. Working with a broad, representative cross section of the community, workers attempt to achieve change objectives by enabling the community to establish consensus via the identification of common interests. Leadership development and the education of the

participants are important elements in the process. In this approach great store is set by the values of both participation and leadership.

Social action: is employed by groups and organizations, which seek to alter institutional policies or to make changes in the distribution of power. Civil rights groups and social movements are examples. Their methods may be, often are, abrasive, and participation is the value most clearly articulated by those who use this approach. Both leadership and expertise may be challenged as the symbolic 'enemies of the people'.

Social planning: is the method of community organization traditional to welfare activities although its scope and arena are enlarged to encompass city planners, urban renewal authorities and the large public bureaucracies. Effort is focused primarily on task goals and issues of resource allocation. Whereas the initial emphasis of this approach is on the co-ordination of social services, its attention has expanded to include programme development and planning in all major social welfare institutions. Heavy reliance is placed on rational problem solving and the use of technical methods such as research and systems analysis. Expertise is the cherished value in this approach, although leadership is accorded importance as well.

These elements are drawn in a fairly extreme way. There is considerable overlap between the elements - but the focus on difference is useful in that it points attention to dimensions such as process, the role of the plan, and the tension between the state and dominant groups and those who believe themselves to be excluded.

While 'participation' may be a vague term its advocates often rely on two key arguments about its value. It:

- makes for justice in decision-making - people have some say in, and influence on, collective decisions.

- has an educative value. Through participation people learn (Beetham 1992).

These interests became formalized in a number of United Nations reports including *Popular Participation in Development* (1971) and *Popular Participation in Decision Making for Development* (1975).


According to Midgley et al (1986: 23) the notion of popular participation and that of community participation are interlinked. The former is concerned with broad issues of social development and the creation of opportunities for the involvement of people in the political, economic and social life of a nation, 'the latter connotes the direct involvement of ordinary people in local affairs'. One United Nations document (1981: 5) defined community participation as:

The creation of opportunities to enable all members of a community to actively contribute to and influence the development process and to share equitably in the fruits of development.

This is a very general definition and raises as many questions as it answers.

Community participation and management can also be explored regarding the degrees of participation communities have in any programme. The following table elaborates this.

Table 1 Degree of community influence in programmes

<p>Low level of community control</p>  <p>High level of community control</p>	<p>The community is asked to contribute labor, land, or locally available materials.</p>
	<p>The agency delegates certain management and/or operation and maintenance tasks to the community and trains community members for these tasks.</p>
	<p>The community is involved in discussing various options during the planning phase of the project, but final decision making power remains with the agency.</p>
	<p>Options are discussed and decisions made jointly. Compromises help to adjust the project to the community and agency realities.</p>
<p>Final decision-making and authorization rests with the community. Agency technical support and advice is provided at the request of the community.</p>	

Source: IRC (1988)

On the other hand, the levels of community participation and management in different settings will vary at different times. No one can or wants to be fully and deeply involved in everything and everyplace at the same time, and it is normal to desire a limited or even zero level of community participation in some arenas and / or certain times

Over a period of time, communities are unable to participate to their desired level or fullest capacity. Sometimes, this is due to reasonable factors such as the need to share responsibilities and privileges, or to avoid serious risks. However, all too often, agencies manipulate or limit meaningful people's participation. The two most common types of limitations are:

- A. being unnecessarily denied the opportunity to participate at various levels when this is desired
- B. deceptive manipulation where the community is made to appear as participating when in fact they have little say in or understanding of what is going on.

There will be situations where community participation may not be feasible. So the services may have to be managed by an agency for the community instead of by the community. This particular dimension needs further understanding as this provides basis for another form of community participation. This also broadens the scope and definition of community beyond the traditional one. This provides reasons for expanding the ambit of citizen participation to enhance efficiency, relevance and effectiveness of public services.

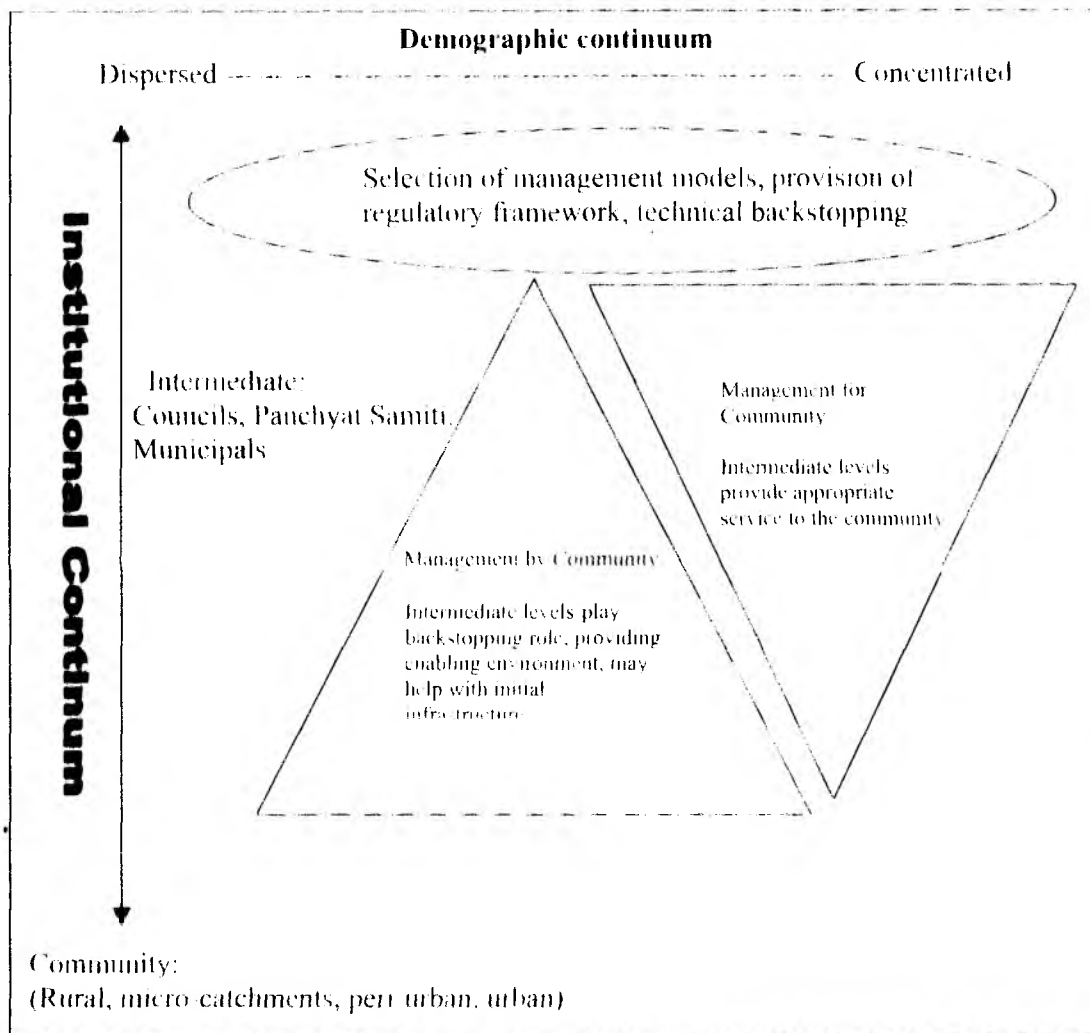
Management by the community compared to management for the community:

The diagram below suggests that one factor influencing the choice between community management and other models is demography. Where populations are dispersed or inaccessible a community-based solution will be more effective, where populations are concentrated a service provision model is indicated. However, there are other possible axes that could be used, such as a poor to wealthy continuum where poor communities are more

likely to manage their own system (Water, education, health etc.) and rich communities are more likely to simply buy into an existing system.

The reasons for using community management are therefore:✓

- Because there is no alternative for economic, geographic or demographic reasons,
- Because empowerment of communities is a good thing,
- Because there is no other way to provide the necessary flexibility.



(Management by and Community Comparison)

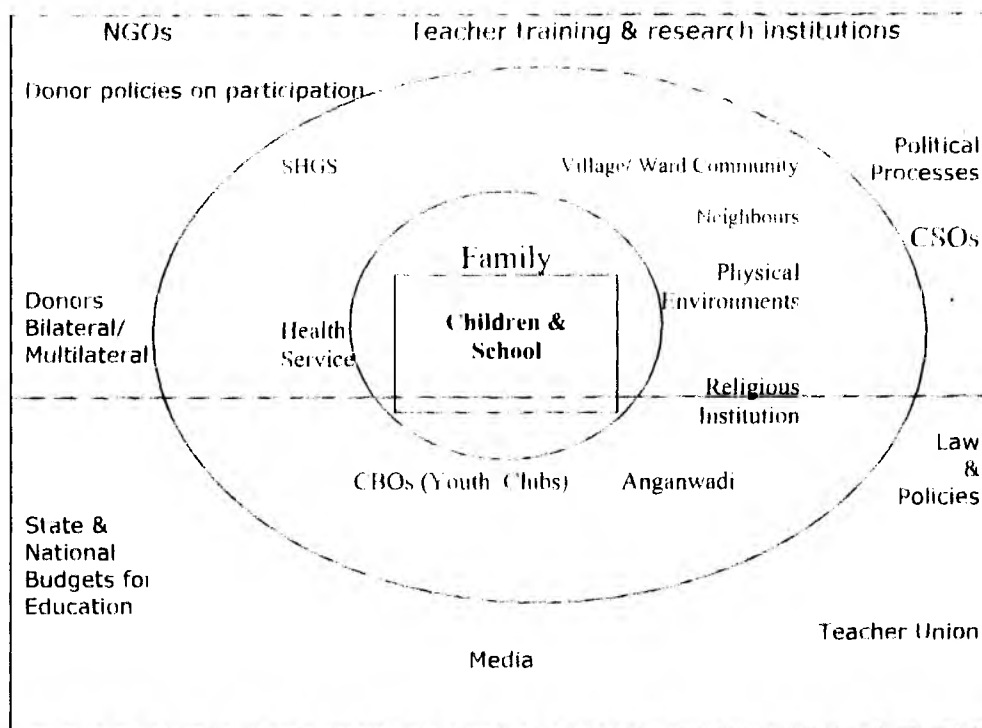
Community participation context and roles:

Communities can participate in multiple geographical and institutional settings, from personal to community to district and state levels, from the household to school to the local governing institutions and development administration. The following table, which is not meant to be exhaustive, lists some of the settings and roles in which communities can participate meaningfully

Geographical settings	Institutional settings	Roles
PERSONAL	Family	Learning/ teaching
Individual	Schools	Listening
Domestic	Workplaces	Discussing/ deliberating
Village/ ward/ town	Street/ ward	Care taking
Block	Recreation spaces	Fund raising
District	Health/social services	Counseling/ facilitating
State	Cultural organizations	Culture making
	Religious institutions	Investigating
	youth clubs/ network teams	Monitoring/ evaluating
	Youth service agencies	Social assessment, analyzing and planning
	NGOs/ CSOs	Rule making
	Political parties	Decision making
		Managing
		Representing/ advocating for improvements needed

It needs to be borne in mind that all settings or roles are likely to have some relevance to community participation in education, but they do not all have an equal bearing.

The barriers and opportunities for community participation will often be determined by the context around the school and the children. The specific context will differ from village to village and among different socio-cultural groups as well as category of children. The figure below is intended to indicate rough proximity to the children. Not all listed in the same layer have exactly the same relationship with children or the schools. Programmes therefore need to understand the specific contexts of different groups of children and communities they belong to, and the impact of the various layers in actualizing community participation. Programmes should aim to enable different layers of the context to be as supportive as possible of the development and participation of different community groupings so as to optimize benefits for children and the school. This does not mean that all programmes need to work at all levels of the context. Rather, it implies that a keen understanding of the significance of different elements of the overall context on different communities allows programmes to focus on layers that are likely to be the most effective areas for intervention. Programmes need to recognize that parents have particular obligations to their children and that communities themselves can and need to play an important role in deciding the contexts that are most significant to them.



Study findings:

While making an analysis of the aspects of community participation in elementary education, the study explored the following issues in these sample villages:

Community mobilization:

In the sample villages in DPEP districts, there have been community mobilization activities. But they have largely remained an annual feature, and need to be sustained for effectiveness of the mobilization phase to contribute to the participation phase. In non-DPEP dists, there are no community mobilization events, but the VECs, which exist for a fairly longer period has been able to assist the school system. In a few of the sample villages, there is no community mobilization event as such. However, after the government's order to have VECs in all the villages, the school teachers have taken steps to form the VECs, thus doing some community contacts. ***The general feeling is to comply with the circular rather than aiming to achieve the objective in spirit.***

Institutional mechanisms- VEC and education sub-committee with the PRI framework:

The process for formation and organizing of the village education committee, and parents' association has a great bearing in making community participation a reality in education. The establishment of VEC is envisaged as a means to mobilize the wider village community to support the goal of universal primary education. The government has issued directives and the education officials have tried to operationalise this

The study also examined ***issues of representation of different sections*** of the village community, and participation of members in the regular affairs of the committee. The study

examined the **effectiveness of the committees**, and possible factors that impede the well functioning of the committees.

After receipt of the government order to form parent teacher association and village education committee, all schools have taken the initiative. Out of the study villages, 90 % villages have formed the village education committees, and these belong to different age range from being in existence for a few years to just formed ones. In one village, the resolution has been sent to the district inspector of schools for approval. In one village, the village education committee could not be formed due to political factions in the village.

Out of the study villages, 60 % villages have followed a process of election with a small size of population being present, 10% villages have followed a process of selection and 20% villages have followed a process of nomination. The parent committee, an influential member in the village or the school headmaster, usually does the nomination.

While all, except one village, the **village education committees conform to the directive of the government; the study found that this has been mostly ineffective.** In one village, the village education committee consists of seven members whereas the rest villages have a nine-member committee. This has resulted in a nominal representation and membership. The **composition of the village education committee has representation from the different social groups, but this has not been with the requirement of the needs of that context. Nor has it led to the effective handling of issues of enrollment and retention or reducing child labour** (Annex-B a map indicates representation and yet how the marginal community and its children are excluded from the benefit of school)

As per the order, **women have been represented in the committee, but they hardly participate in the decision-making processes.** Interestingly, the minutes registers show their attendance, where as the women themselves report of not being present in the meetings nor are they aware of any major decisions taken. Another facet that was observed is that in all villages studied, they have organized themselves into self-help groups, which undertake regular savings and credit programmes, and even have developed linkages with local banks for other activities. Surprisingly, they have not taken any interest in the effective functioning of the school in their village.

In general, all village education committees have a president and a member secretary. The member secretary is always the head master of the primary school.

There are a few members in the committee who are also member in some other group like a youth club. However, this has not led to any involvement of the other groups in the activities of the school or the committee. In case of urban areas, wherever there is a member representation from the urban local body, the committee has been able to mobilize resources from the local body. However, such cases are incidental not proactive in nature.

In all the study villages, the **respective panchyats do not have any committee on education.** Nor their representation in the village education is there. Wherever this is found, this is by chance, and not by design. In the education committees that have a member from the local body, they have been able to mobilize resources.

The study examined the **content of the village education committees meetings.** It was observed that the meeting has a **predominance of discussions on the infrastructure of the school, and low emphasis on the mobilization and persuasion side of the school functioning. Issues of teacher irregularity, lack of quality teaching and**

adequate learning environment seldom find place in the discussion of the committee. Nor the committee has made attempts at maintaining accountability and transparency in fund management

This study has not examined issues of membership renewal system for the village education committee.

Role of the community

In making community participation a reality in the elementary education, there is a need to understand the different roles and responsibilities that the community can take. In this study the areas where community can have a role are broadly defined into five areas. This does not mean that the community cannot take any other role, but we have not been able to cover them. The study focused on the primary roles. They are as follows:

Different roles of the community in school management

Role	Activity	Process
Facilitation (F)	Ensure enrollment and attendance	Consult with teachers, participate in enrollment drives, participate in school surveys Home visits for discussion with parents
Managerial (M)	Monitor teacher attendance Monitor teacher punctuality Observe classroom transaction Monitor student performance Monitor or support any other activities or incentives like mid-day meals, scholarships, stipends, books etc	School visits during working hours Consultation with teachers Consultation with parents and other educated villagers Consultation with other village based groups Assist in preparation of learning materials or aids
Attitudinal (A)	Spreading awareness on girl child education Retention of children in schools Mobilizing parents not to engage children in labour	Mobilization work with parents Discussion with concerned parents or elders Discussion with other groups like women SHGs, youth groups, religious leaders, village leaders Home visits
School environment improvement (SI)	Develop school improvement plan Use available grants Implement and monitor	Discussion with school staff Priorities areas for improvement Maintenance of accounts Discussion and sharing with the villagers Discussion with project or scheme officials Regular school visits
Lobby and conflict resolution (LCR)	Mobilization of resources for the school Mediate any conflict regarding the school	Participation in the Panchayats Discussion with officials Local resource raising- financial as well as non financial

NB: This is only an indicative and not an exhaustive listing

Out of the villages studied, in facilitation 35% villages reported increased interest, 40% villages reported decline and 25% villages are indifferent. In supervision, 20% villages have reported an increased interest, 40% villages have shown a decline in interest to supervise whereas an equal number of villages are indifferent. In doing motivational work with parents for sending the children to school and keeping them in schools, out of the studied villages, 30% report an increase in the activity by the community whereas 70% villages are indifferent to the situation and do nothing. School improvement is another conflicting area where 40% villages have increased their involvement, 25% have been reduced and another 35% are not concerned. In resolving conflicts and lobby work for the school, only 15% villages have increased action and the rest 85% are indifferent.

The major reasons cited for the non-involvement are situations of poverty and recurrent disasters like flood and drought, which imposes a high opportunity cost for the people for participation in the school affairs. Political sensitivities in the villages and teacher affiliation to different parties makes the atmosphere charged and thus most of the villagers avoid conflicting situations. Those who are rich or can afford the cost send their children to any nearby private school, and do not rely on the government school. Hence those who could have worked for the betterment of the school do not have a stake any further. In some places, the teacher attitude has been a constraint for effective engagement of the community. **(Annex-c, spider diagram for an example of how the community's role has diminished over a period as perceived by the community)**

There are also interesting suggestions from the teachers to improve functioning of the schools. One particular example will help. In case of the supply of study materials, the teachers are in a difficult position to counter their supervisors in cases of short supply of learning materials, which is a normal situation for most of the schools. **The community representative along with the teacher should be the recipient of the learning materials whereas the teacher can be the custodian of the materials to check misappropriation by higher authority.**

School Fund:

Financial resources as well as voluntary resources available at the disposal of the village education committee will go a long way in sorting out many of the difficulties faced by the schools. The ability of the community to mobilize own resources and making a demand on the mainstream resources can go a long way in actualising some of the dreams of making elementary education universal.

Out of the study villages, almost 50 percent of the villages did not have any contribution. 55% villages reported to have a community fund for the school. Most schools have received (90%) funds from the government, 10% villages have received support from the NGO/CBO, four villages have been able to mobilize resources from the MPLAD and MLALAD funds for their schools. **Due to political differences at the community level, one village could not use the resources mobilized from the MPLAD, and the same amount got diverted to another work. This reflects the lack of apathy and understanding among the different sections of the community on the needs of the schools and children in their village.**

The community members as well as the teachers report that the funds provided as contingency is too little, a paltry sum of rupees one hundred for the school for a year.

The headmaster of the school primarily manages the funds, and there is little room for the community to participate and make decisions.

Equally important is the school fund management and transparency in handling the funds. 80% villages report the secretary and the president jointly operate having a fund record whereas only 35% villages reports having a bank account which. ***The expenses details are rarely shared with the community.***

Training and orientation for the community:

All the villages studied reported that ***there is no training or orientation to the members of the community nor there is any training for the village education committees.*** They feel strongly that there is a need to train them in their roles so that they can play a better role in the management of the school affairs.

Functioning of the school:

60% villages expressed dissatisfaction over the functioning of the school, one community expressed disinterest in the school management and 7 communities expressed satisfaction on the school functioning.

All the villages expressed their interest to participate in the management of the school and to take different roles if properly oriented and trained. Two communities have differences over the school land and the plantation activity in the school. But all the communities are willing to take active roles and initiatives with some support from the higher authorities. They explained ***integration with the activities of the panchayat institutions for better resource mobilization and accountability despite the high political sensitivities.***

Most of the ***villagers suggested increased supervision from higher officials.*** They recounted the old days of school supervision by school inspectors and district inspector, which is currently lacking. There are schools, which are not visited by the inspectors for years together. So they do not have the ***scope to discuss issues with the authorities.*** All suggested that ***this could greatly enhance both motivation and participation of community and the teachers in the school.***

Relationship with the local governing institutions:

All rural villages reported ***no relationship with the panchyats*** except two villages, which recalled the involvement of the panchyat in terms of providing the mid-day meal to the school children. However, there is a strong difference with the urban local bodies. The ***urban community reported higher level of participation of the local representatives in the school*** and has mobilized resources for the school. They also participate in the monitoring of the school activities.

During the interviews with the panchayat representatives, it was found that ***no panchayat has a working committee on education***. They felt that ***they could act better if properly trained and oriented.*** They want to have a better quality education in the schools, but do not know how.

Parent views:

Most parents are dissatisfied with the quality of education and performance standards. All parents interviewed are willing to contribute to make the school a better place for their children. **Significant proportion of the parents is willing to contribute in the form of labour as they do not have much financial resources**. Thus **there is a need to innovate ways of using this labour to enhance the functioning of the school and its resources**. In case of financial contribution demand, their participation will be limited and can serve as a dampener.

Capacity building in the community and the teachers – events verses programmatic, and supportive skills for the supervisors

As discussed in the earlier sections, in all the villages studied reported no programmatic investment in terms of building community capacities to work as either village education committee members or pañchayat representatives acting in favour of children and education. Nor the teachers have received any training on community participation.

The study tried to match the community's expectation that supervision by higher authorities with a potential to enhancing community participation in the school with the capacity of the supervisors. It is expressed that **most of them are not oriented nor trained on community organization**. During the interaction it is observed that **there is a great need to change the attitude and behaviour of the supervisory personnel for them to play a supportive role for both the teachers as well as the communities for making community participation effective in elementary education**.

Participation of youth groups/ women SHGs, religious leadership, children etc

The study also found that though there have been community based organisations like the youth clubs and women self help groups, yet they do not find a place formally in the village education committee. Thus though they have a potential and interest to contribute, the **attitude and behaviours of the school teachers and provisions in the government order for constitutions of the village education committee limits their participation**. Similarly, **participation of children can be a great contributing factor in certain areas of the school functioning. This needs experimentation in different contexts, and then replication to similar settings**.

Relationship of school with the Anganawadi Kendra:

Neither the school system nor the community has any integrative linkage with the Anganawadi Kendra except organization of some ad hoc activities like immunization of children. Integrating these services can enhance the participation of the community. Secondly, there is a need to enhance the knowledge base of both the community and the service providers of the mutuality that these two institutions can play.

Other actors' views:

The study team interacted with programme managers of leading development organizations in the state to elicit their views on community participation in education. It is understood that there is **a lack of civil society organizations, networks and alliances working on elementary education**. There are a few organizations, which have worked on education issues, but primarily on a project basis without much programmatic thrusts or focus. Thus the results have been mostly sporadic in nature and not lasting over a period of time. There

is a stark **absence of advocacy network working on policy issues or citizens' education and commitment towards fulfilling the education rights of children in Orissa.**

As a policy imperative, it is high time that **powers be decentralized to the local governing institutions like the panchyats and the urban local bodies**. This is in line with two major constitutional provisions.

Ensuring transparency and accountability at the local level and responsiveness from the governmental authorities will expedite community participation and make it effective. Thus the government needs to find mechanisms where social audit processes can be conducted regularly.

Teacher attitude and behaviour needs special attention in current socio-political situation for both making the school a cherished place for the children as well as community participation a reality. The other **major bottleneck is the attitude of the education bureaucracy and administrators.**

Facilitation of linkages with other programme components of both the government as well as other actors is another area where community participation can get a boost for education and bring in higher level of synergy and impact at the school level.

Conclusions and Recommendations:

Active community participation is key to enhancing community management of schools. It is also critical to achieving effectiveness of schools in development. What does a participating community look like? While it varies from one village to another, participating communities share several characteristics. First, many people are involved in the activities. Second, participating communities are open to involvement by all groups, and responsibilities are divided. Power and responsibility are decentralized. Third, there is transparency and accountability in conducting the work. Members are well informed about the work and their opportunities for personal involvement in meaningful roles. Fourth, each one is encouraged to offer his or her best for the common good. Fifth, there is a definite focus on the marginal groups. Participating communities do not sit by passively. They realize that past discrimination and other factors can stop people from stepping forward, and they actively reach out to all citizens to encourage their participation. Finally, any single group or set of leaders does not control them.

The concept of 'participation' has changed from referring primarily to participation in projects to rights of citizenship and to democratic governance. The 73rd Constitutional Amendment, which provided statutory status to the Panchayati Raj Institutions (PRI), has been particularly important in this regard. While not only mandating a community role in planning and development projects, the Amendment creates reserved seats for women and scheduled castes and tribes, potentially providing an opportunity to bring historically marginalised groups into the process of decision making.

In this background, the analysis described in the previous section indicates the kinds of conclusions, which can now be drawn from this study.

Community mobilization:

Various strategies of community mobilization have been adopted in the study villages at the beginning of formation of the village education committees. The investments are high in

places where funding is available. Different activities have been undertaken in funded districts, however, continuity of these activities has not been sustained in most of the cases. It needs to be understood that community mobilization is not a one time effort, and new issues emerge and need to be addressed in an ongoing manner.

Formation Village Education Committees:

It can now be concluded that most village education committees have been formally constituted mostly through the process of nomination and selection by a combination of school teachers and influential leaders in the community. Open, substantive and extended consultations with the village community at large before the formation of the committee was mostly an exception.

It is clear that open wide spread consultation processes carried out with the villagers before the formation of the committee results in:

1. better understanding of the role of the committee and what they need to do
2. role clarity with other relevant actors for effective functioning of the school and the committee
3. improved clarity on the roles of different members within the committee.

Better community participation is possible with increased interaction of the supervisory staff from the block and district levels with the community as well as the teachers.

Identification of and discussion with existing village bodies like village development committee, health committee, youth group, women self help group and panchyats will enhance and strengthen the community participation in elementary education.

Membership

As the analysis shows, most village education committees have been formed as per the guideline from the state, weaker sections have a representation though it has not been an effective representation.

Similarly, women, though have a representation, are specially disadvantaged and do not participate in the decision making processes. Special obstacles and constraints faced by them have not been taken into consideration. Experiences from other programmes suggest that wherever women's participation has been enabled and facilitated, those programmes and committees have functioned very effectively. This implies that existence of autonomous women's groups at the village level, if properly linked to the committee would be a great asset in strengthening women's participation in elementary education.

Functioning

It is a disheartening fact that most of the VECs are of recent origin and still not active. Meetings are not regular, attendance is manipulated in records, there is no collective identity of the VEC among the members and the villagers.

The active members of the most committees are the head master and the president, and the other members are mostly passive. VECs have not demonstrated to be representing the village not as an interface between the community and the school.

Most of the communities have demonstrated reduction of their functioning in different roles over a period of time and the committee has played little role in reviving the community participation in the school matters.

No committee is involved in educational planning, monitoring or facilitation work in the study villages.

Availability of resources at the disposal of the committee contributes to the effective functioning of the VEC. However, the committees receive a paltry sum. Wherever the community has been able to mobilise resources, political sensitivities have been strong enough to derail the plan. Thus indicating the lack of capacity to generate consensus and clarity on functions and role of the committee with respect to the need of the school age children.

Capacity building

In the study village, all sections of people- VEC members, panchayat leaders, teachers and teacher supervisors have not received any training on community participation, or any orientation about the role and functions of the committee. Thus the study finds absence of capacity building for the various levels of functionaries and the committees.

Linkages

The analysis indicates the importance of building linkages between the VEC, the community at large and several other community based organisations like women's groups, youth groups or any other village level body that may be existing. There is no formal relation with the panchayat and urban local bodies. Neither the local governing institutions have organized any sub-committee in their respective institutions as mandated by the constitution. As a result, the synergy between the VEC and the local governing institutions is yet to be realized for universalisation of elementary education in the state. It is important to support organic linkages with these organizations and institutions at the community level.

Wider impact

If properly trained and nurtured, the village education committee has the potential to contribute not only to improvement of quality and coverage of primary education at the village level, but also become a space and mechanism and play an instrumental role in the wider development issues of the community. However, this needs the courage of conviction and action both at the decision making level of the education bureaucracy, and at an operational level among the teachers and teacher educators in facilitating this to take shape. At the current situation, it is neither positioned to accomplish what is being intended, and it is too optimistic to expect them to take on other roles without much support in terms enhancing their competences, motivation and capabilities.

At the other side of the ground, the civil society organizations, alliances are weak and unorganized on this issue, thus having little influencing space to change the policies for any better. Wider citizen action and political activism also absent on this arena.

Recommendations

The following recommendations are made at two levels. The first set is of strategic importance to operationalise community participation in elementary education using the framework elucidated in the conceptual issues. The second set of recommendations is of operational in nature

1. Strategic

As discussed, the 73rd and 74th Constitutional Amendment which provides for democratic decentralisation offer significant potential windows of opportunity for strengthening grassroots participation in elementary education. However, these windows will not open by themselves – many obstacles exist and new strategies and approaches are needed. The following approaches are recommended:

2. Participatory planning

This should be carried out at the village and panchayat/urban body level. Participatory planning methodologies need to be employed and multiple stakeholders' standpoints negotiated at the community and the panchayat level to generate the necessary ownership of the outcomes at the community level. Taking advantage of the NGOs having this skill and attitudes will benefit the agenda to a large extent

3. Citizen education and awareness building

Another set of strategies involves using popular education and communication methodologies to strengthen the awareness of local citizens of their rights and responsibilities for universalizing elementary education

4. Training and sensitizing local officials

Using participatory education strategies, focus on capacity and awareness building amongst local citizens, training of elected officials and government staff. Also focus on enabling existing government officials to engage with citizens in a more participatory manner

5. Advocacy, alliances and collaboration

A fourth set of strategies involve the need for learning new skills of advocacy, as well as how to build effective alliances and collaborative partnerships, especially those that cut across power differences. This involves new skills for both sides of the equation. Citizens, community-based organisations and NGOs previously excluded from decision-making in government need to learn skills of advocacy and effective policy influence, as well as to guard against co-optation. Similarly, government officials and existing power holders need to learn new skills and develop appropriate mechanisms for involving new stakeholders in decision-making&implementation.

6. Participatory budgeting

Currently one of the most successful experiences of community participation in local-level decision-making in some other programmes is that of participatory financial planning and cost control. This needs to be brought into the programme component.

7. Promoting accountability of elected officials to citizens

Whilst some methods focus on enhancing direct participation of citizens in the governance process, others are about maintaining accountability of elected officials and government agencies to the community. With the right-to-

information bill passed, the community can demand a minimal level of transparency by local governments, especially in the use of local funds. Other more professional advocacy organisations, such as the Public Affairs Centre in Bangalore, developed 'Report Cards' of local governments in the delivery of services. It is worthwhile to experiment with a network of NGOs to explore how participatory monitoring and evaluation and social audit processes could be used to strengthen these committees.

These are just some of the strategies, which are beginning to be used for strengthening community participation in the potentially new spaces found in democratic decentralization programmes. Their success will vary across context and will depend a great deal on broader enabling factors.

Operational

For existing committees

For those villages where the VECs have already been formed and functioning, certain actions can strengthen their functioning and overall contribution towards universalizing elementary education

- a)** Orientation of VECs about their holistic role in relation to high quality and full coverage of primary education needs to be carried out. Such orientation should be on a regular basis and focus on village specific issues
- b)** Wherever possible, village level bodies and panchyats could be more actively involved in the membership as well as functioning of the VECs. Special camps, workshops and other forms of consultation with the panchyat and village leaders could provide this.
- c)** With the help of the head master and the VEC members, orientation of the village community should be undertaken to explain their role in ensuring high quality and full coverage of primary education in the village as well as effective functioning of the VECs.
- d)** Since head masters play a key role, their orientation may be particularly paid attention to in relation to VEC functioning and community participation. Motivated and competent head masters can play an ongoing role in deepening the sense of ownership of the village.
- e)** The involvement of village community and orientation of the VEC should be particularly focused on the challenges of ensuring sustainability of community participation in achieving quality and full coverage of primary education. This is where close linkages with the panchayat and other local bodies as well as integration of VEC with village community may become crucial. Dialogue on future of education in the village and VEC as a village institution can be helpful.
- f)** In the regular training of teachers on curriculum and pedagogy, some orientation on community participation and roles of VECs may be added to bring about ongoing attention to this issue at the school level. This will ensure mainstreaming of community participation in all the primary schools.
- g)** With the support of block and district level officials, VECs should be involved in carrying out education micro planning and village survey around primary education. This involvement will enhance the role of VEC and promote concrete engagement of the village community at large. A small financial incentive could be provided to each VEC to initiate such an activity.

- h)** Wherever possible, local NGOs with experience in community mobilization and participation could be invited to support the head master and VECs in this important area
- i)** Strategies of community mobilization and parent motivation must be pursued
- j)** Strengthen the capacities of intermediate supporting organizations like the teacher training institutions on community participation and demand responsive approaches.

For New VECs

Where VECs are yet to be formally constituted, there are many lessons from this study:

- a)** Importance of widespread community consultation before the formation of VECs needs to be emphasized for district and state education officials. Such consultations can be used to share information about the universalisation of elementary education and roles of the villagers.
- b)** If necessary, simple educational learning materials could be prepared to orient education officials and the head masters. The same materials could also be adapted for use with villagers.
- c)** Systematic village education micro planning could be used as a basis for identifying individuals who show interest in the issue of primary education at the village level. By using a variety of participatory tools, an initial consultative process with the village community could also become the basis for village level planning for quality and coverage of primary education. Formation of VECs after this will create more organic relationship between VEC and village as a whole.
- d)** It is important to clarify to the education officials and the headmasters that VECs are village representative mechanisms for building the interface between the village and the school.
- e)** Specific guidelines on educational profile of VEC members may be issued to ensure that VEC membership is reflective of the larger village population. This will enhance identification of illiterate parents and family with the VEC.
- f)** Planned orientation and support to education functionaries needs to be created for community participation. An informed and innovative headmaster can contribute positively to wider community participation and effective VEC functioning.
- g)** At the district level, efforts should be made to encourage linkages with other agencies and programmes like Mission Shakti, voluntary agencies, citizen associations, media etc. Such linkages at the district, block and village level contribute positively towards enhanced community participation and improved functioning of the VECs.
- h)** Enhanced resources and detailed plans for capacity building at all levels will go a long way in accomplishing the community participation in schools. Improved methodology of training of trainers is needed to build confident and competent trainers. More active follow up of training with specific learning objective can greatly contribute to the enhanced capacity of headmasters and the VECs as a whole.
- i)** Special and targeted efforts need to be made to secure active participation of women in VECs. Special awareness campaigns, motivational camps, information dissemination and exposure visits could be utilized to energize women's participation for education.
- j)** Greater visibility needs to be given to achievements and challenges in promoting community participation in education through special studies, documentation, use of media and other means of communication.

MANAGEMENT/ORGANIZATION/PARTICIPATION- VEC/Community

Stakeholders in the process: Parents, care givers/ elders in the family, teachers, panchyat, VEC members, PTA, MTA, other village organizations like the SHG, youth club, community based NGO, outside NGO operating in the village, community leaders, teacher supervisors and teacher trainers

Key areas to be probed:

1. Process of formation of the committee:

- a. How many village meetings conducted before formation? Was there a gram sabha?
- b. Member to VEC- nominated or selected or elected, by whom- teacher, influential leader in the village or outside official or NGO staff, how many persons involved in the process?
- c. Composition of the VEC: (Understand the size and distribution of the committee, use a social map to get the details of the village situation, ethnic and caste groups, other disadvantaged groups, identify which families don't send children or children have dropped out, focus on girls)

is there representation from the disadvantaged or poorer groups

male : female

is there any representation from Panchayat, is the member from the same village or from a nearby village

is there any representation from any other groups- shg, youth club, cultural club, religious groups etc..

2. VEC member profile:

Name	M / F	Age	Post in VEC	Education			Gen/ obc/ sc/ st	Post in other bodies
				Illit.	primary	Sec		

Reflect any positive or negative factors that inhibits or promotes participation of women, dalits etc. Conduct a force-field analysis separately with men, women and dalits.

Meeting	Dates	Total VEC members present	SC/ST present	Women present

Also conduct Venn diagram for other groups present in the village, and their relationship with the school. Are they engaged in any school activity, what has been the experience, if not active, then what are the reasons? Are they willing to do something for the school, what prevents them to engage in the school activities?

3. What the people do, check or monitoring? (user group, committee, panchayats) Use back endnote on **FSASILCR**. (See note 2 for this, the participation wheel)



Collect data or case stories. Rank by communities on different aspects for before and after situation. Ranking range 0 to 5. If the community is doing nothing on any part, then it is inactive, if it is doing something on 2 aspects, then moderately active, and if more than 2 areas, then active. Do **FFA*** (Note 3) if inactive or moderately active. Collect case stories of successes and failures in different aspects to provide insights into the impacts made in different aspects.

Use the above also to understand individual member participation.

4. What are the most difficult things? (User group, committee, panchayats)
5. How do they roll membership? Is there any change in membership? Why and how?
6. Which communities have the access and which are left out? (user group, committee, panchayats)
7. * What were the decisions taken up by the committee? Was the decisions acted upon? (Committee, panchayats)

Meeting	Dates	Discussion point	Decisions taken
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8. * Who manages? Is there a school fund? What is done with the money? (committee, block officials, NGOs) has the community mobilized any resources for the school from within the community or from outside sources? Are there any records of the resources received and utilized? How are these shared with the wider community?
9. Has the community or VEC received any training/ orientation? If yes:

Name of the trg	Duration	Who participated	M/F	Place of trg
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NB: Collect training agenda, module, contents or any other material available

Type:

Orientation: Normally for ½ or one day providing briefs and eliciting involvement of people.

Specialised: on specific aspects of the work as for example training on school mapping, school improvement plans, PLA, SHGs, gender mainstreaming, child participation etc

Others: regular interaction with supervisory officials, exposure visits, participation in campaigns etc

10. Was there any conflict related to school matters? How has the community resolved them? *see accounts or notes of past meeting to see if decisions were noted down

11. Is the community satisfied with the school functioning? If not, what they would like to improve? What role would they like to play?
12. Do people know about the committee/management structure? What the committee does? Who pays for school improvement (households, poor households, parents, village leaders, panchayats, government)
13. Has the VEC any relation with the Panchayat on school matters? What support have they mobilized from the panchayat?
14. Is there an Anganawadi center? What does the center do? How long it operates?

Process: Social and service mapping: Paper circles are drawn on the ground representing different groups in the community (caste based, poor/rich). Ask which communities have access, who attends the meeting, who makes decisions etc.

Parent interviews:

a) With parents whose children are in schools:

- How many times have they attended any meeting relating to the school - pta, vec or other
- Is there a committee for the management of the school?
- What does the community do?
- Who are the members in the committee?
- Are they aware of any changes in the membership of the committee?
- What are the improvements they would like to see in the school? List them
- How can they contribute to bringing these improvements?
- Why are they not participating or taking initiative to improve the standard of the school?

b) With parents who have school age children, but the children are not attending school.

- What are the reasons for not sending the child to school? List them.
- Is there any committee for the school in the village?
- Has anybody from the village or school talked to them for sending their child to school? Who are they?
- Why are they not participating or taking initiative to improve the school?
- Is any of them a member in any other groups - shg, YC etc?
- Is there any discussion on the education of the children in their respective groups?
- Is there an anganawadi center and what does it do? Do they have a child who goes to the center? Why are they sending the child to the center?

Teacher Interview:

1. What is your experience in working with the community - good things that happened, difficulties faced.
2. What are the issues you have sought the assistance of the community? Who have you approached? (VEC, SHG, YC, Religious leader, traditional headman etc)

3. What are the issues where you have not got any support from the community? Why?
4. Is there any occasion when you have sought the support of your senior or supervisor? What was the issue?
5. Narrate the support you received? If not received, how have you progressed?
6. Have you received any training on community participation? What are these trainings, name, duration, content etc. was there any follow up training?
7. What steps would you like to take for the better engagement of the community in elementary education? Provide bullet points
8. Is there any anganawadi center? How you can take the assistance of the center for UFE? What efforts have you made so far?

Supervisor interview:

1. Was there any request from the teachers/ VECs to support them in community participation? What requests? List
2. How have you supported?
3. Have you received any training on community participation? Name, duration, contents
4. Was there any follow up training?
5. What other skills need to be provided so that they can make community participation in schools better?
6. Have they worked with NGO/CBOs for strengthening community participation? If not, what are the constraints?
7. Have they received any support from the PRIs? List.
8. What steps would you like to take for better engagement of the community in elementary education? Bullets.

Panchayat interview:

1. What are the standing committees currently working in the panchayat?
2. Is there any committee on primary education?
3. What does this community do?
4. Have they received any funds for primary education? Any disbursements .
5. Has the panchayat functionaries received any training on primary education? List.
6. What would they like to do for the children in their panchayat? List.

School observation:

- Is there any display of village education plan?
- Is there any display of any financial records of the VEC? Any other form of record on financial transactions? Pass book, minutes book, expenses book etc)
- Is there any display of different contributions received from the community?
- Is there a map relating to the micro plan?
- Is the classroom attractive for children? What have you seen in the classrooms?
- Is there any other activity or factors? How is it affecting the school and teaching?

Note on role of the community

Role	Activity	Process
Facilitation (F)	Ensure enrollment and attendance	Consult with teachers, participate in enrollment drives, participate in school surveys Home visits for discussion with parents
Managerial (M)	Monitor teacher attendance Monitor teacher punctuality Observe classroom transaction Monitor student performance Monitor or support any other activities or incentives like mid-day meals scholarships, stipends, books etc	School visits during working hours Consultation with teachers Consultation with parents and other educated villagers Consultation with other village based groups Assist in preparation of learning materials or aids
Attitudinal (A)	Spreading awareness on girl child education Retention of children in schools Mobilizing parents not to engage children in labour	Mobilization work with parents Discussion with concerned parents or elders Discussion with other groups like women SHGs, youth groups, religious leaders, village leaders Home visits
School environment improvement (SI)	Develop school improvement plan Use available grants Implement and monitor	Discussion with school staff Prioritise areas for improvement Maintenance of accounts Discussion and sharing with the villagers Discussion with project or scheme officials Regular school visits
Lobby and conflict resolution (LCR)	Mobilization of resources for the school Mediate any conflict regarding the school	Participation in the Panchayats Discussion with officials Local resource raising- financial as well as non financial

NB: This is only an indicative listing. You are welcome to other aspects from your experience.

GUIDELINES FOR FIELD TRIPS

(Community Participation in Primary/Elementary Education)

OVERALL OBJECTIVE: To collect data and field evidence or experiences on how community is participating in education programmes in the villages, identify perceptions that help or hinder effective community - school interface, and draw relevant lessons for V2020

PURPOSE: Identifying key issues, actors and inputs for community participation in elementary education for V2020. Make necessary recommendations for community participation in elementary education.

Process: This study will use both questionnaire, participatory methods, interview and focus group discussions. (**Note 1 for effective interviewing and dialogue skills**)

OUTPUTS :

- Identifying and defining key issues/concerns as perceived by the community and the teachers
- Identify who might be interested in checking, reforming or taking action.
- What training or orientation do these people need in order to take action?
- Develop case stories on different aspects of community participation in universalizing elementary education - NGO/CBO participation, teacher as change agent, youth, women, village leaders, teacher supervisor, another parent etc
- Data on the above collected, analysed and presented for discussion.
- Provide recommendations for V2020.

Interviewing and dialogue guide:

THINGS TO REMEMBER :

- *We are not evaluators.*
- *Be a good listener.*
- *Trust that people know.*
- *Don't correct people.*
- *Don't advice people.*
- *Be polite*
- *Speak in short and simple sentence.*
- *Ask short and simple questions*
- *Ask open questions and not look for specific question.*
- *Ask people about personal concerns.*

Points for sensitive interviewing

- Prepare as a team and agree a team contract
- Use a checklist or interview guide
- Be sensitive and respectful to everyone involved
- Use visualization methods to enhance participation and dialogue

- Listen and learn
- Ask open ended questions using six helpers - Who? What? Why? Where? When? How?
- Probe responses carefully
- Judge responses carefully (facts, opinions, rumours)
- Verify through triangulation (Cross checking)
- Record responses and observations fully

Common mistakes in Interviewing :

- Failing to listen
- Repeated questions
- Failing to probe
- Vague and insensitive questions
- Failing to judge answers
- Leading questions
- Prolonged interviewing
- Over generalisation of findings
- Relying too much on the well off, the better educated for obtaining the information
- Incomplete note taking

Individual Errors :

The most common errors committed by individual team members.

- 1 failing to listen closely: ****
- 2 repeating questions
- 3 helping out the informant by interrupting, or suggesting answers when they appear temporarily lost for words
- 4 asking vague or insensitive questions
- 5 failing to probe
- 6 failing to judge answers : ****
- 7 asking lead questions: ****
- 8 allowing the interview to go on too long

Team Errors :

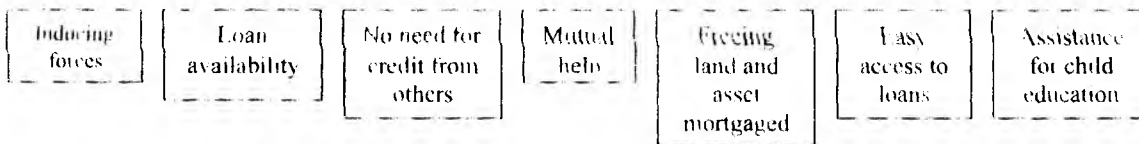
1. interrupting each other during the interview
2. switching to a new topic suddenly
3. failing to close the group
4. failing to plan and prepare fully
5. failing to give sufficient time for group discussions and brainstorming sessions for more interviews

Ambiguous or specific The way we ask ???

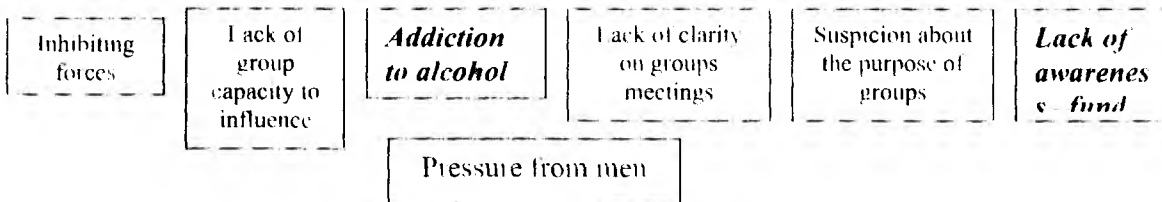
Ambiguous/open	Specific/close
How are you leaving for BBSR?	1. when are you leaving for BBSR? 2. What mode of transport 3. Which route
What are you doing?	What are you doing at present What is your job

Ambiguous/open	Specific/close
How did you win the match	How many runs How many wickets With the help of whom you have won the match What are the mistakes made by other team which made you win the match
How is the weather at Balasore	What temperature Is the weather pleasant
Do you like cricket	Like playing Watching Knowing more about cricket Conducting a match/tournament
Why X was elected as leader of the VWSC/PRI	What characteristics of X attracted the votes? What characteristics of other candidates reduced their favourability? What interests and concerns of X were reflected in your desires?

Force Field Analysis Ex- participation in local women's groups
Village- x date- a/b/c



PRESENT STATUS



Participants- m,n,o,p ...

The Way we ask : Yes/no

Leading to Yes or No response	Leading to a detailed response
Have you heard of the extension services operating here?	What do you know about the extension services operating in this area?
Do you think that if you use pesticide X your production of maize will increase?	What is your view about the likely result of using pesticide X on maize?
Would you grow more coffee if the government increased the price?	What would be the effect on coffee growing if the government raised the price?
It is sometimes said that the extension worker just works with the farmers near the road, is this true?	What is your view on the way the extension worker works here? How often does he works with farmers long away from the road?

Judging of Responses :

- knowledge that the informant might be expected to have
 - ⇒ knowledge of the matter direct and first hand
 - ⇒ is in a position to provide accurate information
- credibility of the informant
 - ⇒ some people boast
 - ⇒ others exaggerate unintentionally
- ability and willingness to respond
 - ⇒ busy or pressed for time
 - ⇒ difficult to articulate their feelings or opinions
- ulterior motives
- bars to spontaneity

Specialized Paper

EDUCATION OF SCHEDULED TRIBE CHILDREN

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2003



I

Introduction :

The tribes of India constitute an important segment of Indian society. Known by various designations and appellations, such as *adivasi*, *vanyajati*, *adimajati*, *ajimana*, *janajati*, etc., they are enlisted in Article 342 of Constitution of India and designated as '*anusuchita janajati*' (scheduled tribes). The Constitutional provisions and safeguards have reinforced their ethno-cultural status and their social identity. The Constitutional provisions are intended to empower the tribals in order to enable them to take their rightful place as part of the national mainstream. The Government of India have enlisted 283 Scheduled Tribes till 1971 and 62 of them are found living in Orissa.

Linguistic Diversities :

Linguistically, in India, they belong to four broad language families, such as the Indo-Aryan, Austro-Asiatic, Tibeto-Burmese and Dravidian, but in Orissa, the Tibeto-Burmese language family is conspicuous by its absence. Among the three-fold ethno-linguistic classification, the Indo-Aryan family includes languages / dialects of the Bhuiyan, Bhatari, Jharla, Matia, Kondhan, Laria, Bhulia, Aghria, Kurmi, Sounti, Bathudi, Binjha, Banjara, Baiga, Bhunjia, Halbi; and Austro-Asiatic (Munda) group includes Gata (Didayi), Gutob (Gadaba), Juang, Koda, Birtor (Mankidia), Mundari / Munda, Santali, Sora (Saora, Lanjia, Juray, Arsi), Gorum (Parenga), Remo (Bondo), Kharia (Kharia / Mirdha), Korwa, Bhumija, Ho (Ho / Kolha) and Mahili (Mahali); and the Dravidian group includes the Parji (Dharua), Koya, Kui (Kutia-Kondh / Dongria Kondh), Konda / Kubi (Kouda Dora), Ollari (Gadaba), Kurukh (Oraon) / Oraon, Gondi (Gond), Madia, Kuvi (Kondh, Jatapu), Pengu (Pengo Kondh) and Kisan.

"It appears from the above statements and statistics that the sixty-two tribes in Orissa use a variety of languages and dialects. However, all of them are not of equal status. This is conceivable from several aspects, such as numerical strength of the speakers, primitiveness of the tribe, use of own separate script, richness of oral literary tradition, influence of other languages, prevalence of bi-lingualism, tendency towards oryanization, adaptation of regional Oriya dialects at inter-tribal level, etc. As a result of such considerations tribal languages are being differentially treated now as major / minor, autonomous / semi-autonomous, pure / pidgin, literary / ordinary and recognizable / ignorable".¹ Further Desia language belonging to Indo-Aryan family with Southern Oriya affinity and Sadri language with Hindi - Oriya language affinity are considered as common linguafranca of southern and Western Orissa respectively. It may be pertinent to state that the Academy of Tribal Dialect and Culture has published as many as 20 books under tribal language study series (containing grammar, text and dictionary), such as on the Didayi, Kisan, Oraon, Kui, Santali, Gadaba, Juang, Kharia, Koya, Lanjia, Saora, Ho, Bathudi, Bondo, Mundari, Desia, Parenga, Sadri, Gondi, Kuvi-Kondh and Bhumij.

Economic and Cultural Sub-system :

Studies of tribal economic sub-systems in Orissa reveals that the tribal people pursue economies, such as hunting food gathering, pastoral activities, production of handicrafts goods, shifting cultivation, settled agriculture, service and / or wage-earning in industrial / corporate and mining sectors, etc. Generally speaking, most of them are in

¹ Khageswar Mahapatra, 1997 : 4-6

subsistence level and the percentage of households below poverty line is the highest among the scheduled tribes as compared to other social groups. It may be remembered here that Orissa has the highest proportion of population living below poverty line in 1999-2000 which is estimated at 47.15 against all India average of 26.12 as per the Modified Expert Group of Planning Commission.

Tribal communities, who carry on pre-agricultural activities for their survival, have been classified as 'Primitive Tribal Groups'. The criteria selected for identifying Primitive Tribal Groups include : (i) pre-agricultural level of technology and economy, (ii) very low rate of literacy, (iii) declining or near stagnant population, and (iv) general backwardness due to seclusion, and consequential archaic mode of living. These groups are indeed vulnerable and techno-economically backward. Therefore, these groups may be re-designated as "Vulnerable Ethno-cultural Groups" instead of 'Primitive Tribal Groups'.

Their distinctive characteristics of Vulnerable Ethno-cultural Group include :

- Small in scale with regard to numbers, territory and range of social contacts;
- Possess simple technology and economy;
- Little specialization of social functions;
- Structurally so simple and culturally so complex, yet so homogeneous, that they can be directly observed as wholes;
- Such communities are considered as the most vulnerable Ethno-cultural Groups.
- Some of them are on the verge of extinction.
- Some groups are struggling hard for their basic survival.
- Their health condition and nutritional status are extremely low and some groups show internal genetic imbalances.
- They are living in the most remote, inaccessible and eco-inhospitable areas.
- They are not poor, but experience relative deprivation causing economic backwardness.
- They have less command over resources and lack means for resources mobilization
- They are characteristically isolated with unique life style.
- Their economy is purely subsistence-oriented and less monetized.
- They still depend upon pre-agricultural modes of production, food gathering and hunting.
- Some groups are nomads or semi-nomads without any permanent or sedentary settlement.
- Their material culture status is simple with crude and hand-made tools, implements, weapons and appliances.
- Their traditional politico-jural mechanism is simple with Headmen, both secular and sacerdotal, who look into the internal and external affairs
- The land utilized for swidden (Podu) cultivation showed communal ownership rather than individual record of right
- Their social organization is simple
- Notwithstanding all such characteristic features of simple societies, they have their own rich cultural heritage with ethos, ideologies and worldview reflected in myths, legends, tales, riddles, oral literature, art, performing art, song, dance, music etc
- They have their unique aesthetic sensibility, ethno-scientific knowledge, ethno-medicine, ethno-linguistics, ethno-musicology, etc.

Education : Concept, Methodology and Logistics :

Education is an inalienable sub-system of the total social system or an inseparable aspect of culture / crops. Content and quality of education vary widely from the perspective of time, space, context and requirements. Education may be informal, non formal, formal, technical and scientific. Formal and scientific education gained momentum in the west since renaissance. Education has made sufficient headway over the years, in different dimensions, affecting the nature, culture and human society in several ways.

Educational provisioning for the STs poses multi dimensional concerns and requires the adoption of the most viable strategy for operationalization. The factor which impedes the spread of formal education is the world-view of the tribals. World-view accounts for an individual's psyche and his attitude towards his natural, social and supernatural world in time and space. Indeed this determine his attitude to work, leisure, health, sickness, economic development, attainment of formal education and rest of the things of life.

Culture shapes the personality traits of its bearers, and a particular culture shapes these as per its specific ethos or spirits. This has been amply demonstrated by psychological anthropologists and by Max Weber in his book the "Protestant Ethic and the Spirit of Capitalism". Thus an individual's attitude to his physical, social and supernatural world is shaped by his culture. World view determines the tribal's concept of good life and happy life, which can be analyzed either as conducive or antithetical to secularism, modernization, attainment of formal education and a host of other things.

Good life involves ethical attitude and value judgements and hence is normative; whereas happy life is more value free but not normless. It is merely not loaded with ethical pre-occupations.

For the tribal disease, sickness and death are natural phenomena and there is no full proof protection against these. All these are controlled by non-human or supernatural forces. However, in spite of these impending unavoidable hazards life is meant for enjoyment. He believes that when he is born as a man he has a natural right to live and has socially permissible freedom to enjoy life. Happiness consists in being free to enjoy one self without restrictions of time-frame or work-routine. It does not mean that the tribal is not amenable to timeframe; certainly he is, but he resents rigid time schedule and considers it as an anathema. For his youthful vigour is short-lived and non-repetitive, and therefore life must be enjoyed to the fullest extent so long youthful vigour is there. And as such he remains fully committed to the philosophy of happy life so long vim, vigour and personality continued to energize him for all the erotic, mirthful and adventurous activities. Normally one develops this sort of orientation at the pre-adolescent stage of life, which is the proper time for schooling.

As the youthful vigour declines with the dissipation of physical energy one necessarily turns away from 'happy-life' and steers toward 'good life' which is more closely integrated to the moral order of the society. Love for fun, frolic and freedom from social responsibility, steadily fades away. In the later half of life, the tribal fully conforms to the belief pattern that he must live in peace and harmony with his physical environment, social milieu and the supernatural world.

From the foregoing discussion it must not be construed that the tribal culture embody only growth-negative values. There are indeed growth-positive, or at least, growth-neutral values. No culture is negatively oriented towards development or modernization. What is necessary for the development planners and executives is the appropriate

orientation to grasp and comprehend objectively the ethos or genius of the target culture, to which development plans must be attuned

Tribes in the past, though were non-literate, certainly possessed their own systems of informal education. The dimensions of informal education emphasized community involvement and acquisition of competence as effective members of society. Even today, the core of informal education consists of instructions on Worldview, more specifically it is the body of knowledge relating to values and subsistence techniques. The techniques of instructions are informal, that is, parents and elders impart knowledge to children on various aspects in face to face relationship. The techniques are more practical rather than theoretical, and well adopted to suit the typical needs of the society. In other word informal education is designed to make the child ready for the world which he has to face. And this cannot be said to be true of the formal education, which emphasize conceptualization rather than acquisition of agricultural and other techniques in practical situation.

Tribals are not mentally deficient; they are capable of picking up complex knowledge, but their pace of assimilation may be slower as their cognitive level is relatively lower for historical reasons. Formal education lays emphasis on discontinuities in traditional cultures hence it is problematic. It aims to turn the young tribal or peasant educant into a clerk or something of that sort. It is time to rethink about the function of formal education. It should be more pragmatic and realistic. Its aim should be to make the educated ones more self-reliant rather than salaried job hunters.

The syllabi of pre-primary and primary education of tribals should be different from those of the non-tribals, and while designing it due importance must be given to their rational processes and logical thinking operative in tribal mind. At this stage the medium of instruction need be the mother tongue of tribals, which may be substituted by the regional and national language through a process of gradualism. The system of education which is to be imparted to tribal children should articulate with their natural intelligence. Therefore, it is necessary that the curricula of education includes a part of tribal culture. This, of course, necessitates knowledge of tribal cultures, without development and planning is likely to result in failure

There are certain fundamental constraints in the process of educational development of the Scheduled Tribe communities apart from those that have been mentioned above. These are :

- i)** inappropriate medium of instruction on the lower classes,
- ii)** imperfect teacher pupil communication (communication barrier) in the lower classes,
- iii)** unsuitable curricula and textbooks for lower classes, and
- iv)** incompatible formal school environment. However, abject indigence is the most important constraint in the educational development of some tribal communities.

The scheduled tribes particularly the primitive group lack income generating durable assets, and hence suffer from abject poverty and multiple deprivations. Though anti-poverty programmes like IRDP and ERDP are in operation along with JRY with a view to pushing 50 per cent of the tribal families above the poverty line, the achievement is deplorable, because the poverty line is raised from time to time. When there is no food at home, a tribal child has to assist its parents in food quest as well as in domestic chores in several ways. Moreover, in such families children are always under fed or ill fed, under such a stark situation how can a tribal child be expected to mind its studies? Therefore, in order to

attract tribal children for schooling only residential schools should be set up in the tribal areas so that the number of enrolment of tribal children can be increased and dropouts can be checked.

Language is a major barrier in the initial schooling stage of tribal children. Tribal children are monolinguals. They only know their respective mother tongue. When they are admitted into the primary schools they get dumbfounded initially as they fail to communicate with their teachers who too lack the knowledge of the language of their pupils. Students of one tribal community are also unable to communicate with their peers belonging to other tribal communities. Thus, when there is a gap of communication between the educants and their teacher, instruction becomes unsuccessful. A child's cognitive frame is in tune with its mother tongue, culture and physical environment. And therefore, when instructional communication is done at the pre-primary stage in a language other than that of the educant, then what is the quantum of receptivity is anyone's guess. Language is a visible identifier of successful schooling. Hence a teacher must necessarily learn the language of his pupils so as to make the teaching meaningful and successful at the pre-primary and primary stages. In the present system of primary education a tribal child remains in physically, culturally, linguistically and psychologically disadvantaged position. The teacher seldom appreciates the cultural values of his pupils.

Language seems to be a problem in a multi ethnic and plural society. In order to reduce the magnitude of dropout, stagnation and wastage in pre primary and primary education of tribal children the three language formula should be strictly adopted in which a tribal child has to be taught in its mother tongue only. Textbooks for the pre-primary and primary classes should be prepared in tribal languages exclusively using the scripts of the regional language. In Orissa Santal, Saora, Ho and Kondha elites have evolved scripts for their own languages, respectively. Adoption of tribal scripts should not be encouraged, because that is likely to create more confusion and make the problem unwieldy. After the lower primary stage the tribal child has to be introduced to the regional language which is generally the medium of instruction and examination at the secondary, higher secondary, university levels of education. Thus, it is essential and inevitable to introduce a bilingual transfer model at the upper primary stage in order to overcome the instructional communication barrier. At the secondary stage the student has to operate through the medium of regional language only and Hindi and English will remain as subsidiary and supplementary languages. This is an academic strategy likely to serve to better the educational purpose of tribal children, whose mother tongues are different from that of the school language or medium of instruction. The transfer model aims at a smooth change over to the school language by the end of the primary stage. This proposition assumes that the linguistic wealth of the child must be fully used in the classroom in the interest of tribal children as well as in the context of successful education. It envisages a time bound gradual transfer to the school language from the linguistic repertoire of the native tribal children.

In order to make primary education successful, textbooks need be prepared in the language of major tribal communities using the scripts of the regional language. The general primers and textbooks are being written in the regional languages now by the non-tribal authors, who lack comprehensive knowledge about tribal societies and culture. They incorporate such subject matter in the primers which are beyond the pale of imagination and comprehension of average tribal children. Such materials need be incorporated in the textbooks which would be more perspicacious for tribal students. The authors require to be educated first about the eco-system, flora and fauna of tribal habitats as well as about the tribal cultures and languages before embarking upon the task of preparing primers for tribal children. It is necessary to promote a special class of textbook writers for pre-primary and primary tribal students.

The home environment of a tribal child is natural, picturesque, serene and delightful. Whereas the school atmosphere is formal, impersonal, serious and time bound. The glamour of environment for a tribal child is so strong that right from infancy it remains submerged and inebriated in the splendor and vehemence of its vastness and beauty. While growing up, a tribal child becomes an inextricable part of its sedate and quiet habitat and gradually gets acquainted with the sleepy hillocks, undulating plateaus, rolling, ridges girdles by chains of tortuous streams and rivulets and the medley of flora and fauna in the labyrinth of the verdant forest. The tribal child, living along with its parents, kins and neighbours in the village is gradually exposed to the total environment around, and his knowledge about the elements of its environment steadily increases and it develops an intimate relationship with the world around.

In order to attract tribal children to schools, the environment and atmosphere of primary schools be made informal, homely and compatible. Now when a tribal child comes to a school for the first time, he finds himself in an altogether different world. He is separated from his family members and peers for specific periods, and on the other hand is subjected to the discipline of the school. He resents and sometimes revolts against the curtailment of his natural freedom and 'happy life'. Initially, he gets perplexed and loses his normal composure and thus he remains in search of an opportunity to run away from the school.

The incidence of non-enrolment and absenteeism is high among the tribes for two important reasons : firstly, there is acute poverty, and second there is lack of parental motivation. Hunger wipes out the urge for education. A hungry child cannot be expected to go to a school for study. Tribal parents are negatively motivated towards the present system of education. They say that there is no certainty that their children will do well in studies, and even if they do well, there is no job security. They also say that the present system of education alienates one from honest labour. It infuses false vanity into the mind of an educant; and as a result he / she refrains from manual work. Tribal parents; particularly the unlettered ones have no aspiration to educate their children when they find educated youths in their communities are unemployed who have become liabilities for their respective families.

In recent years, consciousness of ethnic identity and awareness of minority status have been growing among some advanced tribal communities. They are forming political pressure group to project their real or putative problems and plights, such as poverty, illiteracy, linguistic barrier and socio political exploitation etc. They claim that they are disadvantaged as they do not possess the literary background, general attributes and skills of the majority groups, and are the distanced from the sources of power and status in the country, therefore, in order to promote a socio-economically integrated healthy society in the country, tribal communities who constitute the weaker section along with some others will have to be elevated both economically and educationally.

In order to overcome the problems of non-enrolment, dropouts and stagnation among the tribal students the following measures may be given a fair trial. These problems are not peculiar to the tribal communities of Orissa. There are the common problems in tribal education in the country too. Thus the following suggestions are relevant for most of the tribal communities

- i) Special attention should be given to extreme low literacy tribal pockets and certain flexible institutional forms be adopted, such as pre primary residential sub-schools

- ii) Non formal and adult education centres be opened in every tribal village. Such centres should also cater information (should function as mass communication sub centres) to generate general awareness among the tribal masses.
- iii) There should be more emphasis on vocational training at the middle school and higher secondary education stages.
- iv) Sports and games should be made an important part of the curriculum, and suitable playgrounds be constructed in tribal areas and
- v) School timings, weekly holidays vacations and school environment should be tuned to the ongoing socio cultural life of the tribal community / communities of the area and teachers having the knowledge of the language of their students and having the required aptitude to dedicate themselves to the cause of tribal education be posted in tribal areas. All pre primary and primary schools be converted to residential types in tribal areas.

Education should be made socially relevant when the general curriculum carries no relevance, it has to be designed in the light of society's needs. Development should not be measured in terms of the volume of money spent or invested. Both quantitative and qualitative development should be envisaged.

In the context of education of tribal women and girl child it is noticed that they have come out of their cocoon and shown positive signs to educate themselves. Their educational intervention may be linked with SHGs and women peoples' representatives under PRIs. It is reported that tribal women have started showing zeal to earn for the family and learn simultaneously.

In spite of promotional obstacles, the cultural heritage of tribal people has been retained to a considerable extent and it has boosted their confidence to be self-reliant. Their age-old and rich cultural heritage has been responsible for the maintenance of self-identity. Despite culture change, they strive hard for retention and replenishment of their traditional culture reflected through their manners, customs, beliefs, rituals, ethos, ideologies, values, norms, ethics, worldview, dance, songs, music, art, recreation and leisure, crafts. It has become inevitable and imperative to seek all that is best in their cultural heritage and utilize the same for development intervention and successful implementation of various development programmes. Since education constitutes the most vital component of development, it needs prioritization of efforts for necessary environment building and awareness generation, so that educational component touches the most sensitive aspects of cultural heritage, in order that literacy and educational programmes are implemented with success. We need not be lost sight of, in this context, the significant strands of thought concerning the interplay of the Great Tradition and Little Tradition in the civilization of Indian sub-continent. In a nutshell, the tribal cultural heritage is intricately interwoven with various cultural activities, beliefs and practices. It is not simply to comprehend the quintessence of tribal idyllic and exotic systems, but emphatically to document the fading outlines of the languishing cultural heritage. Although in a changing canvas, the tribals have been able to retain their identity and non-osmotic social boundary as per their own genius to perpetuate their way of life, because of their cultural apparatus. There has been, no doubt, noticeable change in their social, economic, political and religious aspects of culture. The tribal institutions have undergone transformations and some are losing their significance. The youth dormitories, for example which serve as informal kind of schools now becoming a blending of both formal and non formal systems. Moreover, culture is the sole apparatus which shapes human life in any society and prepares humankind for survival amidst challenges.

In view of the facts as stated above, there is immense need for the identification of learning needs of pupils for the provision of learning opportunities and for creation of a socio-economic, political and cultural ambience to sustain the learning environment. The objective of providing reading pleasure of pupils can be fulfilled if the content of reading materials include various aspects of culture, especially the cultural nexus of the tribal people. It is imperative to link teaching-learning materials to cultural roots, in the tribal context emphasizing tribal values, ethos, tribal specific pedagogy e.g. folklore, folk dance, and music, performing art, folk songs, art and crafts and all such essential components of culture including livelihood activities and sustainable use of natural resources. The content of learning, on the other hand, introduced by mainstream culture if imposed on tribal societies will not deliver the desired goods and moreover, may lead to cultural alienation in tribals.

In order to comprehend their educational development in its appropriate perspective, the salient features of the tribal societies need to be studied. In a broad sense, tribal societies are relatively isolated / encapsulated / encysted and less prone to change. They have rich heritage and culture which have ensured their survival since times immemorial. They are not poor, but experience relative deprivation because of restrictions imposed upon their erstwhile command over resources. They are by nature, in a general sense, more collectivistic and less individualistic. They usually believe in group display, group cohesion, involvement with group encounters and group commitment. They prefer total group identification, in-group authority and in-group goals. It is true that tribal societies are relatively less hierarchic, simple and homogeneous from ethno-cultural points of view. The characteristic features of tribal societies may be stated as follows :

- Common name for self and non-self identity
- Common territory and common place of origin
- Common language for communication
- Strong kinship bond
- Endogamy with distinct taboos
- Presence of exogamous divisions within a group
- Well-defined social boundary for interaction
- Social identity is defined and re-defined from time to time.
- Existence of youth (mono-sexual / bi-sexual) organizations / dormitories / sodalities.
- Their magico-religious practices and beliefs are founded upon animism, naturism, fetishism, occultism etc. with distinct moral codes.
- Communal ownership of land and forest with strong emotional and spiritual attachment.
- Simple economic pursuits at the subsistence level.
- Low level of techno-economic base with little specialization.
- The mode of production and production decision are family / household oriented or kin-based.
- The exchange is simple, although monetised, barter system prevails in interior areas.
- The concept of capital is rudimentary

² Khageswar Mahapatra, 1997, p. 6

- There is lack of entrepreneurial skill
- Mechanisms of social control are still effective
- Customary laws are operationalized in all facets of life
- There is high incidence of illiteracy and abysmally low among women folk including girl child. Their educational attainment is proverbially low
- Their oral literature (in the absence of scripts) including folklore, folktale, folksong, proverbs, riddles, myths perpetuate along with artistic manifestations and performing art like folk dance with indigenous musical accompaniments.
- Their cultural base is wide with rich traditions
- They are more or less tradition bound and inward looking with their own worldview, ideologies, ethical / moral codes, ethos etc

Envisioning the need for development of the scheduled tribes rooted in their own socio-cultural ethos, Jawaharlal Nehru placed emphasis on the following five fundamental principles : “*the tribal panchasheel*”

- i) People should develop along the lines of their own genius and we should avoid imposing anything on them. We should try to encourage in every way their own traditional arts and culture.
- ii) Tribal rights in land and forests should be respected.
- iii) We should try to train and build up a team of their own people to do the work of administration and development. Some technical personnel from outside will, no doubt, be needed, especially in the beginning. But we should avoid introducing too many outsiders into tribal territory.
- iv) We should not over-administer these areas or overwhelm them with a multiplicity of schemes. We should rather work through, and not in rivalry to their own social and cultural institutions.
- v) We should judge results, not by statistics or the amount of money spent, but by the quality of human character that is evolved.³

These principles, the passage of time notwithstanding, hold good even today and are relevant to the needs of all STs including Vulnerable Ethnic Cultural Groups among them



³ Foreword written by Jawaharlal Nehru, Prime Minister of India in the book of Dr. Verrier Elvin, October 09, 1958

II

A Situational Analysis of Scheduled Tribes of Orissa :

Orissa has the highest number of tribes (62) and a very high concentration of tribal population (about 22.21%). Scheduled Tribes form a major ethnic minority group in Orissa. The following table shows the concentration of scheduled tribes in different districts of Orissa as per 1991 Census :

Scheduled Tribes in Orissa

Sl. No.	Name of the Tribal	Population (1991)	Residential Area
1.	Bagata	4806	Cuttack, Balasore
2.	Baiga	1556	Kalahandi
3.	Banjara	12833	Koraput, Mayurbhanja
4.	Bathudi	171054	Mayurbhanja, Keonjhar
5.	Bhottada	304117	Koraput, Kalahandi
6.	Bhuiya, Bhuyan	246553	Sundargarh, Keonjhar
7.	Bhumia	109558	Koraput, Sundargarh
8.	Bhumij	178234	Mayurbhanja, Balasore
9.	Bhunja	11276	Kalahandi, Koraput
10.	Binjhar	119939	Sambalpur, Balangir
11.	Binjhia, Binjhoa	8128	Sundargarh, Sambalpur
12.	Birhor	825	Sundargarh
13.	Bondo Paraja	7315	Koraput
14.	Chenchu	275	Kalahandi, Sundargarh
15.	Dal	19867	Balangir, Kalahandi
16.	Desua Bhumij	1880	Puri, Mayurbhanja
17.	Dharua	11512	Koraput
18.	Didayi	5471	Koraput
19.	Gadaba	67138	Koraput, Dhenkanal
20.	Gandia	3588	Kalahandi, Sambalpur
21.	Ghara	1553	Kalahandi, Sambalpur
22.	Gond, Gondo	701169	Mayurbhanja, Keonjhar
23.	Ho	50882	Koraput, Kalahandi
24.	Holva	13662	Koraput, Ganjam
25.	Jatapu	9139	Keonjhar, Ganjam
26.	Juang	35665	Keonjhar, Dhenkanal
27.	Kandha Gauda	19278	Phulbani, Puri
28.	Kawar	9582	Sundargarh, Sambalpur
29.	Kharia Kharian	168467	Sundargarh, Sambalpur
30.	Kharwar	3280	Keonjhar, Mayurbhanja
31.	Khond, Kond, Kandha, Nanguli, Kandha, Sitha, Kandha	1140314	Koraput, Phulbani
32.	Kisan	266371	Sambalpur, Sundargarh
33.	Kol	5777	Keonjhar, Phulbani
34.	Kolahloharas, Kil Loharas	12321	Sundargarh
35.	Kolha	404814	Mayurbhanja, Keonjhar
36.	Koli, Malhar	5093	Dhenkanal, Ganjam
37.	Kondadora	19285	Koraput, Ganjam
38.	Kora	10313	Dhenkanal, Keonjhar

Sl. No.	Name of the Tribal	Population (1991)	Residential Area
39.	Korua	1989	Sambalpur, Koraput
40.	Kotia	28607	Koraput, Phulbani
41.	Koya	141927	Koraput
42.	Kulis	6526	Sambalpur, Balangir
43.	Lodha	7458	Mayurbhanja
44.	Madia	1439	Koraput, Dhenkanal
45.	Mahali	13585	Mayurbhanja, Sundargarh
46.	Mankidi	1150	Kalahandi, Sundargarh
47.	Mankirdia	1491	Mayurbhanja, Sambalpur
48.	Matya	13226	Dhenkanal, Koraput
49.	Mirdhas	30883	Sambalpur, Balangir
50.	Munda, Munda Lohra, Munda Mahalis	496531	Sundargarh, Sambalpur
51.	Munklari	31147	Sundargarh, Mayurbhanja
52.	Orantya	25995	Koraput, Ganjam
53.	Oraon	257669	Sundargarh, Sambalpur
54.	Parenga	5843	Koraput
55.	Paroja	353536	Koraput
56.	Pentia	113999	Kalahandi, Sambalpur
57.	Rajuar	3146	Mayurbhanja, Keonjhar
58.	Santal	629282	Mayurbhanja, Balasore
59.	Saora, Savar, Saura, Sahara	403710	Ganjam, Sambalpur, Koraput
60.	Shabar, Lodha	373565	Mayurbhanja
61.	Sounti	96351	Keonjhar, Mayurbhanja
62.	Thaia	1595	Mayurbhanja, Balasore
63.	Unspecified	31394	
	Total	70,32,214	

The table shows that some tribes have very low population. In view of the low population, low literacy and poverty level some tribes have been identified as primitive tribal groups (PTG's). There are thirteen such PTGs in Orissa. They are Bonda, Didayi, Dongria Kondh, Kutia Kondh, Chuktia Bhunjia, Lanjia Saora, Juang, Lodha, Hill Kharia, Mankirdia, Paudi Bhuyan, Saora

It has to be noted that while Scheduled Caste and Scheduled Tribes together constitute about 40 per cent of the population and the most backward among all communities (in Malkangiri district they constitute nearly 80 per cent of the total population), instances are not infrequent where the Scheduled Tribes have been exploited both by other castes and the Scheduled Castes. This has placed the tribals at risk.

Most of the tribes managed to live an isolated life for long developing distinctive identity and culture of their own which differentiates them from the non-tribal society. The major differences are stated below :

- **Traditional ways of life little affected by modernization and urbanization :** Most of the tribals, except those who are educated and acculturated, live in rural, more particularly hilly, areas and follow their traditional ways of life
- **Oral Culture :** Even today the tribal culture of India is primarily oral. Hardly have the tribal languages scripts of their own. Every aspect of their life, origin, history and

customs are orally handed down from generation to generation. They have a rich tradition of oral literature – myths, folk tales, narratives, legends and poetry.

- **Involvement with pleasure activities :** The tribals' preoccupation with pleasure-activities such as singing, dancing and drinking, realized through cycles of festivals and ceremonies and their happy-go lucky spontaneous nature sharply contrast them with their non-tribal counterparts. This aspect of tribal life and culture is responsible for the lack of psychosis and neurosis among tribal people.
- **Tribal Concept of Learning :** Learning within tribal culture is as active, social and pleasurable event. Tribal children are initiated into new life experiences through songs, dances, riddles and folk-tales, which slowly merge them into the society of adults. Learning by rote and memorization is stressed in tribal culture. Less emphasis is given on speed and more on learning correctly. The tribals have their traditional clubs, which are also their centers of learning.

Development Initiatives :

The problems faced by each of the vulnerable groups are unique in nature, and therefore, need preparation of specific projects so as to assist the respective ethnic groups to help them overcome the obstacles facing the tribal society.

During the post-independence period special efforts were made for the all round development of tribal communities. The exercise of tribal development, which is regarded as an intervention with induced change, started right from the first five year plan period (1951-56) itself. But development efforts were consolidated during Fifth Plan (1974-79) period with the introduction of Tribal Sub-Plan (TSP) strategy. This strategy ensured quantification funds, identification of tribal concentrated areas and multi-sectoral approach for tribal development. Integrated Tribal Development Agencies (ITDAs), Modified Area Development Approach (MADA) pockets, cluster approach pockets, dispersed tribal development programme and micro projects for the development of primitive tribal groups were introduced during Fifth Plan period which is a landmark in the history of tribal development in our country. The TSP area or the scheduled area consists of 118 out of the total number of 314 blocks in Orissa. Currently, 21 ITDAs, 46 MADA pockets in 47 blocks, 14 Cluster Area Approach Pockets and 17 micro projects for 13 identified primitive tribal groups in the State are functioning for exclusive development endeavour of STs.

The table below provides details about the ITDA's and the Micro Projects:

Name of the District	Name of the ITDA	Name of Micro Project
Angul	Non-TSP Area	Pauri Bhuyan Development Agency, Jamardihi
Balasore	ITDA, Nilagiri	Nil
Deogarh	Non-TSP Area	PBOA, Bugudakudar, Barkole
Gajapati	ITDA Paralakhemundi	Lanjia Saura Development Agency, Seranga Saura Development Agency, Chandragir
Ganjam	Non-TSP Area	Thumba Development Agency, Thumba
Kalahandi	ITDA, Th Rampur	Kulia Kondh Development Agency, Lanjigarh
Keonjhar	ITDA, Keonjhar ITDA Champua	Juang Development Agency, Gonasika
Koraput	ITDA Jeypore ITDA Koraput	Nil
Malkangiri	ITDA Malkangiri	Udayi Development Agency, Kurumilugum Bondo Development Agency, Mudulpada

Name of the District	Name of the ITDA	Name of Micro Project
Mayurbhanj	ITDA Baripada	Lodha Development Agency, Morada
	ITDA, Karanja	Hill Khana and Mankirdia Development Agency, Jashipur and Karanja
	ITDA, Rairangpur	
	ITDA, Udala	
Nuapada	Non-TSP Area	Chuktia Bhunjia Development Agency, Sunabeda, Komna
Nawarangpur	ITDA, Nawarangpur	Nil
Phulbani	ITDA, Baliguda	
	ITDA, Phulhani	Kutta Kondh Development Agency, Belghat
Rayagada	ITDA, Rayagada	Dongria Kondh Development Agency, Parselt, Rayagada
	ITDA, Gunupur	DKDA, Kurir, Gunupur
Sambalpur	ITDA, Kuchinda	ISDA, Pottasingh, Gunupur
	ITDA, Sundergarh	Nil
Sundergarh	ITDA, Panposh	
	ITDA, Bona	Paun Bhuyan Development Agency, Phuntajano, Bona

Tribal Literacy Rate :

Both economically and educationally the tribals lag behind their non-tribal counterparts. The table below provides details about literacy (tribals / non-tribals - district wise)

The Literacy percentage among the tribals was 22.31 percentage as per 1991 Census and the literacy among males was 34.41 percentage and among the female was 10.21 percentage

Literacy Rate of Scheduled Tribes (Population District-wise 1991 Census)

Sl. No.	Name of the District	Percentage of ST Population	Literacy Rate (ST)		
			Persons	Males	Females
1.	Khurda	5.14	28.11	41.66	13.41
2.	Jagatsinghpur	0.62	24.87	35.35	13.33
3.	Puri	0.27	38.94	52.45	22.77
4.	Kendrapara	0.24	16.86	26.02	6.25
5.	Cuttack	3.49	21.03	32.83	8.24
6.	Bhadrak	1.69	12.87	20.25	4.91
7.	Jajpur	7.40	16.04	26.05	5.60
8.	Jharsuguda	31.88	34.87	50.95	18.37
9.	Nayagarh	5.96	32.05	50.14	13.88
10.	Balasore	10.57	18.91	30.08	7.37
11.	Dhenkanal	12.68	22.40	35.01	9.28
12.	Angul	11.68	25.77	40.01	11.13
13.	Sambalpur	35.08	32.06	47.10	16.83
14.	Sundargarh	50.74	37.34	50.13	24.52
15.	Baragarh	19.55	25.77	40.01	11.13
16.	Sonepur	9.50	27.44	43.42	11.38
17.	Ganjam	2.92	19.98	32.69	7.02
18.	Deogarh	33.31	27.47	41.25	13.73
19.	Keonjhar	44.52	24.89	38.01	11.74
20.	Boudh	12.92	28.88	48.41	9.30
21.	Balangir	22.06	24.86	41.17	8.65
22.	Kandhamal	51.51	27.49	43.93	11.56
23.	Mayurbhanj	57.87	24.10	37.74	10.50

Sl. No.	Name of the District	Percentage of ST Population	Literacy Rate (ST)		
			Persons	Males	Females
24.	Kalahandi	28.89	18.54	32.00	5.48
25.	Nuapada	35.95	18.49	32.00	5.18
26.	Gajapati	47.88	15.88	25.66	6.75
27.	Koraput	5.65	8.34	14.61	2.14
28.	Rayagada	56.04	10.39	17.73	3.40
29.	Nawarangpur	55.27	9.66	17.50	1.80
30.	Malkangiri	58.36	6.77	11.21	2.32
ORISSA		22.21	22.31	34.44	10.21

Literacy Rate of Districts (Census 2001)

Sl. No	State/ District	Total	Male	Female
Districts Less than 40% of Tribal Population				
1.	Khurda	80.19	88.38	71.06
2.	Jagatsinghpur	79.61	88.96	69.94
3.	Puri	78.40	88.73	67.80
4.	Kendrapara	77.33	87.62	67.29
5.	Cuttack	76.13	85.46	66.19
6.	Bhadrak	74.64	85.44	63.62
7.	Jajpur	72.19	82.69	61.45
8.	Jharsuguda	71.47	83.04	59.23
9.	Nayagarh	71.02	83.23	58.10
10.	Balasore	70.94	81.75	59.57
11.	Dhenkanal	70.11	81.31	58.55
12.	Angul	69.40	82.02	56.01
13.	Sambalpur	67.01	78.87	54.79
14.	Baragarh	64.13	77.93	50.03
15.	Sonepur	64.07	80.30	47.28
16.	Ganjam	62.94	78.39	47.70
17.	Deogarh	60.78	73.79	47.56
18.	Boudh	58.43	76.86	39.78
19.	Balangir	54.93	70.36	39.27
20.	Kalahandi	46.20	62.88	29.56
21.	Nuapada	42.29	58.78	26.01
Districts more than 40% of Tribal Population				
22.	Sundargarh	65.22	75.69	54.25
23.	Keonjhar	59.75	72.53	46.71
24.	Kandhamal	52.95	69.08	36.19
25.	Mayurbhanj	52.43	66.38	38.28
26.	Gajapati	41.73	55.14	28.91
27.	Koraput	36.20	47.58	24.81
28.	Rayagada	35.61	47.35	24.31
29.	Nawarangpur	34.26	47.37	21.02
30.	Malkangiri	31.26	41.21	21.28

(Literacy rates by Sex for district As per 2001 Census (Provisional))

The literacy percentage of Sundargarh district is comparatively more because of Rourkela urban area. Like-wise in case of Keonjhar the literacy percentage is also more than 59 per cent because of Anandapur sub-division which contains no TSP blocks.

Schooling Facilities for Tribal Children :

Along the special provisions in education for tribals such as stipends/scholarships, reservation of seats in educational institutes, Orissa has special schools for tribals run by the SC & ST Development Department. There are about 218 high schools, about 200 middle schools (about half of them are for girls called Kanyashrams) and about 2000 primary schools called Sevashrams. About 30% of these Sevashrams are residential. Most of these schools are located in tribal pockets. Food, textbook and dresses for students are provided by SC & ST Development Department. The Department has also opened 8 model schools for tribal students on the model of Navodyay Vidyalaya with 100% central assistance. Attempts are also made by Government to open schools in tribal areas. The table below shows details of schooling facilities up to upper primary level provided in TSP (Tribal Sub Plan) areas:

Schooling Facilities in TSP Areas

Sl. No.	Name of the District	No. of ITDA Blocks	No. of primary schools	No. of upper primary schools	No. of new primary schools	No. of EGS Centres
1.	Balasore	01	91	39		27
2.	Mayurbhanja	26	2365	433		508
3.	Keonjhar	10	1161	173	104	246
4.	Sambalpur	03	384	106	24	136
5.	Sundargarh	17	1554	298		445
6.	Gajapati	05	659	72	83	342
7.	Kalahandi	02	153	27	05	416
8.	Rayagada	11	1629	151	78	752
9.	Koraput	14	1867	223	226	215
10.	Malkangiri	07	769	88	81	202
11.	Nawarangpur	10	979	160	95	514
12.	Kandhamal	12	1621	238	57	425
	Total	118	13232	2008	753	4229

The SC / ST Development Department has also two training institutes to train their primary teachers at Bhalulata and Kalinga

Enrolment of SC / ST Children in Schools :

The table below provides the enrolment of ST children of 6-14 age group and the children who are out of school.

Enrolment of Scheduled Castes in Orissa (in 000's)

Year	Primary (I - V)				Upper Primary (VI - VII)			
	Boys	Girls	Total	Gender Parity Index	Boys	Girls	Total	Gender Parity Index
1980-81	261	138	399	0.53	41	12	53	0.29
1984-85	309	184	493	0.60	76	27	103	0.36
1985-86	334	204	538	0.61	78	31	109	0.40
1986-87	341	204	545	0.60	78	32	110	0.41
1989-88	343	216	559	0.63	79	38	117	0.48
1988-89	348	223	571	0.64	80	55	135	0.69
1989-90	344	239	583	0.69	88	55	143	0.63

Year	Primary (I - V)				Upper Primary (VI - VII)			
	Boys	Girls	Total	Gender Parity Index	Boys	Girls	Total	Gender Parity Index
1990-91	350	242	592	0.69	95	60	155	0.63
1991-92	355	246	601	0.69	96	59	155	0.61
1992-93	369	251	620	0.68	98	60	158	0.61
1993-94	380	257	637	0.68	100	60	160	0.60
1994-95	386	266	652	0.69	100	61	161	0.61
1995-96	400	270	670	0.68	106	65	171	0.61
1996-97	456	291	747	0.64	123	75	198	0.61
1997-98	379	261	640	0.69	125	76	201	0.61
1998-99	420	290	710	0.69	96	59	155	0.61
1999-2000	429	296	725	0.69	99	61	160	0.62
Compound Growth (%)	2.5	3.9	3.0	-	4.5	8.4	5.7	-

Source : DPI Office, Government of Orissa, Bhubaneswar quoted by Jandhyala B.G. Tilak : Education in Orissa, A Review of Progress, Problems and perspectives for Future on School Education (2002)

Enrolment of Scheduled Tribes in Orissa (in 000's)

Year	Primary (I - V)				Upper Primary (VI - VII)			
	Boys	Girls	Total	Gender Parity Index	Boys	Girls	Total	Gender Parity Index
1980-81	370	165	535	0.45	46	13	65	0.28
1984-85	378	209	587	0.55	76	32	108	0.42
1985-86	379	222	601	0.59	78	34	112	0.44
1986-87	380	223	603	0.59	79	34	113	0.43
1989-88	381	224	605	0.59	81	37	118	0.46
1988-89	389	225	614	0.58	82	38	120	0.46
1989-90	390	235	625	0.60	84	42	126	0.50
1990-91	397	240	637	0.60	73	38	111	0.52
1991-92	403	244	647	0.61	88	51	139	0.58
1992-93	405	250	655	0.62	90	51	141	0.57
1993-94	432	256	688	0.59	91	51	142	0.56
1994-95	438	280	718	0.64	92	52	144	0.57
1995-96	446	284	730	0.64	100	58	158	0.58
1996-97	553	302	855	0.55	121	51	172	0.42
1997-98	455	263	718	0.58	123	80	203	0.65
1998-99	618	358	976	0.58	129	84	213	0.65
1999-2000	526	463	989	0.88	131	86	217	0.66
Compound Growth (%)	1.8	5.3	3.1	-	5.4	9.9	6.2	-

Source : DPI Office, Government of Orissa, Bhubaneswar quoted by Jandhyala B.G. Tilak : Education in Orissa, A Review of Progress, Problems and perspectives for Future on School Education (2002)

Enrolment of Scheduled Tribe Children of 6-14 age-group

Enrolment and out-of-school children of ST Category (6-14 years)

District	ST Children (6 to 14 years)			Enrolment (6 to 14 years) children			Out of School children (6 to 14 years)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Baragarh	24575	23417	47992	21934	20478	42412	2641	2939	5580
Balangir	29516	27767	57283	27127	23421	50548	2389	4346	6735
Dhenkanal	14049	12792	26841	12276	11180	23456	1773	1612	3385
Gajapati	32550	28051	60601	29440	24426	53866	3110	3625	6735
Kalahandi	36067	31189	68156	33147	28076	61223	1820	3113	6933
Keonjhar	63608	58094	121702	60116	52920	113036	3492	5174	8666
Rayagada	45855	40367	86222	42831	35264	78095	3024	5103	8127
Sambalpur	32398	30319	62717	31225	28944	60169	1173	1375	2548
Boudh	4170	3637	7807	3785	3341	7126	385	296	681
Kandhamal	37738	34379	72117	36563	31479	68042	1175	2900	4075
Koraput	56599	45221	101820	48806	35120	83926	7793	10101	17894
Malkangiri	43856	35730	79586	38779	29370	68149	5077	6360	11437
Mayurbhanja	101819	91588	193407	91894	74777	166671	9925	16811	26736
Nawarangpur	58780	46593	105373	46388	33818	80206	12392	12775	25167
Nuapada	18554	15265	33819	15295	12782	28077	3259	2483	5742
Sonepur	4326	4253	8579	4155	3884	8039	171	369	540
Angul	9909	7175	17084	8109	5184	13293	1800	1991	3791
Balasore	21263	16706	37969	19297	13973	33270	1966	2733	4699
Bhadrak	2020	1720	3740	1793	1467	3260	227	253	480
Cuttack	8648	7367	16015	7117	5823	12940	1531	1544	3075
Deogarh	9482	8753	18235	7244	5927	13171	2338	2826	5164
Ganjam	8132	7211	15343	5986	4703	10689	2146	2508	4654
Jagatsinghpur	685	526	1211	520	341	861	165	185	350
Jaipur	5477	5263	10740	4956	4395	9351	521	868	1389
Jharsuguda	9365	6507	15872	8654	5304	13958	711	1203	1914
Kendrapara	323	274	597	290	218	508	33	56	89
Khurda	8551	6450	15001	7533	5022	12555	1018	1428	2446
Nayagarh	5987	5309	11296	5141	3723	8864	846	1586	2432
Puri	343	251	594	309	206	515	34	45	79
Sundargarh	82108	64514	146622	68883	47868	116751	13225	16646	29871
Total	777653	666688	1444341	689593	553434	1243027	88160	113254	201414

The number of ST children, particularly girl children, who are out of schools, as seen from the table, is alarming.

Dropout Rate of ST Children in Primary Classes :

Still more alarming is the dropout rate among tribal children that is about 74% at the final year of schooling (Class X). The table below provides a detail picture of dropout among tribal children in primary school vis-à-vis their non-tribal counterparts

Dropout Percentage in Primary Classes

Sl. No.	District	All Communities			Scheduled Tribe		
		Boys	Girls	Total	Boys	Girls	Total
1.	Angul	30.90	40.60	35.75	44.90	65.90	55.40
2.	Balasore	19.80	17.90	18.85	31.30	37.40	34.35
3.	Baragarh	13.06	13.46	13.26	23.75	30.56	27.16
4.	Bhadrak	17.34	19.37	18.36	27.50	31.45	29.48
5.	Balangir	12.38	12.78	12.58	29.33	41.52	35.43
6.	Boudh	53.30	55.80	54.55	73.40	79.33	76.37
7.	Cuttack	19.20	19.50	19.35	27.80	37.60	32.70
8.	Deogarh	54.60	58.40	56.50	55.30	64.60	59.95
9.	Dhenkanal	13.17	13.59	13.38	27.32	37.50	32.41
10.	Gajapati	31.15	31.79	31.47	33.63	43.56	38.60
11.	Ganjam	22.23	25.65	23.94	25.35	37.25	31.30
12.	Jagatsinghpur	13.56	17.35	15.46	21.10	31.36	26.23
13.	Jajpur	19.80	21.50	20.65	28.70	39.45	34.08
14.	Jharsuguda	41.50	43.70	42.60	60.30	71.33	65.82
15.	Kalahandi	25.52	28.25	26.89	41.23	55.36	48.30
16.	Kendrapara	26.70	32.70	29.70	38.80	46.50	42.65
17.	Keonjhar	24.26	26.11	25.19	41.00	49.60	45.30
18.	Khurda	19.80	22.00	20.90	28.80	41.30	35.05
19.	Koraput	42.30	46.90	44.60	61.40	70.10	65.75
20.	Malkangiri	48.20	47.10	47.65	70.00	79.54	74.77
21.	Mayurbhanja	59.90	63.50	61.70	71.50	79.50	75.50
22.	Nuapada	46.60	58.50	52.55	62.80	79.53	71.17
23.	Nawarangpur	51.60	59.60	55.60	67.93	78.95	73.44
24.	Nayagarh	26.60	31.80	29.20	38.60	51.70	45.15
25.	Phulbani	47.40	54.40	50.90	68.80	79.52	74.16
26.	Puri	19.30	25.60	22.45	28.00	41.60	34.80
27.	Rayagada	30.13	32.63	31.38	41.31	48.72	45.02
28.	Sambalpur	16.49	18.17	17.33	37.55	49.02	43.29
29.	Sonepur	21.24	25.34	23.29	31.35	43.51	37.43
30.	Sundargarh	54.60	54.90	54.75	71.36	79.23	75.30
	Total State Average	30.75	33.96	32.36	43.67	54.08	48.88

Source : Department of Elementary Education

Major Problems of Tribal Education in Orissa :

Tribal education in Orissa is beset with a multiplicity of problems, which are closely interrelated. Most of the problems, therefore, have many causes that need to be solved. There is a need for joint, well meaning and concerted effort to solve these problems. But, on the contrary, we tend to find one cause for one problem and suggest only one remedy that too half-heartedly with little involvement. Besides, lack of knowledge of tribal life and culture on the part of those who implement programmes makes them often plug the wrong holes. Stated below are some major problems of tribal education of Orissa with possible suggestions to solve some of these problems.

- 1. Management Problems :** Lack of knowledge of tribal life and culture on the part of the people in charge of tribal education. Tribal Education is part of the special package for the all round development of tribals. Education is a major cause of the failure of the other tribal development programme. And the most important cause being the lack of knowledge of tribal life and culture on the part of the implementers.

2. **Non-tribal Culture-based Education** : There are some basic differences between tribal and non tribal cultures. But the education for them is found to base totally on non-tribal culture. The school with non tribal setting, non tribal teachers and Oriya as the medium of instruction appear quite alien to tribal children. The present teaching strategy is quite opposed to the tribal concept of learning which in their culture is a pleasurable event learnt through pleasurable means - through games, riddles and songs. Our system of education lays undue stress on competition and individual learning. Education in tribal culture, on the contrary, lays stress on group learning and learning by doing. Thus there is a great need to adapt our schools at least at the primary level, to tribal culture.
3. **Problems in Learning Languages** : There is a need to use tribal languages at the pre primary and primary level and to develop a strategy to switch over from tribal language to Oriya without creating serious hiccups for the young tribal learners. But as most of the teachers are non tribals having little exposure of tribal language and culture, they fail to use tribal languages in classroom interactions. The early introduction of English from class II in the state has further aggravated the problems of tribal learners learning languages.
4. **Lack of Proper Training for Teachers of Tribal Learners** : The teachers of tribal learners need specialized training to teach tribal learners. They should help them to create favourable attitude to tribals, tribal languages and appreciation of tribal culture. It may be stated here that there are two pioneering institutes in Orissa, viz. The Scheduled Castes and Scheduled Tribes Research and Training Institute (SC & ST R & TI) and the Academy of Tribal Dialect and Culture (ATDC) which have currently training facilities in a very limited scale for teachers of tribal learners. The training components of these two State Level institutes need upgradation through provision of adequate men, money and materials. Unless the horizon of training facilities are widened in these institutes our achievements in this regard are ought to be negligible. It needs preparation of teachers' training modules and capsules with audio / video / computer display, wherever necessary, and recruitment of training instructors and association of experts in the line as resource persons. The training skills of these two institutes are to be reviewed and updated from time to time by the state level expert group so that training for capacity building of teachers of tribal learners becomes relevant in all respects.
5. **Poor Management of Tribal Schools** : The special schools for tribals popularly known as Ashram schools were originally established with high ideals. But over the years due to lack of proper management these schools have turned out to be second-rate schools. Excepting disbursement of expenses (often not in time) and transfer and posting of teachers, the SC & ST Development Department has done hardly anything for imparting quality special education for tribal learners. A kind of diarchy - double administration by the Welfare Officers and the Inspectorate of schools - has ruined these schools. These schools often fail to get the benefits provided to general schools. Convergence between School and Mass Education Department, Directorate of TE and SCERT, Board of Secondary Education, Orissa, Cuttack and different Training Colleges with SC / ST Department may be ensured.
6. **Special Problems of Nomadic Tribes** : Education of some nomadic tribes like Mankirdias and Hill Khardias poses special problems, which need to be solved with special care. Where there is a need to run mobile schools for them, the Government, on the contrary, tries to settle them permanently constructing fixed houses and schools for them for no use. A two-crore housing project at Udala for the Mankirdias, which has long being abandoned by the tribe, is a case in point.

There are also a large group of tribals who seasonally migrate to other state for work creating problems for their wards in education. Thus, there is a need to provide special education for the children of these migrant tribal labourers.

In order to check large-scale dropouts among tribals, there is a need to adapt our schools to tribal culture and make our teachings skill-based. Besides, the principle of 'surrender value' needs to be kept in mind while designing / implementing education for them. Similarly teacher absenteeism seems to be a major problem in tribal areas. In some tribal areas like the Tappu areas of Malkangiri, for example, reaching to schools in inaccessible areas is found to be more difficult than teaching. In such schools, instead of employing formal teachers, there is a need to appoint local teachers and transfer the learners after two / three years of schooling to nearby residential Sevashrams.

- 7. Emphasis to Teaching Tribal Languages through Regional Scripts :** For some years, there has been quite a demand from some tribal groups to accept their scripts in educating their learners. To satisfy some such groups, the Government of Orissa started teaching Ol Chiki script in 30 schools of Mayurbhanj, Keonjhar and Sundargarh districts on an experimental basis. Such attempts have done more harm than good to tribal learners as teaching of tribal scripts which are very different from Oriya script is found to create more problem for them in education. In stead, there is a need to start a well-planned pre-primary education programme for tribal learners and there is also a need to tap tribal specific talents, such as their love for games and sports, and nurture them to help them reach excellence in these fields.

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III

Some Critical Concerns for Management Intervention :

Keeping in view the conceptual framework of tribal education vis à vis methodological perspective we may evolve logistics for our goal attainment. We may briefly discuss them as follows :

- For universalizing access and promoting equity for completion of 12 years of basic education, there is need for all establishment of educational institutions for all stages of schooling in tribal areas as per Government of India norms and conditions. Since the tribal people have expressed their felt need for education, no makeshift and low cost arrangements will hold good. We should develop non-discriminating attitude in this regard.
- A package of educational incentives for tribal children, such as mid-day meal, dress, scholarships, learning materials including books, paper, pencil, notebook etc. are to be made available in time.
- In order to boost learning environment of tribal students, residential facilities are to be provided in educational institutions. The hostels should be available separately for boys / men and girls / women at all stages.
- Integrated Educational Complexes, one for the northern tribal sub-plan area and another for the southern tribal sub-plan area, with hundred per cent residential facilities and having educational facilities in all streams - general, technical and vocational education will create an ideal and pragmatic situation as well in the promotion of tribal education.
- Tribal parents are to be motivated to educate themselves and their children. The tribal parents need citizen education module, already enunciated in the national policy frame.
- The content of teaching learning materials shall *inter alia* include glimpses of tribal folklore, folktales, riddles, games, proverbs, myths, legends, myths and the like. These aspects may also be included in supplementary reading materials.
- Their concepts of 'good life', 'happy life' and 'prosperous life' and their value-orientations -positive, negative and neutral may be given due recognition in educational sphere. Need-based local specific vocational training may be introduced.
- In order to facilitate consolidation, convergence and linkages, the Village Educational Committees are to be re-designated as 'Village Development Committees' to take care of the multi-sectoral development which will take care of education.
- Educational technologies and multimedia facilities should be made available in tribal areas in order to ensure healthy competition and comparability and so also to enhance the talent and core-competence of tribal students.
- Anganwadis pre-school facilities and adult and continuing centres may be opened on a priority basis in areas predominantly inhabited by the scheduled tribes.
- Teachers for elementary education in tribal areas may be recruited through local arrangement by selecting genuinely interested candidates for taking teaching as their profession and by relaxing the minimum essential educational qualification. They may be provided inservice training for skill development and capacity building and

refresher course in various branches, such as languages, social sciences, natural sciences, pure sciences, vocational streams, etc. Such refresher courses may be of short duration and may consist of suitable modules and capsules for quick assimilation of knowledge along with audio-video and computer accompaniments. This will further diminish the socio psychological syndrome of a sense of inferiority among the tribal teachers. Since elementary education is the foundation for future personality development - both basic and nodal, better facilities for teachers' comforts will make them to deliver goods in the right perspective in the educational sphere. The role of teacher in our nation as a whole and in tribal areas particularly needs proper understanding and by creating congenial situation he / she shall freely work and the role performance will better.

Fifty years since the policy of reservation of seats of Scheduled Caste and Scheduled Tribe came into effect the quota for SC and ST in government jobs have not been filled up according to their respective entitlement. While the members of SCs are able to take a slightly larger percentage of seats out of their share of job reservations, the plight of a ST is much worse. No member of the Juang, Saora, Kundh tribes has made it to any of the all India services. No information is available about the successful candidates entering IIT and RECs and Medical Colleges in the State or outside. Members of the STs have not been in a position even to take full advantage of educational facilities provided for them. Fewer STs compared to SCs get into the government services. The Orissa Reservation of Vacancies Act, 1975 and Rules 1976 has really not helped in promoting 'protective discrimination' in favour of SC and ST.

For removal of their glaring inequalities at present, instead of remaining content only with job reservations for SC and ST, (which the 'founding fathers' of the Constitution initially set a time limit of 10 years for reservation that may be extendable), we must therefore look for permanent solutions.

The real problem is education, or rather the lack of it. The CAG's report presents an alarming picture of non utilization of facilities and funds, or their mis-utilization. The permanent solution would lie in building institutions and providing for the education of scheduled tribes.

Recommendations :

Establishment of schools for all children in tribal sub plan (TSP) areas may receive top-priority. Access and equity for completing twelve years of basic education shall be the primary objective. All children should have access to elementary education up to the age of 14 years, necessary for achieving the goal of Universalization of Elementary Education. This would call for emphasis on :

- Accessing the so far un-accessed children
 - Universal enrolment
 - Universal retention
 - Achievement of minimum levels of learning
- Bridge courses for school dropouts, particularly for girls - non-enrolled and dropouts in the 7-14 age group would call for priority so that after proper coaching it would be

possible to ensure their lateral entry into schools at Class III, Class V, and Class VII levels. Education Guarantee Centres opened in tribal areas should take, on the responsibility for this Government should provide technical support through District Resource Units.

- The primers, in particular, should be designed as to provide the bridge from a spoken tribal language to Oriya. Preparation of primers for girls and adult women should receive careful attention. The pedagogy should be rooted firmly in the culture and ethos of the specific tribal group. This would necessitate preparation of diverse learning modules to meet the learning needs of different tribal groups and would involve detailed micro-planning
- Generation of demand for universal literacy particularly for tribal women should be the objective in order to achieve a threshold level of 60 per cent of literacy among women who should be the key target group. A separate State Resource Centre may be established for KBK districts and other literacy backward districts.
- Multiple set of books may be developed to meet the multiple needs of the learners by using local wisdom wherever possible. The textual and learning materials along with the training modules may be reviewed with a view to upgradation as may be necessary / need of the learner. Existing traditional / community institutions may be identified as learning centre and the local leaders as managers of the programme
- Merit scholarships to SC, ST and those belonging to the OBCs at the level of Class XI - XII may be provided. Scholarships to SC, ST students may also be provided for vocational courses and technical training in ITIs.
- Following up on the success in achieving UEF by 2010, a drive should be undertaken to achieve universalization of elementary education for all tribal children to ensure that at least 40 per cent of those who pass out of schools with 12 years of basic education are from among the SC / STs. It must be ensured that the dropout rate among the tribals which is 74 per cent at present is reduced to at least 25 per cent if not less by 2020.
- It is important to note that an exclusive approach for tribal education may sometimes be counter-productive. Integrated educational complexes with residential hostel facilities may be provided in the tribal sub-plan areas, where students from other communities may also be allowed to pursue their education. This will provide opportunities for mainstreaming of tribal children and create a healthy atmosphere for competitive learning within their peer group. While all tribal children would be entitled to scholarships and hostel facilities, merit scholarships to students belonging to other communities should also be made available. A certain percentage of seats, say up to 25 per cent, subject to availability, may be made available for other children, including those from backward communities.
- The parents are to be motivated for education of their children only through their value system, norms, ethics, customs, rituals, ethos and ideology. The curriculum, content, and teaching learning material may be designed keeping in view, tribal folk-lore, folk-tales, myths, riddles, and proverbs. Their own concepts of the 'good life' shall be given due recognition in planning for their educational development. Adoption of a uniform pattern of curriculum for all first generation tribal learners and preparation of textbooks will not meet the varying needs of specific learning groups. Learning needs of different tribal groups would, therefore, involve detailed micro-planning. The textbooks and primers in particular, should be so designed as to provide the bridge from a spoken tribal language / dialect to Oriya. Preparation of primers and the pedagogy should be rooted firmly in the culture, heritage and ethos of a specific tribal group.
- Supplemental and remedial education for SC / ST children may be provided in school and special coaching given to the more promising tribal students. Priority should be

attached to increasing the core competence of SC / ST children passing out from schools, with a view to enabling them to compete with other candidates for Engineering, Medical and other professional courses and also the all India Services.

- Special programmes may be organized for them to overcome the psycho-social impediments.
- Provision of basic resources (physical and human), creation of conducive academic climate and proper teaching – learning atmosphere, empowerment of teachers and proper need-based academic guidance, strengthening of evaluation process and monitoring and supervision systems, designing the curriculum to create an awareness of the rich cultural identity of the tribals and above all the professional commitment of teachers will bring qualitative improvement in the educational process of the tribals and to generate avenues for their enormous creative talent.

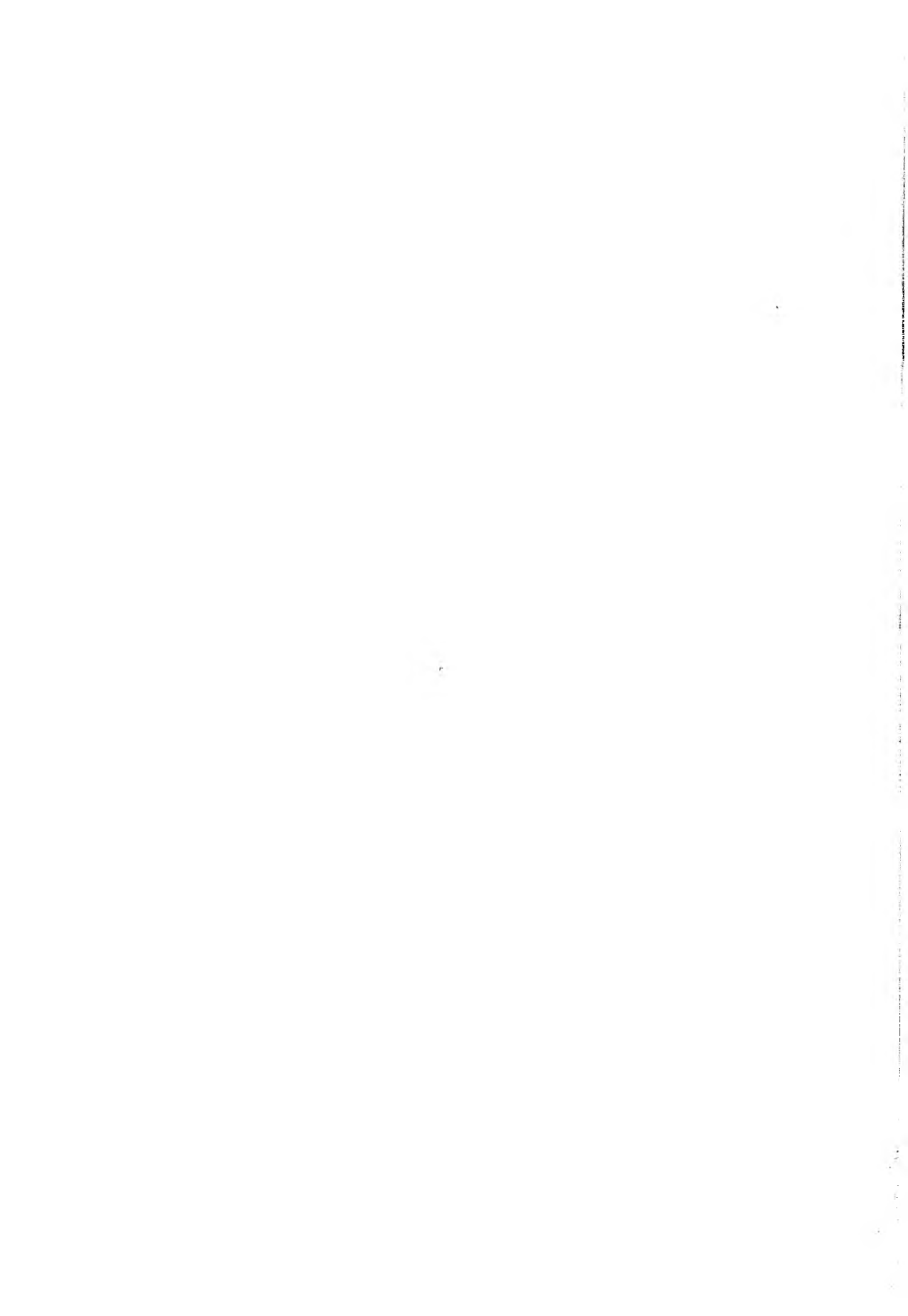
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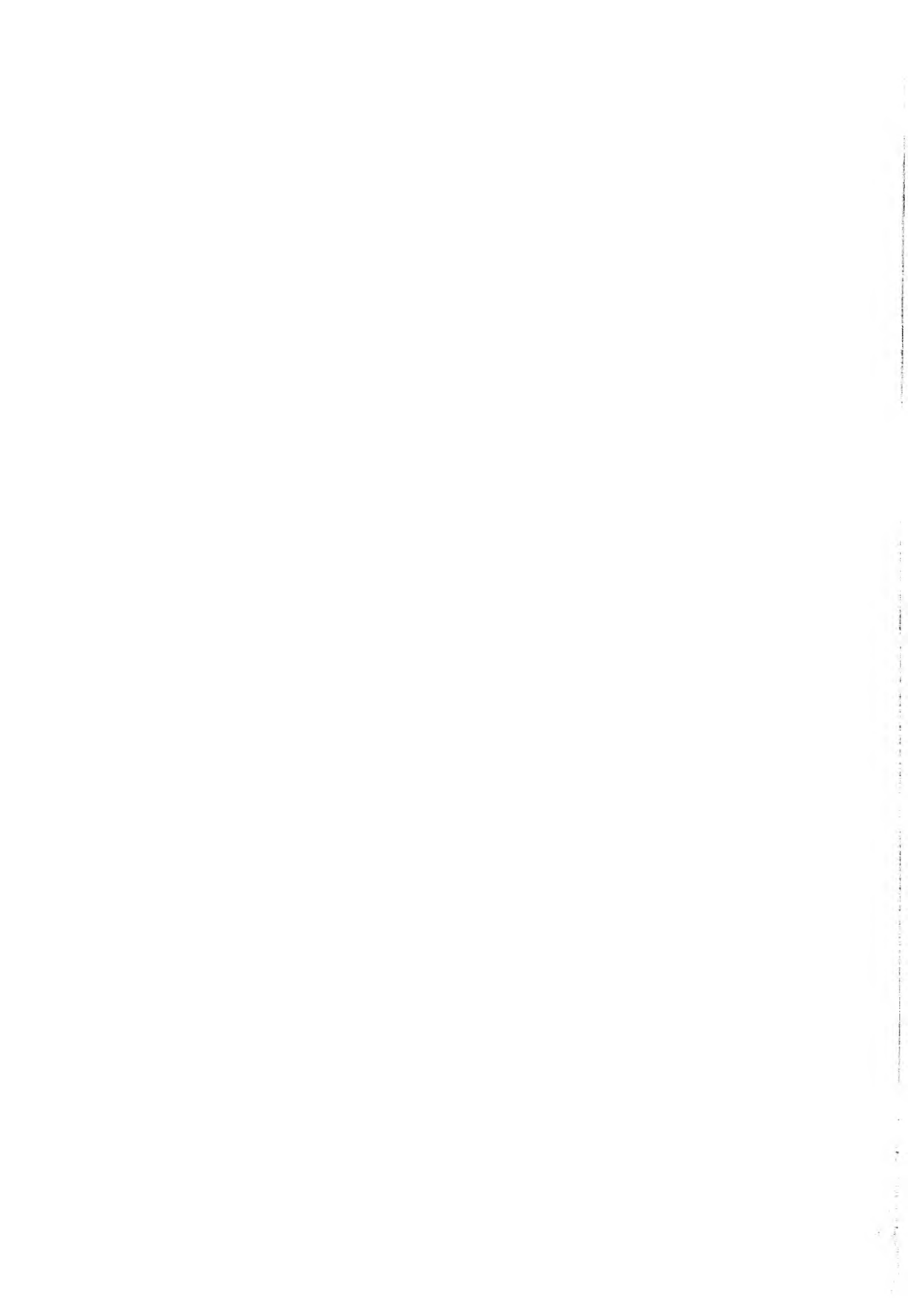
Specialized Paper

ENHANCING LANGUAGE ABILITIES AND COMPETENCIES

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2003



Introduction :

Science education or social science education, pre-school education or tertiary education, no education can take off without language education. In creating a learning society, life long education is a necessary constituent whether it is Literacy for All or Education for All, language is the foundation. Language is not merely a medium of communication, it is a powerful tool for nurturing creativity.

Languages in education in India are seen as a pyramid. The largest number of languages are at the bottom and the smallest number at the top. The All India Sixth Educational Survey (NCERT, 1988) lists 35 languages used as medium at the primary stage, 28 at upper primary stage, 25 at the secondary stage and 20 languages at the senior secondary stage.

The number of languages at the primary stage is on the decline. The decrease of languages as medium of instruction as reported by the Third All India Educational Survey, 1973-74 is 67, whereas in the Sixth All India Educational Survey 1993-94, it is 35.

Among the Indian languages "English is the only language where the percentage of schools and students using this as a medium of instruction increases with the increase in the stage of instruction. Whereas in the case of other Indian languages the percentage of schools using them as a medium of instruction decreases with the increase in stage of education" (Nautiyal, K.C., "Education and National Languages", personal communication). English is increasingly displacing other Indian languages. Lamenting about the lure of English Gandhi says, "They and their teachers have made up their minds that the indigenous languages are useless for gaining access to modern thought and modern science. The spell that English has cast on us is not yet broken. Being under it we are impeding the progress of India towards her goal".

As one looks at percentage of schools according to media of instruction at different stages of school education 1993, the following picture emerges.

Language	Primary		Upper Primary		Secondary		Higher Secondary	
	Total	Urban	Total	Urban	Total	Urban	Total	Urban
English	4.6	9.2	13.1	16.9	14.9	20.5	22.3	26.1
Oriya	5.3	2.3	4.0	1.6	4.9	1.7	1.0	0.4

Oriya represents all other Indian languages which show decrease in percentage as one climbs higher in education ladder.

Many Languages, many cultures :

India is a country of many languages and cultures. About 3000 mother tongues are mapped into 200 and 700 languages depending on how one counts. They belong to six language families, four major and two minor. Orissa has approximately 100 mother tongues distributed among about 40 languages. They are affiliates of four major language families.

Tribal population in Orissa constitutes 23 percent (according to some 22 and others 24 per cent) of its total population. The tribals constitute 8 percent of the Indian population. There are tribal groups in Orissa. Partly because of indifference and partly because of faulty planning, only 22 languages survive. Some of them are counted as endangered species.

With about 4000 castes and communities and 4000 faiths and beliefs India is multi-cultural. Many of them find place in Orissa. Jagannatha is the binding force among the Hindus, not only in Orissa but also in India and its diaspora. Almost all religious sect leaders have come to Puri. They have seen their gods in Jagannatha. Jagannatha is also the thread which binds the Adivasi (Scheduled Tribes), the Harijans (Scheduled Castes), the Sikhs, the Buddhists, the Jains and the Muslims. Gandhi has said, nobody in this country is born as a Hindu, Muslim or a Christian. Everybody is born as a trustee of all the religions practised in India. This can only come from a true leader of a multi-cultural society.

India is a multi-lingual and pluri-cultural country. And yet there is little research on bilingualism, multi-lingualism and multi-culturalism. The West took 200 years to recognize bi-lingualism as a positive factor. 1961 is a high water mark in bi-lingualism research. In 1961, Wallace Lambert, the doyen of bilingual research in the west, changed his sample and paradigm and accepted bi-lingualism as positive, additive and a resource. In 1991, Harvard University Press in a volume entitled, Bilingualism and Multilingualism, was the first theoretical acceptance of this position in USA. They have yet to accept multi-lingualism as an expression of multi-culturalism.

Language Policy :

India has a science policy, an industrial policy, but not a language policy and an education policy. Therefore, to search a language policy in education is a fruitless search. The 1986 NPE or its 1992 revised version refer us back to 1968, the three language formula. The Formula, as explained in the Ministry publication, language policy and Programme, 1969, is a strategy not a goal. It may be a Programme not a policy.

The three Language Formula addresses itself to the Secondary stage of education. It has no reference to the primary and tertiary education. It has no reference to the pre-school education and education in the distant mode. It has no reference to classical languages and foreign languages. It has no reference to pidgins, Creoles and to mother tongues. It has no reference to language of administration, communication and law. It has no reference to the integrative aspect of language, including Article 351 of the Constitution and other articles dealing with languages and cultures. It is a consensus on power sharing by major languages and their speakers.

Properly articulated and implemented a language policy should aim at the following at the primary (basic education) stage. It should :

- Break the nexus between inequity and inequality.
- Help to overcome traditional inequalities of caste and gender,
- Bridge the gap between the over schooled and the under schooled.
- Motivate learners and reduce dropouts,
- Be an instrument of social and economic development
- Be a defence of democracy by being a defence of multi-cultural society, and
- Become an indicator of human right

Formal schooling as a single delivery system has failed. For reaching the un-reached alternative modes and strategies need to be explored. Language is the first path finder in this direction.

Ignorance about Language and Script :

There is a good deal of ignorance about language and script not only in Orissa, but all over India. The Santhals in Orissa have invented a script and named it Ol Chikki. The neighbouring states have been affected by this script. What is interesting is that some enthusiasts have begun to speak of Ol Chikki language. This is the same as calling Punjabi the Gurmukhi language.

The Saoras have a revealed script. They went to Delhi to seek recognition of their script by the Government of India. They were directed to give their representation to the CIL, Mysore. At Mysore they were told that the Oriya language had been written using Roman, Nagari and the Oriya scripts without seeking anybody's permission. Why do they need anybody's permission for writing their own language in a script of their own choice? They had no answer. They were told that the general policy adopted for unwritten languages was that the first preference for writing their languages was the dominant state language's script. They prepared a first book in Saora language using Oriya-script

The Nagari script is called the Marathi script in Maharashtra. The same script with slight modification is called the Telugu script in AP and Kannada script in Karnataka. If the same script with slight difference was called the Bengali script, the Assamese script, the Bodo script and the Manipuri script in the respective regions, India would have been saved from a lot of confusion.

Language and Dialect :

Another area of misunderstanding is the relationship between languages and dialect. Call it misunderstanding or ignorance, one example is the Institute of Tribal dialects and cultures set up by the Government of Orissa. The folkloristic assertion that tribals have no language is reflected in the name of the Institute.

Such ignorance is not confined to illiterates and the uneducated. A Governor of one of the North eastern States argued that he had written two books in one of the languages of the state. He is convinced that the language had no grammar. How could one convince him that there is no language without grammar.

A Hindi text book gives a list of 33 dialects. Whether Bhojpuri, Maghi, Braj, Avadhi, Pahadi and Rajasthani are languages or dialects of Hindi is a moot question. Maithili has already been recognized by the Sahitya Akademi as a distinct language. Sahitya Academy exceeded their brief by giving recognition to languages. They were to recognize literatures. Konkani once accepted as a dialect of Marathi, has now been recognized as an independent language with a state. At one time the Sambalpuri thought leaders fought for the replacement of Oriya by Hindi in Sambalpur. Now a section of the leadership wants to prop up Sambalpuri as a separate language. As there is no unanimity among the speakers of Western Oriya dialects, some have coined a nomenclature Kusli Sambalpuri to add a political punch to their demand. A dialect is a geographical variety of a language in the same way a sociolect is a social variety.

Gadaba is an ethnic group in South Orissa. This is probably the only example where they speak two languages belonging to two different families. One is Gutob, a Munda language. The other is Ollari, a language belonging to a Dravidian family. Still there are people who claim that the Gadabas speak the Gadaba language.

School Socialization :

Our teachers and parents are seldom aware that school socialization is different from home socialization. It is assumed that school socialization is an improvement on normal home socialization. Whether it is an improvement is a debatable issue. But there is no doubt that it is different

The development cycle of cognition is often ignored while discussing socialization. The teacher is seldom aware that by the age of four the child has acquired the grammar of her mother tongue. Neither the teacher nor the learner is aware that the mother tongue is the best medium of initial learning. It is often forgotten that labeling plays an important role in the growing up process of a child. Instead of relating to natural labeling, if the school gives a set of newly constructed labels, the child's growth receives a severe jolt.

Primary education is primarily language education. This is seldom taken into consideration. Primary education surfaces from time to time to be flogged as a dead horse. There is no education policy in the country. What sells as education policy are some coercion or consensus, or some international slogans copied by us. One such slogan is Education for All by 2000. I told at Geneva that, "Education, by definition is education for some. Education for All is an adjunct of Education for some". The Nigerian education minister stopped me, repeated what I had said and commented that if we take this one message back home then our attending this Conference would have been justified.

Primary education is mother tongue education or mother tongue linked dominant state language education. This simple fact is not understood by the education planners. The anglophile intellectuals of this country have sought to annul this process while pleading for early English education. The Bengali intellectuals who spearheaded the early English education movement call this movement "Voicing People's Protest". They named removal of English from primary education as "curtailment of education". They equate teaching of English with education. They equate the 2 to 3 per cent of English knowing with the peoples of India. States are under pressure from the anglophile as well as the anglicized elite to begin English from the pre-school stage. Orissa has taken an unfortunate decision to begin English from Class II.

The budget for primary education is progressively on the decline. This affects primary education and language education with it. In the third-world countries, the budget of education is low. The budget for primary education is lower still. Ivan Illich was dismissed as Vice-Chancellor for suggesting that 3 per cent of Higher Education budget should be used for lower education.

Building is the first priority in the development of primary education, although building is the first base of alienation for the child. Coming from mud houses to houses with brick wall, pucca roof, and cemented floor is a traumatic experience for the child. A school within one kilometer radius is another misplaced priority. Rather than upgrading single teacher schools, training teachers, providing better curriculum and text and reference materials, building schools within one kilometer radius is certainly not the priority. Building such schools for the girl child is understandable. But to make it uniform and a fetish is nothing but cheating the people. In our childhood we walked three kilometers to the playground, three miles to witness a *jatia* and one-third of a kilometer to ease ourselves. What was important was the quality of education, imparted sensitively by a teacher who was aware of the needs of each child

The traumatic experience of the child is the language of the school. It is nobody's responsibility to link the home language with that of the school. Whether the children come from homes speaking one of the forty different tribal languages, speaking scheduled languages other than Oriya, or speaking one of the major dialects of Oriya, it is assumed that no effort is needed for linking the home language with the school education.

The English medium primary schools add to the trauma. Divorced from the home language and of the environment it curbs creativity, it promotes anomie and culture perception blind spots. It fails to name the fruits and flowers, the greens and the plants, the changing focus of nature and the cultural core in either the child's home language or English. The child grows up a semi-lingual, deficient in both the languages.

The NPE of 1986 refers us to the Three Language Formula of 1968. The Three Language Formula is both deficit and deficient. In the first ever policy document written for the Ministry of Education, Government of India in 1969, I had told that the Three Language Formula is a strategy and not a goal. The bureaucrats buried it under tons of Reports.

The following instances would illustrate the classroom transactions in real life.

In a fifth standard class in a rural school in Karnataka, I asked a child if she could read. She said yes. I asked her to read page 14 of the text she was holding. She asked if she should read with the book open or book closed. I told her that I had seen many people reading with the book open. I would like her to read with the book closed. She closed the book, closed her eyes for about two minutes and started verbalizing. She accurately rendered from the first word to the last. What is surprising is that neither the teacher nor the learner was aware that the performance was not reading, but recitation.

So much about the skills in the classroom.

In an English classroom which I was visiting Municipal Corporation School, the teacher asked the class that those who celebrated their birthday may raise their hand. After a minute of embarrassed silence the teacher persisted. She asked, those who attended birthday of their friends may raise their hands. After another minute of embarrassed silence, I asked the teacher to stop and came out. So much about the relation between medium, content and values.

In a tribal school in Rajasthan, a tribal boy called his non-tribal friend in the tribal language to come and sit near him. The teacher rebuked the tribal boy, *chup baith, ganwar kahanka*. The boy could not understand, whether he was rebuked for calling the non-tribal boy, or for using his mother tongue in the classroom. He had to swallow the insult with his head bent. So much about the use of mother tongue in the classroom.

The following episode would illustrate semi-lingualism, deficient both in the home language and the school language.

A British expert was visiting a primary school in Orissa. He paused for a while when he heard the children reciting tables. He walked up to the classroom and asked the teacher how come that the learners chant two into two is four? The teacher did not understand what was wrong with it. He asked what would be a correct statement. The expert said two into two was one. When this was brought to my attention, I said the expert was right. In English 'into' means 'is divided by'. The teachers do not know English. The teachers do not know our tradition. When we as children were memorizing tables, we used to say, *dui*

dugune char, which in English would be two times two is four. The teacher is semi-lingual, neither proficient in English nor in Oriya. The least said about their students the better.

The curriculum and the textbooks present another trauma. The argument whether there should be one curriculum and different textbooks, one curriculum and one textbook or different curricula and different textbooks for different linguistic and different culture groups goes on *ad infinitum*. Once I was talking to a DPI in Maharashtra. To my query he replied that the print order for the first book in Marathi was 35 lakhs. I asked him, does it mean that there are 35 lakh students speaking the same variety of language, sharing the same culture who use these books? He said, his responsibility was printing the books on time, supplying the books on time to the schools, deducting the price from the grants to schools and see that the accounts are clean. Use of the books is the responsibility of another DPI.

The number of books and notes carried by the children is another trauma. The parents and teachers feel that the larger the number of books the students carry, the better is their education. At one time there were forty two items in the primary curriculum of Maharashtra. This was neither considered a load nor did the students carry such a load they carry today. Neither languages nor education can ever be considered a load. A bundle of sandal wood may be a burden for a donkey, but for a human being it is a source of cool fragrance.

Education, more particularly language education, is the essence of learning. Languages are elements of culture as well as carriers of culture. Therefore languages, both as medium and culture, occupy a special role in education.

In Kerala I made another experiment. This was aimed at upgrading the system prevailing at that time. I had to assure the education authorities that we would work within the overall framework of primary education curriculum within the state. I had negotiated a 32 half hour broadcast time with the AIR. The materials prepared for broadcast had to be interlaced with 20 packages of written materials. This was a content cum methodology course. It was so designed that one cannot get away with either the broadcast or the written material. The state government identified the teachers. Five thousand teachers registered. It was so successful that the state government took over its implementation and requested us to take over the next higher class. We did it up to Standard X.

For tribal education I had initiated bi-lingual primary education. Following the age-old educational practice, from known to the unknown and from simple to complex, it was suggested to teach reading and writing the language the learners spoke and understood. Simultaneously the learners were taught the standard spoken language. This is the dominant language of the area within the purview of which their socio economic interest lay. The time was so arranged that in the first year 80 per cent was given for reading and writing the language the learners spoke at home and 20 per cent to the standard spoken language. By the final year the time was reversed. We experimented in Rajasthan, Dadra - Nagar Haveli and Karnataka. One of the visible result was that dropout and stagnation was sharply reduced.

These were few of the problems we faced and few of the programmes, I as the Founder Director of the Central Institute of Indian Languages initiated. Many states have claimed to have tried out different experiments. But they have seldom been taken into account by the education planners. We continue to reinvent the wheel.

Specialized Paper

STRENGTHENING OF TEACHING OF SCIENCE IN SCHOOLS

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We are living in a rapidly changing world, where change is so fast that we can hardly catch up unless we equip ourselves with the latest knowledge. Knowledge being the highest form of 'power' its acquisition is gaining importance with every fleeting second. More and more importance is given to generating and gathering information and to convert information to knowledge and knowledge to wisdom. Conversion of information to knowledge and knowledge to wisdom is the essence of education.

With half of the state population below the poverty line, half of the female population remaining illiterate, with shortage of power, food stuff, vegetables, Orissa the land of excellence in art, craft, and sculpture is reeling under poverty, unemployment and deprivation notwithstanding its physical and natural resources. In this context, education and training with skill development and upgradation of existing skills assume importance. Science education which is directly responsible for enhancing the skill levels and of using the tools of production, engendering a spirit of inquiry assumes special significance.

Science and technology influence every aspect of the individuals life, educated or not, whether one is aware of this influence. Science and technology are effective agents of change and growth. Notwithstanding the impact of science and technology on every day life, these instruments which power the engine of development have remained largely alien to common man.

Realizing the importance of science education as an instrument of manpower development for different levels of economy, the national policy on education (1986) recommended every effort to be made to extend science education to the vast numbers who have remained outside the pale of formal education.

The Indian Education Commission (1964-66) under the Chairmanship of D.S. Kothari recommended teaching of science in the lower primary classes which should focus on the child's environment - social, physical and biological. In the higher primary stage the emphasis might shift to the acquisition of knowledge together with the ability to think logically to draw conclusions and to make decisions at a higher level. It was interesting to note that the Indian Education Commission had recommended that every primary school should have a Science Corner or a room to keep specimens, models and charts with necessary storage facilities. They also recommended that a minimum of one laboratory-cum-lecture room should be provided in every higher primary school.

The Commission were of the opinion that in rural secondary schools, science education could be linked to the agricultural environment through integrated courses which would bring out the impact of the physical sciences on biology. They also recommended to introduce gradually the pupils in rural secondary schools to the ideas and practices of scientific farming and the activities and skills related to it. Similarly, in schools in industrialized areas, the curricula should have a bias towards the technical and industrial aspects of experimental science and its impact on industrialization. Notwithstanding the differences in the approach to Science curriculum in rural and urban schools, the Commission desired the levels to be attained in these schools to be the same and to make avenues to higher education available to students from both types of schools without discrimination.

Decrying the lecture method commonly employed in the science classrooms, recommended for investigatory approach from the very beginning and wanted the close connection between science and agriculture and industry to be stressed upon even at

the early stage of school education as that would make science teaching more realistic to the pupils and also more interesting and useful. At the secondary stage, the Commission desired teaching of science to be built round "home technology" (the maintenance and study of gadgets commonly used at home), agricultural implements and industrial tools. They also strongly recommended for investigatory not confirmatory practical work in science.

National Policy on Education (1986) desired to strengthening science education so as to developing "well defined abilities and values such as the spirit of inquiry, creativity, objectivity, the courage to question, and an aesthetic sensibility" in the child enabling the learner "to acquire problem-solving and decision-making skills and to discover the relationship of science and health, agriculture, industry and other aspects of daily life".

Science and technology are essential social enterprises, but alone they can indicate "what can happen", not "what should happen". The latter requires human decision about the use of knowledge. Understanding basic principles of science should proceed with a thorough understanding of economics, politics, ethics of various scientific and technological challenges with which we are confronted with as well as their global implications. Emphasis on science education should not merely aim at producing school leavers with sound knowledge of science so that they can pursue higher studies in the area of their choice but to equip the learners with basic concepts of science and mathematics and their connectivity with other subjects and other societal issues.

In an age driven by relentless need of scientific and technological advance the importance of strengthening teaching of Science and Mathematics in schools need not be over-emphasized. As stated in Glenn Commission's Report entitled "Before it is too late" (Report to the nation by US National Commission on Mathematics and Science Teaching for 21st Century).

"Science and Mathematics have provided enormous knowledge to understand the world. Accordingly, imparting knowledge and skill to children in these areas at profound level is more essential than describing their practical benefits. Science and mathematics impart three qualities that define our human world and enable us to meet the challenges. Mathematics and Science brings order, harmony and balance to our lives. They have great explanatory power. They teach us that our world is not capricious but predictable, i.e. that it contains pattern and logic which can be used in the service of mankind. The analytical tools of mathematics and investigative skill of scientific approach are foundational skills for life long learning process thus creating progress.

Science and Mathematics continuously shape and reshape our history and culture, giving rise to new inventions and ideas. It is the physics of Newton, which was the genesis of Industrial Revolution. In our time pure science has not only yielded computers, artificial intelligence and robotics but also an incredibly useful global communication system.

Science and Mathematics provide human beings with powerful tools for continually reshaping the physical world itself. They teach us that the secrets of nature can be unfolded and new discoveries are possible"

Mathematics and Science have not only played a crucial role in transforming our economy, eliminating subjective social beliefs like superstitions, myths but have become pervasive in our daily life. Literacy in these areas helps the citizens in understanding the cause of various diseases, their prevention as well as treatment. Through skill of mathematics we can wisely invest money for the rainy days and understand the need of living within ones own means. Good science education help the students to develop the understanding and habit of mind they need to become compassionate human beings, able to think for themselves and to face life head on. It equips them to participate in a meaningful way with the fellow citizens in building and protecting a society that is open, decent and vital. More scientific literate the citizens are, the stronger will be their society. The lesson and skill that science imparts have repercussions in making the citizens as active partners in the task of nation building than being passive onlookers. Even to understand certain issues that we come across everyday, basic concepts of science are essential.

If one opens the morning newspaper, or listen to radio broadcast, or telecast through TV, almost everyday one would come across new scientific discoveries and technological innovations in a wide spectrum of disciplines ranging from Astronomy to Zoology (A-Z). Examples are endless, but some of the recent one are : cloning of organisms, selective genetic manipulation of human reproduction, use of DNA fingerprints as evidence of parenthood, impact of chemical and biological weapons, effect of insecticides and pesticides on vegetables and soil /water, pollution of air and water, adverse effect of drugs, foeticide of girl child, hacking of internet websites, data encryption, e commerce and e governance, global warming, depletion of ozone layer to mention but a few selected fields. The question arises whether a society should accept these new discoveries, and if so what are the repercussions ? Only a scientifically literate society can debate on these issues.

Take for example a simple case like technology's ability to determine the sex of a child while the child is still in womb. Due to our social ethos, a girl child is not well accepted in our society for a variety of reasons - one of the most important reason being demand of dowry. Therefore these days foeticide of girl child is on the rise. Even now the ratio of male to female is 1000:930. When we try to reduce female population, a day may come when one female could be the life partner of two males or there will be open prostitution in the society.

Science and Technology become insipid and inane without their juxtaposition with social issues. In other words, there is a natural science component for every social issue and a social science content for every issue on science and technology. This statement can be qualified with the following examples.

If today we can boast of curbing the population growth, which is an impediment to our socio-economic development, the credit goes to scientists who have developed various methods for birth control. At the same time the role of the society in accepting the small family norm is not a lesser social achievement. On the other hand every scientific discovery and technology derived therefrom if not used without respect to social values and ethos can have devastating effect. The publication of Newton's Mathematical Principles of Natural Philosophy in 1687 stands forth as one of the greatest scientific achievements of any age. Ottohan and Strassman discovered the phenomenon of atomic fission, a process that among other things can give rise to lot of energy at fairly low cost. The positive side of the discovery is that it opened up a new technology for generating electricity, propelling submarines and like that. On the other hand Oppenheimer used the same discovery in making the atomic bomb and mankind has not

yet forgotten the tragedy that gripped Hiroshima and Nagasaki. Further, we know that the stock of nuclear weapons that has piled up in this planet, if accidentally explode will annihilate all living species. So it is for the society to determine whether such kind of research and development should be encouraged or not. Thus transformations are produced in science by social events and in an increasing measure, social transformations being brought about through the effect of science.

A bit of knowledge of physics, chemistry, and biology taught in schools fills the minds of young children with a few generalities, but this will not equip our children to develop the required scientific temper or attitude of mind, and lead to the possibility of application of scientific concepts in real life. The greatest ideas of science are nothing more than working hypotheses, useful for purposes of special research, but completely inapplicable to the conduct of our own lives or the interpretation of the world. It is therefore, important while promoting science education, we must teach our students how to translate the 'know-why' of the natural sciences through the acquisition of 'know-how'

In this context one has to keep in view, the difference between 'science' and 'technology' which are generally used synonymously. While 'science' and 'technology' are often used to denote the same thing as another, they have different applications in different contexts. Science is universal, while technology is application-oriented and culture specific. To provide an instance, the whole range of agriculture technology starting with the iron plough, tractor and agricultural implements and the combined harvester provide for the entire range of agricultural appliances appropriate to the needs of the farmer in developing societies as well as advanced economies. In a labour intensive country like India, it is important that labour is not displaced to yield place to the combined harvesters on a wide-scale. In a developing economy like India, (i) technology must be relevant and appropriate to the needs of the user, (ii) it must be suitable for small-scale applications, (iii) it must be affordable.

Technology is something which people create to use science so as to improve their material condition, life styles and surroundings. Application of knowledge for betterment of man and society has given birth to various appropriate technologies. Such knowledge need not be highly or exclusively scientific in nature. But a broad spectrum of knowledge and skills derived from several disciplines should form the basis of science education in schools. As Friedrich Schumacher puts it aptly : "I have no doubt that it is possible to give a new direction to technological development, a direction that shall lead it back to the real needs of man, and that also means : to the actual size of man. Man is small, and, therefore, small is beautiful. To go for giantism is to go for self destruction".

One would appreciate that "Social Technology", which is essential for making a society work as well as creation and maintenance of the social structure depends heavily on education. In order that all citizens of the society get some kind of job opportunity or owning their own enterprise, or having access to the basic essentials (or capable to have their own entrepreneurship, essential requirements) to lead a good life like healthcare, nutrition, a compatible family life, the role of science education within the ambit of education as a whole is no less important.

The NPE (1986) proposed to establish network arrangements between different institutions of the country to pool their resources in the areas of science and technology education. The policy also recommended for providing computer literacy in as many secondary schools as possible to equip the children with necessary computer skills to be effective in the emerging technological world.

For the first two years of primary education, science education was made a part of environmental studies along with social studies relating it to one's well-being in the context of natural and social environment, the world of work and spatial relationship between man and his natural environment. It also included some common problems concerning the environment; and elements of health, living and non-living things and the earth and the sky.

For the last three years of the five year primary cycle of education these competencies were split into social studies and science education with each sub-competency representing a specific curricular objective prescribing expected learning outcomes

The competencies were such that the techniques of teaching could be conveniently made activity based. The child could be given ample opportunities, both individually and in groups as well as within the classroom and outside to observe, explore, analyse, interpret and appreciate the natural environment of which he or she is an integral part

Science teaching at the secondary stage was stated primarily to be directed towards problem solving and decision-making through the learning of key concepts which cut across all the disciplines of science. It also wanted learning of science to be oriented to ensure that the learners discovered the relationship of science with health, agriculture, industry and other aspects of daily life.

The policy directives of science education, it may be said, formal part of every report from 1937 through 1992, which have advocated for teaching of scientific concepts related to the daily life of the learner. All have laid emphasis on practical bias in teaching science and the importance of developing scientific temper, spirit of inquiry and courage to question. But sadly even after so many years these are not perceptible in our children. Had the recommendation to link up teaching of science with agriculture in rural schools and with industry in urban schools been put into practice, national development could have been easier and spectacular.

Curricular Approach :

Curriculum is a device to translate national goals into educational experiences. It is expected to include "totality of experiences that students receive through manifold activities in the classroom, library, laboratory, workshop, play ground and in the numerous informal contacts in and outside the school. but our curricular place a premium on bookish knowledge and rote learning, and make inadequate provision for practical activities and experiences. Development of useful skills and the inculcation of the right kinds of interests, attitudes and values are not given any emphasis in our curriculum.

The new national curriculum framework of 1988 for elementary and secondary education included new thrusts like protection of environment, conservation of natural resources and observance of small family norm among other things. When revised in 2000, it also included :

- i)** education of the gifted and talented,
- ii)** response to the impact of globalization,
- iii)** meeting the challenge of information and communication technology,
- iv)** linking education with the life skills

The national curriculum framework for school education, 2000 recommends linking science and technology education, because of the strong organic linkage between the two. In the twenty-first century our young men and women would require a sound knowledge of the basics of science and technology. They must understand and appreciate how basic scientific principles are applied to finding solutions to problems of agriculture including silviculture, pisci-culture, weather, health, nutrition, energy, industry, defence, information processing and other areas like communication system, space technology, genetic engineering, health issues like communication and environment at secondary stage.

Consequently science education will have to focus on the processes that would help the learner developing ability to observe, enquire experiment, analyze and synthesize, which would lead to formation of scientific attitude and objectivity in approach to any problem or situation of life. That could ensure our moving away from the system of the day that presents science as recall of factual information and rote computation to one which would emphasize conceptual understanding, reasonable application and logical process skills. For that to happen, teaching of science must be based on hands on activities in which the learners would conduct investigations, discover key principles, and practices applying them in a variety of situations

Curriculum for Primary Schools in Orissa :

Existing curriculum plan for primary schools follows the Minimum Levels of Learning. But MLL for upper primary stage have not yet been finalized. The curricular plan under MLL tries to include the total environment as product of the interaction among the man, the natural environment and the social environment. Each competency or sub-competency represents a specific curricular objective describing expected learning outcomes. The competencies can be learnt conveniently through activities. But unfortunately that does not happen in majority of schools. The curriculum has remained largely knowledge and information oriented and it cannot help the learner developing skill or scientific attitude. What is needed is to ensure that the science teaching should be activity-based and for that some provision should be there in the budget to meet the expenditure. The science teacher should be given a short-term course on interactive learning and to imbibe a spirit of inquiry among the students.

Curriculum for Secondary Schools of Orissa :

The curriculum for secondary schools does not provide for any sort of content related activity or demonstration. That totally defeats the purpose of science education as enshrined in the policy statements as well as the National Curriculum Framework.

However, recently in 2002 the Board of Secondary Education has decided to revise the curriculum for secondary stage and two significant concerns in relation to science education were that :

- i) while preparing the learners' for higher education in general stream, the curriculum should help those who prefer vocational education and also those who enter the world of work without going in for higher education or vocational education; and
- ii) it should not demand high intellectual learning required for higher education in specific areas, from all the students, but should have scope

for offering other subjects of interest by the mediocre and weak students, which could also facilitate study of any vocational course, or choosing and accepting any occupation in future

Board of Secondary Education, rightly made an "attempt to equip the students with certain essential competencies in the areas of food, health, nutrition, agriculture, energy and environment in terms of knowledge, attitude and skills which can be useful even to those who would not continue further study of Science".

The latest revision of the science curriculum in the state is a step forward as it has for the first time provided for practicals in Science with 20 marks allotted out of 100 marks in each of Class IX and Class X stages. The practicals include performance of ten experiments prescribed in the syllabus, maintenance of practical records and viva-voce.

Another step forward in this revision has been flexibility in combination of courses. There are two optional subjects in two groups. Every student will have to opt for two optional subjects choosing one from each group. More importantly the clubbing of subjects like agriculture, dairy and pisci culture in Group I along with optional Mathematics and higher language, and inclusion of computer education, environment and population education along with optional Science, basics of commerce and home management in the second group. These steps augur well for the future.

It has been rightly said in the National Curriculum Framework, that much of aberration of the present system of education in India is not due to lack of noble ideas but lack of their appreciation and translation in the classroom practices and so in real life situations.

The Indian Education Commission in their report recommended opening of agriculture schools. It had recommended linking of Science Education in secondary schools of rural areas to the agricultural environment through integrated courses which bring out the impact of physical sciences on biology. Similarly, the curriculum in schools located in industrialized areas should have a bias towards the technical and industrial aspects of experimental science and its impact on industrialization. Notwithstanding the recommendations of Kothari Commission, changes brought about in the curriculum have not been related to the utility aspect of education which is of utmost importance for the children from the deprived and weaker sections of our society. Besides, in absence of agriculture schools which was one of the recommendation of the Kothari Commission, it has not been possible to give effect to the Commission's recommendation on science education in rural areas.

Textbooks :

Curriculum development and development of textbooks are done by different sets of experts for different classes. As a result there is no organic linkage in explanations of principles, citation of examples, action links, correlation with local specific issues and examples in the texts of different grades. Even one finds variation in the glossary used in science texts on the same topic in different classes. Some basic concepts are also not adequately dealt with. It appears as if writers compete to give as much information as they can borrow without knowing how to make use of the information they serve in enhancing productivity or upgrading skills of the learners

What Should be the Objectives of Science Education ?

Science education should be imparted in a manner that the learners should be given opportunity to appreciate :

- nature and conduct of science.
- inter relationship of science with other disciplines in providing social and cultural values.
- that the conduct of science is not value free but that some guiding values apply.
- that science has some limitations and can not provide clear cut answers, particularly in the boundaries of disciplines.

The curriculum of science should be so designed that it enables the learners to understand the subject in a societal context. It should help the learners to develop as a "whole person" corresponding to the concept of *homo universalle* environment by Leonardo da Vinci, that is morally, intellectually, emotionally and aesthetically. The education in science should help the learners to develop :

- an enthusiastic interest in and a constructively critical attitude towards scientific values, ways of working and seeing the world.
- curiosity in and a responsible attitude towards natural and physical world,
- appreciation of science as a creative human activity which both influences peoples lives and views of the world and is itself subject to potent social and cultural influences.

There are number of examples regarding how science and technology has improved the quality of life. Understanding the reasons for child mortality has helped the physicians to take appropriate pre-natal care. As a result of this, child mortality which was 19 per 1000 birth during 1971 has reduced to about 11.4 in 1991 and now it is estimated at 9 per 1000 births at all India level (unfortunately in Orissa the figure is much higher than the national level) The average life expectancy has gone up to about 58 years at present compared to about 45 during 1971 (Source Statistical Handbook of India by Tata Service Ltd.) These have been possible due to growing awareness of the people and discovery of newer drugs and advanced surgical methods to cure various diseases. Transportation by road or rail as well as by air has now bridged the distance. Communication system has improved dramatically during last one decade.

One can have access to news at any time by press of a button of TV. Telephone and most importantly internet has now made it possible to talk and even see the near and dear ones who are miles apart. In fact, with the advent of internet the world has been converted to a global village. Internet has been a powerful source for storage and retrieval of information. It has even helped to save lives of people through tele-conferences. Computers have made it possible for instant reservation of tickets by train or air in minutes, utilization of ATMs for cash transaction irrespective of ones location in any part of the globe. Newer methods of surgery has reduced the time as well as the risks associated with conventional methods. Cooking has been easy with LPG followed by microwave oven. This has also helped in conserving our forests. While all the above paints a rosy picture about the positive aspects of science and technologies, the darken sides are plenty.

Science has caused serious concern about the use of chemical and biological weapons in war. Discovery of polymers has given rise to a number of products like

disposable utensils, bags, pouches which are not biodegradable nor can be burnt as they emit toxic gases. Adulteration of oils, drugs and a number of edible items by the joint action of businessmen and chemists has posed health hazards. Use of fluorocarbons in air-conditioners and freezers is responsible for depletion of ozone layer. Pollution of air has increased respiratory disease all over the world and pollutants in water is the cause of several incurable physical disorders. It is apprehended that global warming may change the weather condition of the whole world.

In view of the above, scientific understanding is necessary for a society to introduce a new technology. It can decide through its scientific knowledge the risks, costs, benefits and consideration of who gains and who suffers.

While globalization may generate employment opportunity one may seriously think whether this will encourage our own R & D or not. Even after more than 50 years of independence we have rarely developed any technology which we can claim as our own.

Science and Technology is one of the "Four Modernizations" in China. Due to their sustained effort in promoting high quality Science and Mathematics education Chinese household goods like computer peripherals, electronic gadgets like digital watches, digital diary and lot of other goods are now flooded in U.S market. One can see Chinese goods glittering in our market in Orissa. This is the fruit of their technological advancement in a hard way.

It has to be understood that developed countries have realized that we have people in the areas of science and technology who are comparable to their counterparts in those countries. We can do lot of innovation and make/design our own goods. But there is a hidden force to prevent our Scientific & Technological development to retard the pace of our economic growth, so that we can not be a powerful nation in all aspects. When our own people try to do something of their own there is a conscious effort by multinationals to kill it. Someone may come with a loan offer coupled with a collaborative agreement, allowing perhaps, to use an Indian-foreign hyphenated brand name. It is easy money for some industries and all innovations which would have happened and could have fortified is killed. True technological development lies in the nature of 'products' and 'processes' which are operative in the society. An important aspect of these 'processes' is the linkage with the latest innovations. Our education system has failed to equip people to inculcate right kind of thinking to stand on their feet.

What can we do in Schools ?

Revolution in communication warrant that the TV, Video and Computers (PCs) which are powerful learning aids should be brought into the schools. This will not only enrich the learning experience, but at the same time can strengthen teaching methods in science.

The most important tools for teaching and learning process are the teachers, the curriculum that is followed and demonstration of theories through experimentations. Therefore, a three pronged strategy is required to revamp our science and mathematics teaching in schools. These are to improve the professional competency of the teacher, (2) provide adequate infrastructure and (3) designing of a relevant curriculum. It is therefore necessary that

- good quality science education requires students' ability to observe phenomenon, gather and collate information and arrive at conclusions and extend the same to new possibilities. A teacher must have the capability to encourage the above.
- teacher should encourage the students to question and draw conclusions from fragmented pieces of information
- teacher should also learn how to stimulate logical thinking as well as scientific habits of mind in the child.
- most importantly, persons having an aptitude to teach should only be selected to man the teaching posts.
- there should be built in system of rewarding a good teacher and vice versa.
- teacher should try to correlate his subject with its application in day to day life as also for societal need
- it has to be ensured that each school has its full strength of teaching staff.
- schools teaching from Class-VIII to XII should have good laboratories where students must conduct some essential experiments.
- the practicals conducted should be designed in such a way that it will provide the learners to face the world of work.

School-College Interaction

In view of the constraints of resource, till good laboratories are institutionalised in all higher secondary schools, alternative ways like school-college interactions should be seriously explored. The students can use the laboratories of nearby colleges to conduct experiment and college teacher may interact with the students and teachers of the school, which will mutually benefit each other as schools are feeders to the colleges. If the students will come to college with good foundation they will do well at the tertiary level.

District Science Centre

The Government of India in the Department of Science and Technology has established "State Vigyan Academy" in almost all states for popularisation of science among the people. It will be a worthwhile attempt to persuade the Government of India to establish District Science Education Centres in all Revenue Districts as a beginning. These centres should be equipped with necessary equipment, chemicals, biological specimen and at least two scientific personnel where students from schools can perform experiments and can see experiments conducted by the staff of such centres and models and charts and specimen of biological samples. The schools should be provided with a budget for field study so as to enable the students to visit these centres

Kerala Sashtra Sahitya Parishat (KSSP) used science in an activist sense and launched a people's movement using the slogan "Science for Social Reform" which had a profound effect in fostering literary mission with very successful end result. District Science Centre can organize such programme in collaboration with adult education programme.

The State Institute for Educational Technology should come forward to impart skills to make cheap equipment from locally available materials to explain basic principles of physical sciences. At one time through the assistance provided by UNICEF a document was prepared in the above area and training was imparted to selected science teachers (schools having classes I to VII) how to conduct simple experiments from locally available materials. This has to be pursued vigorously. For this purpose each

school has to be provided with some money for purchasing essential items and consumables

Mathematics and Science Teaching Academy

An entirely new kind of research and school based preparation programme must be created to provide at least 2 months training programme to high school teachers having science and mathematical content knowledge. At least 5 such centres may be established in 5 different zones of Orissa so that each zone will cater to the need of 6 districts (Revenue). Science and Mathematics teachers should be deputed during summer vacation to update their knowledge and learn newer teaching methodologies to enhance their professional competence. These centres need not be housed in new buildings equipped with all facilities. Any College or University Department infrastructure could be used when it is lying idle. The State Govt. may provide a budget to meet the honorarium of resource persons and for apparatus, chemicals and contingency to such academy

Teacher Competence

Teacher training is very crucial for the success of all forms of evaluation. It is necessary to upgrade pre-service teacher training curriculum simultaneously whenever a new curriculum is introduced for the children and it is more important to organize inservice teacher training programmes before introduction of the new curriculum in science.

- The core competence of the existing teacher should be improved by training and retraining.
- Teachers must receive content knowledge during training instead of only methods. They should be trained to encourage children to think, question and freely express their own ideas on the topic before the lesson starts.
- All new teachers should be appointed after assessing their depth in subject and the process of selection should be based on merit and merit alone,
- Teacher training institutions should realize that high quality teaching is possible through inquiry and observation and "hands on" process to learning, which is a participatory process rather than giving instruction. Hence the training colleges should impart skill on new methods of imparting teaching skills and emphasize the importance of interactive learning vis-à-vis rote learning.

Incentive to Teachers

Our society has failed to give respect to teachers and teachers through their own actions have lost respectability. The factors are many. One of the important aspect is the poor salary of the primary school teachers. The average salary of primary school teacher is about Rs.5,000/- per month which is slightly higher than that of the peons. If talented persons are to be attracted to teaching profession, their emolument needs an upward revision. True, the state has serious financial constraints but investment in education, particularly primary education, can not be brushed aside for a better society

Community participation in school education should be encouraged and there could be scheme of rewarding a school if it can raise funds from the community for equipping its laboratories and purchase of teaching aids. The Govt. may consider of

providing contribution to a school, which should be equivalent to the resource raised from the community. This is possible in a large number of schools located in urban and semi-urban area. Like-wise for schools located in tribal sub-plan areas resources from the Department of Scheduled Castes and Scheduled Tribes Welfare may be mobilised to strengthen the existing schools rather than building new schools.

One of the serious problems in schools is teacher absenteeism. This again is due to several factors but two major factors are :

- a) economic needs, for which the teacher has to look after his agricultural property.
- b) absence of residential facilities near the school.

In order to ensure that the teachers attend the school regularly, it is suggested that each primary school should have residential accommodation for teachers and to the extent possible, in future, husband and wife should be selected as teachers if they have the requisite qualification so that their tendency to run home would be reduced.

In secondary schools, the performance of students in science and mathematics examination should be one of the important parameters in the A.C.Rs of the teachers. The schools whose performance at +2 exam in mathematics and science is better than the state average, mathematics and science teachers of such schools may be provided with incentives like advanced increments or out of turn promotion or even cash award. Such teachers should be tagged as "Master Teachers" and their services may be utilized to act as resource person in Teacher Training Programme.

Not all the discontent and dissatisfaction can be removed immediately but steps may be taken in phased manner to encourage the teachers to develop a belongingness to the school.

Orientation and Refresher Course Programme for Teachers

The University Grants Commission has a well-conceived scheme to orient the college teachers. The aim of such programme is to sensitize the teachers to a wide spectrum subjects other than their own discipline, teaching methodologies, rudiments of management skill, communication skill, building of interpersonal relationship etc. as well as linking education with the societal need.

Refreshers courses are designed to keep the college teachers abreast with newer developments in the areas of their specialization, research methodology etc.

It is perhaps time that NCERT which is the national apex body for school education should come forward with similar schemes for strengthening the capability of school teachers.

Curriculum for Science Teaching :

One has to realize that appropriate curriculum is essential to impart good quality teaching in Science. To this end, the following issues merit consideration :

- Primary education (up to Class-V) has to be community centred. Linking learning with living should be the thrust in Class VI to VIII. This would be possible by making learning for living by acquiring appropriate skills.

- Teaching science in primary schools (up to Class V) should be theme based centering around the local environment
- In Class-VI to VIII, the science curriculum should deal with local flora, fauna, local plants, crop, pests infesting these, local sources of water, local soil and local environment at large. Principles of science in Physics, Chemistry, Biology and Geology can conveniently be learnt through these components of local surrounding. This may appear to be difficult because we do not have relevant programmed-learning materials for dealing with such local-specific need-based content areas in science. But if we plan with a vision for the future we have to develop expertise through extensive studies and investigations.
- Care should be taken to ensure that whenever a subject is studied all aspects of the subject should be covered at the same place. For example now if 'water' is studied in a unit, hydrolysis of water, pollution of water, properties of water like hardness and softness are studied in another unit or even in some cases at a different grade altogether. This should not happen and to that extent the curriculum should be revised.
- For the secondary school stage as Kolhari Commission recommended rural schools should concentrate on teaching of science as applied to agriculture and agricultural technology whereas in urban schools teaching should centre around industrialization and urbanization. However, such a discrimination between urban and rural schools would have repercussion for the students to appear at the common examination conducted for admission into Engineering and Medical Courses. In view of this it is suggested that the core curriculum being same for all the schools emphasis should be more on rural technology including agriculture for the curriculum of the rural schools whereas industrialization should be focussed in the curriculum of the urban schools.
- Computer education especially with internet education must be brought into the science curriculum both in rural and urban areas. Each school should be provided with CD-Roms on different subjects on Science and Mathematics, which are now commercially available.

Methods of Teaching Science :

Following the revolution in electronics during the last 20 years, electronic technology has dramatically penetrated into every area of society and every aspect of our social and cultural lives. These technological advancement have its impact on the children (particularly the ones in urban area). From very childhood they handle remote control to flip channel in TV, Toys are designed to talk and do odd jobs on press of a button and even on sound command. Multimedia centres are crowded with kids who indulge in various kinds of video games. In other words our children are raised in a society gifted with instant access to knowledge not by text only but through video.

School shall be embedded in our culture and reflect its values. The technological changes that have swept through society at large, however, have left the educational system largely unchanged. The schools teach in the same old way and hardly use any new teaching methodology. The result is an estrangement of the schools from the society and from the children who live in it. Estrangement has a negative impact on the children. They are caught in an awkward bind as they move towards the future as the education institutional are locked in the past. In the classroom, knowledge is presented in a linear, didactic manner, which is totally different from children's previous experience outside the school.

In contrast with vivid images and self-directed flow of the interactive home and society, school strikes them as rigid and uninteresting. This warrants a drastic revamping which will bring the classroom in the same tune as society. Marshall McLuhan observed in 1960s how the age of 'linear learning' was being fast replaced by the age of "mosaic implosion", where audio-visual ideas cluster in a single frame. This cultural explosion ushered in by electronics has sidelined "learning from books" and places prominence on images (TV and Video, sounds, discs, cassettes and hi-fi systems) and outings. Information technology must be brought into schools, if quality of learning is to be enriched and made more interesting to the learning needs of pupils.

At the elementary level to capture the mind and imagination of the children teaching science could be based on three important components like experience, activity and environment. Experience of the pupils should always be the basis or starting point of teaching - learning process. The teacher should organize activity to provide suitable experience to the pupil if they already do not have it. Similarly the teacher should plan and organize varieties of activities for single child or even a small group of three to six children to perform experiments to learn the underlying principle. Field trips, collection of material, observation could also be such activities. Such activities should be preplanned and well organized so as to providing suitable learning experiences for the pupils and thereby achieving the instructional objectives. Environment as a component of teaching method may be looked upon as the natural laboratory for teaching-learning Science. All over the world it is strongly advocated to conduct most of the studies at the primary stage in the environment through individual or group activities. And environment is the cheapest source of varieties of learning experiences. But in our schools, children are never taken out of the classroom.

The activity based method of teaching and learning the principles of science can start from Class-I. In this regard it is worth mentioning that the Department of Science and Mathematics Education of the State Council of Educational Research and Training (SCERT) had taken up such a method of teaching-learning science in primary (Class I-V) and upper primary (Class VI-VII) schools of the State during 1982 to 1990. The method was then popularized as "work-sheet method" of teaching-learning science. Teachers were called upon to prepare work sheets, which were given to individual students or a group of 2-4 students. Improvised teaching-aids to conduct experiments were prepared from thrown away articles like a straw pipe, a fused electric bulb, a small tin or plastic can, a glass bottle and the like by the teachers. Students with such low cost or no-cost improvised wares and equipment conducted experiments themselves as per detailed instruction embodied in the given worksheets while the teacher moved around to monitor, supervise the progress in the class. It was followed by discussion of learning points with lead from the students.

Worksheet method of teaching-learning science can profitably be extended up to even Class XII at higher secondary level. For such "hands-on activity based" teaching-learning science, textbooks and/or Teachers' Hand (Guide) Books can suitably be developed and the Department of Science & Mathematics of the SCERT can be strengthened to function as the Science Resources Centre for both Primary and Secondary Schools of the State. Even community support/partnership could be mobilized to enhance science education in schools and that could eventually translate the dream contained in the NPE 1986 statement to extend science education to those outside the pale of formal education into a reality.

Another attempt at ensuring quality science education could also be involving the students and teachers in short-term (three to six months duration) and long-term (six to

nine months duration) project activities. Students can work on projects like collection of samples, data, results, of experiments, analysis and synthesis of their findings under the guidance and supervision of their teachers/parents/elders. This could also lead to extension of science education activities to those vast numbers outside the pale of formal education. Even theoretical projects can be taken up as seminar activities especially at the secondary stage as is being organized by the SCERT even now, to consolidate the understanding of science, technology and underlying principles.

There must be science clubs and science corners in every school where students can try their hands at some simple projects of mass use like a HAM Radio. They can also bring out wall magazines regularly in the school and shall make it accessible to the villagers around the school. Wall journals must carry latest knowledge of science and skills from a developmental perspective.

Community awareness programmes could be arranged by NGOs and Science Clubs in the schools as well as in the villages. The Vikram Sarabhai Centre for Science Education in Ahmedabad serves as lead institution in disseminating scientific knowledge and information to children. It should be our endeavour to emulate such a initiative and promote science clubs, science libraries, reader's clubs, book clubs which could contribute to community education about science and development of scientific attitude.

The linkages between the school and higher education institutions, universities, technical institutions and science laboratories must be strengthened. This is essential with a view to sharing facilities and expertise available and coping with rapid strides in science and technologies. Such networking would also provide a fillip to promotion of science education in schools.



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Specialized Paper

MATHEMATICS EDUCATION IN THE SCHOOLS OF ORISSA

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An individual's future uses and needs for Mathematics makes the ability to think, reason and solve problems a primary goal for the study of Mathematics.

(NCTM (1989, P. 18).

There is no two opinion regarding the pervasive role of Mathematics in every walk of life but mathematics education has always drawn awe and seriousness from all quarters. When the future of mathematics education at the school level in the coming decade is envisioned, the conventional contents, processes and thinking have to be totally overhauled to make mathematics learning more joyful, more challenging and totally related to life.

The belief that mathematics learning begins in school and the ultimate aim is to master abstractions, although has been exploded, still continues to dominate the school mathematics to a very large extent. Its relevance to the real life situations scarcely given due attention in school education.

Another basic feature of the conventional school mathematics is stress on developing computational abilities using the four processes with underlying belief that computational abilities demonstrate the degree of understanding.

That mathematics even at the early stage of learning is serious and requires rigorous efforts without joy and thrill still dominate the mathematics education in schools.

All these and more of conventional myths about mathematics have created more obstacles than facilitating the effective learning.

Moreover, in Orissa marked by wide diversity, tribal children in remote hilly terrain's of Malkangiri devoid of basic facilities to children in urban settings of Bhubaneswar with all available modern facilities, planning a centralized approach to education particularly mathematics education can never do adequate justice to all learners.

Coming Decades :

Technological developments, particularly in the field of information and communication technology have already begun to invade our lives and are going to bring about total transformation in our school education system. Some of the developments that have already arrived are :

- Computer Education has already been initiated in the schools although in a selective basis.
- Linking schools with Internet and satellite communication system have also been mooted.
- Stress on contextual technologies for classroom teaching is now being initiated in primary schools through DPEP interventions.
- Multiple and diverse methods are now beginning to be adopted for learning process.
- More importance is to be attached to learning rather on teaching, on learning as joyful process and linked to life.
- Education shall no more be teacher-centred nor learner centred. It shall be learning centred.
- Schools shall be learning places where every student shall not be passive targets of teaching rather he / she shall be active learner with all freedom to choose his/her learning path. Teachers shall be more a facilitator of learning instead of dictator of educative process.

- Several modes of learning, with advent of technologies, shall be made available so that the learner shall have alternative modes and sources of learning to choose as per his/her requirement.

With these and several other dimensions of education unfolding fastly with the progress of time, the major characteristics of 'emergent mathematics' in the coming decades shall be :

- It is mathematics which starts from the secure 'home learning' established in child before coming to school.
- It is mathematics based on understanding and reflection.
- It puts great emphasis on learner's own methods of calculating and solving problems and rejects the conventional practice of having emphasis on standard written algorithms.
- Mathematics is regarded as a powerful tool for interpreting the world and therefore should be rooted in real experience across the whole curriculum. Mathematics is brought out of the learner's everyday situations.
- Mathematics with reason is rooted in action – learning through doing.
- Mathematics with reason puts less emphasis on representing numbers on paper as 'sums' and more emphasis on developing mental images in the child.
- Mathematics with reason emphasizes the thinking processes of mathematics and these are made explicit in interaction between adults (teachers, experts, parents) and learner, between learner and learner.
- The main tool for learner and teacher to employ in the mastery of mathematics concepts is language, not pencil and paper exercises from textbooks. The learner is encouraged to talk about what he/she is doing.
- Errors are accepted as essential part of the learning process. The learner, freed from the fear of criticism, will more readily try to experiment with mathematical concepts to explore, by himself/herself, new horizons of mathematics.
- **Four themes of emergent mathematics education have to be focussed, these are : placing mathematical tasks in meaningful contexts, requiring learners to make their own representations, encouraging and developing learner's own strategies, and employing a style of teaching which focuses on processes rather than products.**

Goals for Mathematics Education :

With the broad perspectives of mathematics education emerging from the foregoing discussions, the broad goals that can be visualized is more or less akin to Gandhian concept of education linked to life.

- Schooling for the purpose of mathematics education can be visualized in the existing three levels i.e. primary, middle (elementary) and secondary
- The Gandhian concept of education from life, education through life and education for life can appropriately be redesigned so far as mathematics education is concerned i.e.,

- Primary Level** : **Mathematics from life**, i.e. all mathematical concepts and processes need to evolve from the experience of the child. Nothing should be imposed as abstract concepts
- Elementary level** : **Mathematics through life**, i.e. slightly higher and more complex concepts beginning to be realized and accordingly designed with appropriate activities related to experiences. And through these experiences learning of Mathematics is strengthened.

Secondary level : Mathematics for life. This stage may be terminal stage of formal education for a large number of students. Therefore, all basic mathematical processes and concepts essentially required for life need to be required at this stage.

As per the requirement at the three levels the process of Mathematics Education shall also be different which is presented in the following paradigm.

Level	Goal	Processes involved	Methods
Primary	Mathematics from life	Learning through experiencing acting, doing.	Self-discovery
Elementary	Mathematics through life	Experiences focussed on concepts of processes	Reflections through heuristic methods.
Secondary	Mathematics for life	Reconstructing experience drawing conclusion from experiences.	Reflections through problem solving experimenting

Contents :

Earlier contents used to determine the processes at different stages of learning mathematics. But acquisition of contents has given way to and shall be more subservient to the attaining mastery of processes. Once the learner acquires mastery of processes, there is no limit to his acquisition of mathematical concepts which shall be available to him through several media or web-sites and shall not be confined to the classroom or textbooks.

However, the nature of contents of different stages may be broadly visualized as given below :

Five basic areas of mathematical concepts which are related with real life experiences of the child shall continue to define the content domains at the three levels of schooling.

- **Primary Level :** The stress at the primary level is on evolving basic mathematical concepts from the real life experiences.
- **Numbers :** Natural numbers, Large numbers, different categories of natural numbers, concepts of fractions, four arithmetical processes with number
- **Spatial thinking :** Size & shape of objects, comparison of size and shape, preliminary concepts of length, area and volume, conservation of volume.
- **Measurement :** Process of comparison units of measurement, standard and non-standard and standard measures of length, weight, capacity and time
- **Commercial Arithmetic :** Money and denominations, cost of commodities in market, concepts of profit and loss.
- **Language/Logic :** Using primary symbols in mathematical expressions, expression in sequence, inductive logic.

Elementary/Upper Primary Level : Here stress is on processing mathematical concepts with the acquired experience.

- **Numbers** : Properties of integers and real number (including fractions and decimals), four process with integers and real numbers
- **Special Thinking** : Identification of two dimensional Geometrical shapes, exploring properties of Geometrical figures and shapes, areas of regular shapes, introduction of regular solid shapes.
- **Measurement** : Measurement of areas of regular two dimensional shapes, volume of regular solids. Measurement of time with different units.
- **Commercial Arithmetic** : Profit and loss, time and work, calculation in day to day market transactions (involving weight, measure, labour and cost), bills and receipts
- **Language/Logic** : Stress on sequential presentation, drawing conclusion from inductive and deductive logic.

Secondary Stage : At this stage the focus shall be on abstracting conclusions through reflecting thinking (drawing logical conclusion and on solving real and hypothetical problems among mathematical experiences).

- **Numbers & functions** : Arithmetic and algebraic numbers and expressions. Four processes with algebraic numbers and expressions, polynomials and functions, factorization of polynomials, linear equations, preliminary of quadratic equations.
- **Spatial Thinking** : Logical proof involving geometrical figures (two dimensional), construction of regular geometrical figures, three dimensional shapes and their properties.
- **Commercial Arithmetic** : Rectangular coordinate system, graphs, different types of bank account, investments and calculation of loans and profits, shares, debentures, taxes, household budget.
- **Measurement** : Measurement of lands, finer units of measurement, descriptive statistical measures
- **Language/Logic** : Algorithms, analytical and synthetic proofs, brevity in expression using symbolic logic. Competency in using computer language and simple programmes.

At all stages, contextual and modern technology shall be used to widen the scope of knowledge and understanding.

Obstacles to Overcome :

To reach the envisioned levels and beyond, the impediments of the current thinking and practices of mathematics education system need to be given a close look. Some of the most glaring thoughts associated with mathematics education are presented here which have to be overcome to actualize the vision of the coming decades, otherwise the coming generation shall be condemned to history.

- **Lack of Awareness of Objectives** : Except acquiring knowledge of prescribed Mathematical concepts, formulae and problems, hardly any teacher, student or parent is aware of various outcomes of Mathematics at the school level. Particularly

vital role of Mathematics in solving real life problems is not addressed adequately as it should be.

- **Attitude towards Mathematics** : The idea that Mathematics is too difficult a subject is shared by parents, teachers and people at all walks of life which in turn, is transmitted to children from the very start of schooling
- **Mathematics is too abstract** : Notwithstanding its universal applicability, mathematics is considered too abstract dealing with numbers, symbols and logical analyses. Therefore, from the early stages, it is taught with very little relevance to life, very often totally unrelated to any real or particular context
- **Loaded Curriculum** : School curriculum and so also mathematics curriculum is extremely defined and so having loaded that the learner finds little space for innovation or reflective thinking
- **Over-reliance on Textbooks** : For schools in the state, textbooks in mathematics are be all and end all of the curricular experiences in the subject. No other material or process, beyond those in the textbooks is used for teaching-learning process. The result : most of the learners try to memorize the text or the problem solutions without making an effort for understanding or reasoning.
- **Unattractive Textbooks** : Textbooks in mathematics starting from Class-I to Class-X, which are considered as only source of learning, are without exception, extremely content loaded and least attractive for learners. These are extremely prescriptive and leaves little room for learners to explore or innovate. Even, the solution of simple problems of addition or subtraction is provided with strict sequential steps.

Very scantily and poorly illustrated, these books do not provide any matter to think like, puzzles, riddles, comics which can attract learners. It neither helps discovering learning nor improves 'problem solving' abilities in students

- **Emphasis on Teaching** : Underlying all curricular activities in School Mathematics, one premise is quite obvious : Mathematics is difficult to learn, it can only be taught. This is manifested in the mathematics classrooms where the teacher labours very hard in demonstrating how to solve problems, draw geometric figures, prepare tables etc. and the students passively follow the steps dictated by the teacher and the textbooks. One of the consequences of teaching-centred mathematics education is the proliferation of private teaching shops in mathematics everywhere and at all levels.
- **Examination Orientation** : Like in any other school subject, teaching and learning in mathematics is entirely examination driven. Annual / final summative evaluation determines the students' activities in mathematics both in and out of school. Classroom teaching, private coaching, textbooks and supplementary materials(test papers) all are replete with the type of questions asked in the final examinations. It is quite evident to students, teachers parents and all concerned that passing annual/qualifying examination is the only aim of all school education, learning is quite incidental.

Two cases of Mathematics Achievement at the school stage in Orissa

Case – I : Results in HSC Examination :

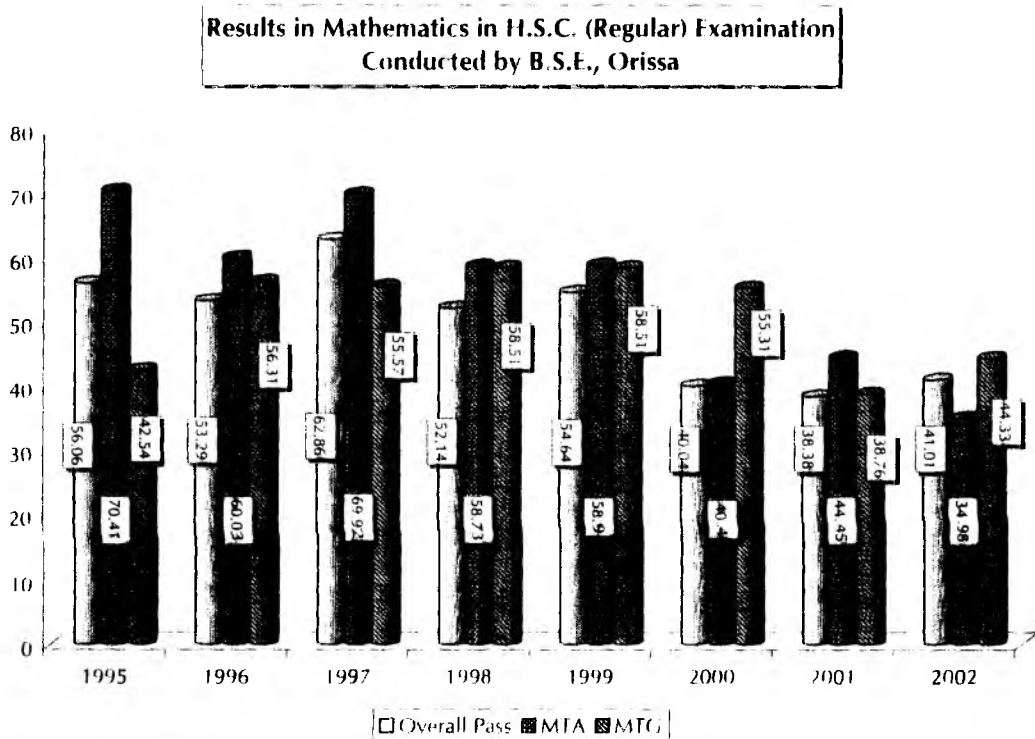
While the results of examinations are considered prime indicators of status of mathematics education (as in all other subjects), the analysis of results of Annual (Regular)

High School Certificate Examinations (Regular candidate) over the years (from 1995-2000) combined with the efforts of the Board of Secondary Education, Orissa presents quite frustrating scenario.

At the secondary stage there are two papers in Mathematics :

(i) Algebra and its applications (MTA) and (ii) Geometry and its applications (MTG).

- The courses of study for secondary stage covers two classes i.e Class IX and X.



(Figures indicate pass percentages)

Source : Annual Report B.S.E., Orissa, 2002.

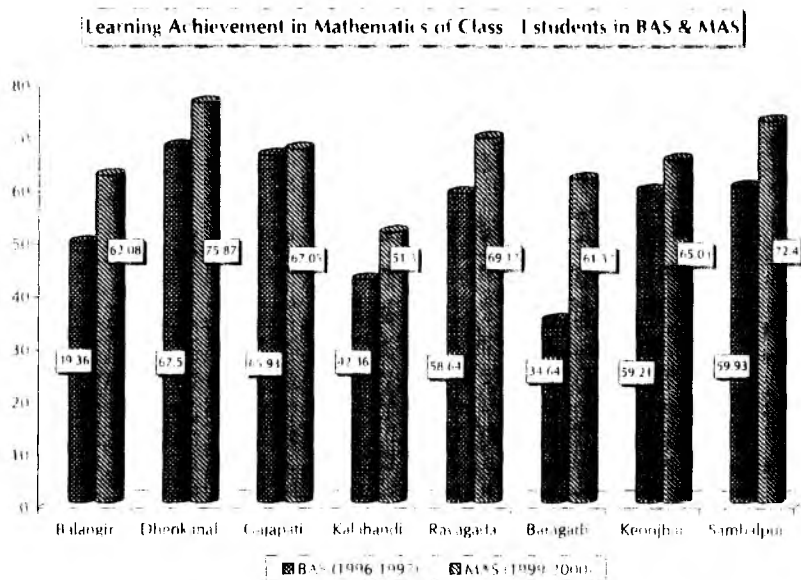
- Earlier to 1998, examinations in MTA and MTG (full mark 75 marks in each paper) were conducted with single sets of question papers. After 1998, in order to discourage malpractice, multiple sets in each paper (Actually the serial no. of question of a single set were randomly arranged to create multiple sets) were introduced in the HSC Examination. This resulted in significant lowering in overall pass percentage and pass percentage in MTA while that in MTG was more or less similar to previous years.
- The earlier trend of significant higher pass percentage in Algebra over Geometry came down with lowering of pass percentage in MTA
- From 2000, again to control the incidence of malpractice which was becoming a menace, parallel sets of questions were introduced in all papers in HSC Examination

- Consequence of introduction of parallel questions (crude parallelity) has been the overall slump in the pass percentage as well as pass percentages in MTA (35% in 2002 in all time lowest result so far) and MTG.
- The pass percentages do not reflect the excellence in performance in mathematics rather a large proportion of it includes those who secure bare minimum (nearly 30%) to pass the subject. Hardly 15 to 20% of the total successful candidates secured more than 60%, the involvement in large scale malpractice at different levels of examination and valuation and grace marks to evaluate the pass percentages not withstanding.
- While all seriousness have been focussed on conducting examinations in a fair manner for that matter several modifications in question papers have been done and on modification of mathematics textbooks (one in 1988, followed by revisions in 1992 and 1998) without substantial change in the courses of study, little or no attention has been given to facilitate mathematics learning in the school. Classroom transactions in Mathematics continues to rely on 'chalk and talk' methods followed by heavy home tasks with repetitive exercises without a slight novelty of challenging to learners.

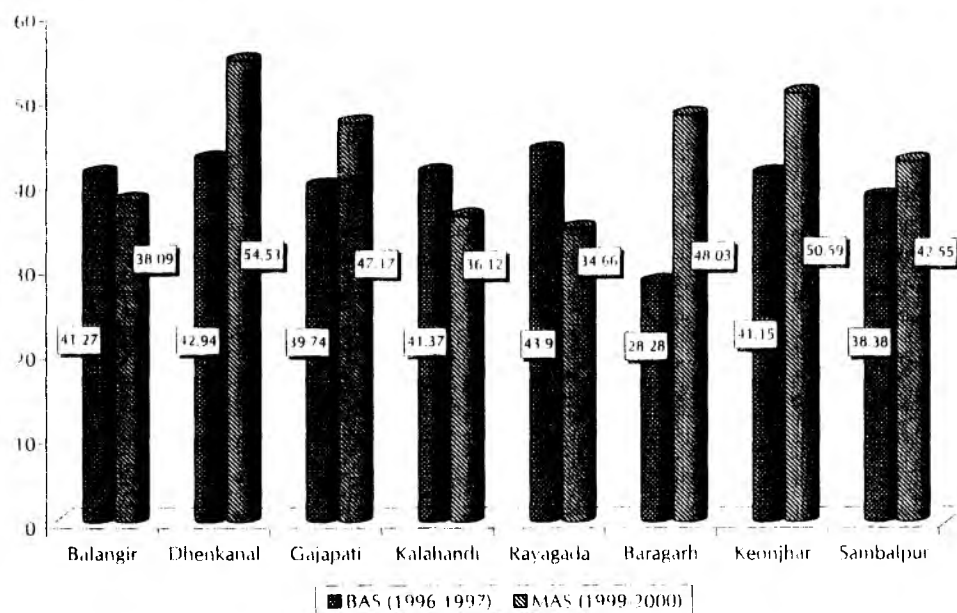
Case II : Assessment of Learning Achievement in DPEP districts of Orissa

Two surveys (one Baseline Assessment Study in 1997-98 and the second the Mid Term Assessment Study in 1999-2000) were conducted in the 8 DPEP districts of Orissa to ascertain the progress in learning achievements in Language and Mathematics, considered as reflecting the basic abilities of literacy and numeracy at the primary stage. The survey was conducted by SCERT, Orissa at two levels i.e. at the end of Class-I (one year after schooling) and at Class-V (terminal year of primary schooling) with standardized tests developed by Core Research Group of NCERT.

The overall results of the Survey (which was based on randomized samples) can be seen from the following figures.



Learning Achievement in Mathematics of Class V students in BAS & MAS



- At class I level, except in Gajapati district, the increase in average achievement level has increased by 6 to 27 percentage points.
- At class-V level the gain is visible in Dhenkanal, Gajapati, Bargarh and Sambalpur districts.
- After BAS, activity-based methods of teaching learning process was introduced. Interventions in term of teacher training, providing TLM grants to prepare or procure improved and contextual teaching learning materials, providing scope for sharing and continuous monitoring were provided. During the beginning years the teaching-learning process in the lower classes (Classes I,II & III) was more focussed. Perhaps due to this, the increment in learning achievement in Mathematics at Class-I level was more pronounced.

Contrast in Two cases :

The two cases are too complex and widely different drawing conclusive statements of comparison. However, two distinct features are discernible :

- While the HSC results demonstrate continuous downward trend, at the end of secondary level, the average achievement level at primary stage in educationally backward districts record significant increase.
- While the tools and process of test administration and the scoring procedures remained in variant, the substantial increase in achievement in mathematics in class-I can be attributed to various inputs provided to improve classroom interaction supported with activity-based textbooks, providing contextual teaching learning materials, continuous monitoring and academic support to teachers and increasing the frequency of sharing of good practices among the teachers.
- Similar increment in learning achievement at Class V level is not discernible perhaps because of the fact that at the time of mid term assessment sufficient input for transaction of mathematics at higher classes was not provided.

- From these two cases it can be concluded that besides attending to changing textbooks and examination system slight better input to the classroom situation can bring significant changes in the quality of learning in mathematics.

Turning Points :

There is no point in tinkering in education system without addressing the total transformation particularly in the area of Mathematics Education which has become extremely loaded with abstract contents and encouraging only acquisition of knowledge without developing proper understanding and applicability. Therefore, some vital action points in critical areas are proposed herewith which, it is believed have potentiality of transforming the mathematics education in the State.

Curriculum :

- Curriculum in mathematics from primary to secondary levels should be defined in terms of mathematical competencies the learners are expected to develop. The present competencies defined for at the primary level may be given a second look in terms of their state level relevance.
- Curriculum from primary to the end of secondary schooling need to be planned in entirety in order to be comprehensive and free from unintentional gaps and repetitions at the transition stages.
- The curriculum need to be learning-centred instead of the conventional teacher-centred and content centred and shedding the pretext of learner-centred approaches. Once it is learning centred, all approaches shall have to be designed to promote self learning with less focus on teaching.
- Curriculum should define the minimum levels of learning mathematics for all category of students while it should make provision for additional enriched levels for catering to the requirements of gifted students of mathematics.
- It should have provision to develop self-discovery (at the primary level) to problem solving (at the secondary level) abilities in children.
- Curriculum should have enough of flexibility to include the contextual experiences and materials to make mathematics learning more meaningful and help learners crave for higher concepts in mathematics.
- The curriculum in mathematics should include the use of modern and contextual technologies and as such the emphasis should shift to problem solving abilities using programming skills from the rote and manual calculation.

In short curriculum should be learner friendly encouraging motivation to become an active learner desiring pleasure in exploration and ability to create and solve problems confronted in real life situation using mathematical reasoning.

Textbooks :

- Textbooks should not be the total reflection of curricular experience rather these should be used to initiate and strengthen the self-learning.
- Since, the early stage mathematical concepts should emerge from real life experiences the textbooks should integrate all learning experiences (Mathematics, Language and Environmental Studies) together relating the competencies to the life experiences.
- Total layout of the textbooks need be such that these would motivate and provoke the students to self-learning. It should have varieties of experiences and activities are to be included, in Mathematics books in particular to break the monotony of

rigour and make them more learner friendly. Attempts in this direction have been initiated in DPEP Orissa with encouraging response.

- Presentation of textbooks may be given serious consideration with clear-cut statements of quality norms. This would encourage quality production, alternative choices for learners, varieties of innovative ideas.

Workbooks : For reinforcing and long term retention of concepts, practice has an important place in mathematics learning and in this context workbooks in mathematics have to play important role in mathematics learning at school stage.

- Varieties of activities need to be included in the workbooks and not just monotonous repetitions of similar problems.
- Contextual and local specific problems relating to mathematics are to be included in the workbooks which is usually difficult to be incorporated in the textbooks.

Supplementary Materials/Activities :

Activity Banks :

- The schools should have activity banks with lists of activities (with detailed procedure to conduct the activities) in each area of mathematics. This will help the teachers to have wide choice to enliven the classroom transactions.

Teachers' Handbooks :

- In order to reform the classroom transaction in Mathematics (and in Science too) teachers' handbook containing clarifications about objectives, conceptual clarity, enrichment in the topic, activities (both group and individual), teaching learning materials, supplementary problems etc. need to be developed and provided to the school teachers.

Sharing of good practices :

- Sharing of successful practices in mathematical problem solving, innovative problems and practices enriches the experience of teachers as well as learners. While this is now possible at primary stages at cluster and block levels, similar sharing can be done for elementary and secondary levels too.
- Newsletters, cyclostyled or xeroxed materials of novel problems and practices outside the state or nation can be circulated among teachers and students.

Competitions :

- Competitions like Mathematics Olympiad in much lower scale can be done at block, district and state levels need to be held regularly to arouse interest in mathematics.
- Conducting quizzes, group competitions in developing Mathematical models shall also help in acquisition and strengthening mathematical concepts.

Teaching- Learning Materials :

- It must be made mandatory to use teaching learning materials in mathematics without which the chalk-and-talk classes are weighing heavily on students. These materials need to be contextual and relevant. Mix of local specific and standard materials has the potential of arousing interest in mathematics.

- Teaching-learning materials should not only have its traditional classrooms use as demonstrative materials in support of mathematical concepts but also to be used by the learners for developing self discovery, reinforcement and strengthening of mathematics concepts

Classroom practices :

- Classroom transactions as far as possible activity based students learn from performing activities rather than passively listening. It does not totally exclude teaching. Teachers have to explain difficult concepts, lead the students in understanding abstract problems but more often shall be managers of learning events in the classroom.
- Group activities encourage peer learning which is more powerful in meaning making of difficult mathematical concepts. These have to be given appropriate place in classroom transaction
- Use of contextual technologies have to be enhanced so that the students can experience the quality mathematics education around the world
- Students should have complete access to computer and such other communication devices wherein they will have opportunity to acquire, manipulate and innovate problem solutions
In short information and communication technologies have to be exploited for effective self-learning in the range which has no boundary
- For meaningful mathematics learning at school level, as indicated earlier, it should be intimately associated with real life situations. Activities like project work, mathematical programming, mathematical modeling etc need to be introduced into the classrooms as early as possible otherwise Orissa may have to pay the price the moment of delay in high terms of irrevocable backwardness.

Teacher preparation :

For such a programme of overall transformation, the teachers are the key players. It is getting more and more difficult to have specialized mathematics teachers for school education in Orissa. Hence, teacher preparation has to be addressed very seriously from now.

- The curriculum for teacher education need to be revamped in the light of above consideration. The mathematics contained at school, processes and technological devices are areas in which the prospective teachers need to acquire mastery.
- The frequency of short term training of inservice teachers in mathematics to be increased so as to orient them with emerging areas of mathematics at the school level and to increase insights.
- More and more teachers may be given exposure to innovative materials and practices in mathematics and then to share those among co-worker.
- Innovations in mathematics education need to be promoted both among teachers and learners

Evaluation of learning achievement :

- More stress on formative evaluation has to be given to make the learning more effective

- Open ended questions or tasks increase the freedom of learners to think divergently and thus bringing innovative ideas at the early age. Hence, the use of such items in evaluating exercises in mathematics should be encouraged.
- Regular sharing of results of formative evaluation with the students and their parents shall act as best possible feedback to achieve success and take away the fear and pressure of mathematics learning.
- Self evaluation at the secondary level need to be encouraged. In mathematics, self evaluation can be actualized through the worksheets or computer programmes.

Community Education :

- Most of the phobia for mathematics learning are transmitted through parents and community members. For making home learning of mathematics compatible with that of school learning, counselling service may be conducted for parents on regular basis while sharing the results of mathematics evaluation.
- Community involvement in preparing teaching learning materials for classroom teaching can also be attempted (these have been successful in several DPEP schools).

For attempting a total reformation in mathematics education at school level by 2020 to make it at par with international standard, efforts are to be initiated from now by coordinated effort to teachers, teacher associations, academic institutes, voluntary agencies with help of national and international level institutes and organisation, otherwise, it will remain as a distant dream.

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NUTRITIONAL SUPPORT TO PRIMARY EDUCATION (MID-DAY MEAL PROGRAMME) IN ORISSA – ITS IMPACT ON ENROLMENT, ATTENDANCE, RETENTION AND DROPOUTS AMONG PRIMARY SCHOOL GOING CHILDREN

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Introduction :

Children are the future of mankind. When children prosper, the nation grows. They are the country's biggest human investment for development. India has the largest child population. According to 1991 Census, children accounted for 31 crore in the age group of 0-14 years. The number of children enrolled in schools in the age group 6-14 years was 15.5 crore in 1995-97. This was 48.8 per cent of the total child population of the country. Among the child population, quite a large segment of them appeared to be vulnerable. They suffered from both under nutrition and malnutrition. Due to inadequate and improper feeding, retardation of growth in child manifests itself the sign of malnutrition. It is rightly said that, "severe childhood malnutrition leads to scholastic failure, memory impairment and impaired interaction with adults. The academic performance showed a significant improvement following food and iron supplementation" (Sobti: 1998).

Realizing the staggering dimension of under nutrition and malnutrition in childhood, the central and state governments have embarked on several nutrition and health intervention programmes. One such programme is the widely operating school lunch or mid-day meal Programme. Because the primary school is the only institution available in every corner of the country with day to day contact with most, if not all families in vicinity, it has become a feasible venue for one of the nutrition intervention programmes. School feeding is a direct approach to improve the nutritional status of children who are in the stage of rapid development, requiring special nutritional requirement (Devaradas : 1983).

The mid-day meal programme has the following advantages:

- It improves physical growth and sound health of children by providing an adequate meal in the school, which will meet at least one third of the daily requirements of calories and nutrients.
- Mid-day meal scheme enables the children to attend the primary school regularly.
- It increases the enrolment of children in primary schools.
- It prevents dropout of children from primary schools, which has become a cause of concern in the recent years.
- It helps the children understand the relationship between food, nutrition, health and happy life.
- Mid-day meal programme increases the ability of the children to study well by improving their concentration and perseverance.
- The scheme provides an opportunity to children for social interactions and encourages them to shun differences among themselves due to caste and colour while participating school lunch programme in a common platform.
- Finally the scheme encourages to inculcate good habits and proper dealings among school going children of the tender age.

Under mid-day meal programme cooked food is mainly provided to children in primary schools in Orissa. "When one talks of nutritional content of foods, it should be related to cooked food that reach the table". Cooking destroys harmful food borne micro-organisms. Digestibility of several foods, particularly of starch improves on cooking. During Cooking starch swells and cell wall burst making it easy for enzymes in the digestive juices to have access to starch and digest it. Thus, cooking as practiced in the country has several advantages in improving the quality, digestibility and palatability. (Gopalan C. et. al.1996).

It is against this background that the study is confined to the state of Orissa where mid-day meal programme is operating in all the 314 blocks covering 40,607 schools and 45.03 lakhs primary school going children in the year 1998-99 (Goo: 1999).

Mid-day meals Programme in Developed and Developing Countries :

The School Lunch programme, as it exists is not a recent origin. At the global level, the school lunch programme was first introduced in France in the year 1885 by Victor Hugo. The meals were provided on free and payment basis. Since then school lunch programme was introduced in several parts of the world viz., USA (1946), UK (1945), Japan (1947), China (1964-69), Australia (1950), Switzerland (1946) and Singapore (1975).

The developing countries are not an exception to the worldwide trend towards noon-meal programme. The programme received due attention in countries like Indonesia (1967), Thailand (1970), Korea (1973) and Samoa (1980) (Devadas: 1983).

In India the programme was started on an experiment basis in Tamil Nadu by Corporation of Madras in 1925. This Covered children of families with an income below Rs.50 per month as an incentive to improve attendance in the schools. Subsequently, philanthropists and voluntary organizations were urged to start free school lunch Centres in the village and towns all over Tamil Nadu. Overwhelmed by the response of the public towards the programme, the noon meal programme was launched officially by K. Kamraj the then Chief Minister of Madras in the year 1956. Subsequently the programme was developed and expanded by the then Chief Minister of Tamil Nadu, M G Ramchandran in 1982. It was introduced under the banner 'Chief Ministers Nutritious Noon Meal Programme' (CMNNMP). Later the scheme was extended to cover primary schools in municipal and urban areas.

Inspired by the success of school lunch programme in Tamil Nadu, several states of the country adopted the programme as a part of school educational development system. The states adopting the programme were Karnataka, Uttar Pradesh, Haryana (1961), Orissa (1959), Kerala, Punjab, Rajasthan, Andhra Pradesh (1962), Madhya Pradesh (1965) and Bihar (1968). In the real sense, school lunch programme, known as mid-day meals programme was launched by P.V. Narasimha Rao, the former Prime Minister of India on August 15, 1995 as a national programme. All the states and union territories of the country were encouraged to adopt this programme in primary schools (I-V) for the benefit of the children in the age group of 6-11 years reading in these schools (Rajan & Jay Kumar: 1992). In Orissa the school lunch programme was operating in some form or the other since 1959. In the initial stages maize halwa and milk etc., prepared out of imported milk powder from USA were given to the children. In the latter stages bread and biscuits were provided to the children by UNICEF through CARE and other NGOs. The present form of cooked meal is served to primary school going children since 1995. It is in this context that an effort is made to study the impact of mid-day meal programme on enrolment, attendance, retention and reduction of dropout rate in primary schools of Orissa.

Objectives of the Study:

The study is pursued with the following objectives

- a)** To study the success or failure of mid-day meal programme in improving enrolment, attendance, retention and reduction of dropouts in primary schools.
- b)** To examine what socio-cultural, administrative, managerial and financial factors and circumstances are responsible for the success or failure of the scheme.

- c) To find out whether the scheme introduced in the state has some weaknesses and needs any modification suitable to the socio-cultural peculiarities of the region?
- d) To study more specifically whether the programme needs to be scrapped or downsized? Alternatively is there any need for the convergence of several nutritional supported schemes to form a single unified scheme for the benefit of the children?

Methodology :

The study is conducted both by secondary and primary sources of data and materials with greater emphasis on the latter. In undertaking the study multi-stage sampling method is pursued.

First stage of sampling: Orissa is one of the educationally backward states of the country with 49.09% per cent of literacy rate as per 1991 census. From Orissa two districts, one educationally advanced and the other educationally backward are selected for the study purpose. The districts are arranged in ascending order of literacy (Table-1). From among the five highest literacy districts, one of the districts is selected at random. Similarly from among the lowest literacy districts, one is selected at random for the study purpose. The two districts selected from Orissa is Puri, the educationally advanced district (63.30 per cent) and Rayagada, the educationally backward district (26.01 per cent).

Second stage of Sampling: On the basis of the procedure outlined above, the two blocks selected from Puri district are Puri Sadar with 56.80 per cent of literacy rate and Satyabadi with 65.43 per cent of literacy rate. While the former is educationally backward block, the latter is an educationally advanced block of Puri district. In Rayagada district, Kolnara is found to be an educationally advanced block with 26.03 per cent of literacy rate and Rayagada is considered to be an educationally backward block with 15.90 per cent of literacy rate (Table 2 & 2A).

Third Stage of Sampling: The selection of schools is made at this stage. From the primary schools operating in different panchayats under a block, five schools coming under five different panchayats are selected at random for the purpose of study. In Orissa, a total number 20 primary schools (5 primary schools from each block) covering 20 panchayats of 4 blocks of the two districts have been selected at random for purpose of study (Table 3).

Forth Stage of Sampling: Selection of sample units has been taken up at this stage. The sample units include, (i) Students, (ii) their parents, (iii) Teachers (iv) Panchayat representatives, (v) NGO/Social Worker, (vi) educated villager and (vii) government officials.

From the schools selected out of the panchayats, 5 students, 5 parents of the students interviewed, 1 teacher of the school, 1 panchayat representative, 1 NGO/Social worker and 1 educated villager are selected randomly for the study. Besides, 10 officials from each district, who are directly or indirectly associated with the programme have been interviewed to elicit information from them. In all a total number 300 respondents have been covered for the study purpose (Table-3).

It is to be mentioned that the data on enrolment, attendance, retention and dropout cover the period 1989-90 to 1998-99. The ten-year period is divided into two parts viz ; Pre-MDM period (1989-90 to 1994-95) and post-MDM period (1995-96 to 1998-99)?

The study covers only primary school going children belonging to class I to V in Orissa. Furthermore, the scheme as applicable to formal schools has only been taken up for the study purpose. Children reading in special type of schools like Ashram Schools, NCLP schools are kept out side the purview of the study.

Essential elements of the programme:

- In Orissa the organizational structure of the programme rests with the existing official staff, who in addition to the normal routine official works, shoulder the responsibility of school lunch programme. The organizational structure of mid-day meal programme in Orissa is as follows. At the state level, Commissioner cum Secretary, Women and Child Development Department is in charge of the overall implementation of mid-day meals programme in the state. At the district level, it is the district collector who shoulders the responsibility of implementing the scheme besides taking major decisions for the success of the scheme. He is assisted by (a) Civil Supply Officer, (b) District Social Welfare Officer, (c) Project Director, District Rural Development Agency (DRDA). At the block level the key functionary for the implementation of the scheme is the Block Development Officer (BDO). He is assisted by (a) Social Education Organizer and (b) Sub-Inspector of Schools. At the school level the Headmaster or Asst. Teacher looks after the programme. He is supported by a part-time cook and a helper who are the non official agents of the programme.
- From the operational point of view mid-day meal is distributed in Orissa only in working days. There is no provision of distributing mid-day meal in holidays. In this case, Tamil Nadu is an exception where noon meal is distributed in both working and holidays.
- The distribution of mid-day meal is done in Orissa on the basis of the enrolment of the children in primary schools, which is very often found to be on the higher side. The increase in school enrolment data is inflated so as to achieve targets for teachers (Rajan & Jay Kumar: 1991). This is again contrary to the practice in Tamil Nadu where distribution of mid-day meal is done on the basis of feeding strength of children in primary school.
- The food basket under the mid-day meal programme consists of 100 grams of rice and 15 grams of dal / dalma (dal mixed with vegetables). In Orissa dal / dalma is served to the children prepared out of arhar / mung dal. In Orissa no egg is provided to children under mid-day meal, as is the case of Tamil Nadu.
- Rice required for mid-day meal programme is wholly supplied by central government free of cost. Even the cost of transportation of rice from FCI go downs to the schools is also borne by the central government at the rate of Rs.25 per quintal. Recently this has been revised to Rs.50 per quintal. The other provisions required for mid-day meal programme are the responsibility of the state government.
- In Orissa, the distribution of mid-day meal is the responsibility of the Headmaster and Asst. Teacher. In majority of cases the assistant teachers mainly manage the programme. Starting from the procurement of foodstuff till the distribution of cooked meal to the ultimate beneficiaries is looked after by the assistant teachers. The assistant teachers distribute the cooked meal with the help of part-time cooks and helpers whose remuneration are Rs.200 and Rs.100 respectively.

Impact of the Programme on Enrolment:

Enrolment of children in primary schools does not exclusively depend upon mid-day meal programme. Enrolment as a master fact depends upon several other factors besides mid day meals. These factors are: (i) Parental awareness and care in sending children to

schools, (ii) Network of primary schools in a block or panchayat, (iii) distance of school from the home, (iv) attitude and co-operation of teachers in the school, (v) education of mother and her influence on the child, (vi) Facilities in the form of separate toilets, common rooms and recreation opportunities available in the school, (vii) Package of educational Incentive provided to the children in addition to mid-day meals and finally teaching environment and teaching abilities of the teachers in the schools etc. (Dreze, J, etal: 1999).

However, the merit of mid day meal programme in influencing enrolment of children cannot out-rightly be underestimated. The factors mentioned above are no doubt the crucial determinants in improving the enrolment of children in school, yet, the mid day meal programme has a major impact in promoting enrolment of children in the primary schools.

Enrolment:

Table 4 reveals that average annual growth rate of enrolment was positive both in Pre-MDM and Post-MDM periods in Orissa. It was 0.63 per cent in Post-MDM period compared to 1.39 per cent in Pre-MDM period. The decline in post-MDM period was the result of the fall in the number of children seeking enrolment in the age group of 6-11 years in Orissa. The decline is further due to the preference of parents to send children to English medium schools, ashram and other public schools.

Caste Wise:

Caste-wise analysis of available data reveal that average annual growth rate of enrolment was positive both for scheduled caste children (1.15 per cent) and scheduled tribe children (8.39 per cent) in Post-MDM period compared to pre-MDM period where it was positive (4.31 per cent) for scheduled caste children and negative for scheduled tribe children (-4.55 per cent). For general caste there was negative decline in enrolment in Post-MDM period compared to Pre-MDM period where it was positive. It is seen that mid-day meal programme has benefited the scheduled tribe children more compared to that of scheduled caste children in respect of the improvement in enrolment rate.

Sex Wise:

Average annual growth rate of enrolment was positive both for boys and girls both in the Pre-MDM and Post-MDM periods. But the rate of growth of enrolment of girls was more in the Post-MDM period (0.97 per cent) as compare to the Pre-MDM period (0.96 per cent), whereas in case of boys, it decreased in the post-MDM period (0.35 per cent) compared to the Pre-MDM period (1.80 per cent). This may be due to already achieved higher enrolment of male children in the age group of 6 to 11 years in the schools.

District Wise:

Annual average growth rate of enrolment was negative in Puri district (-1.06 per cent) in Post-MDM period compared to Pre-MDM period when it was positive (1.21 per cent). In Rayagada, on the other hand, it was positive in Post-MDM period (5.94 per cent) as against negative growth rate in Pre-MDM period (-2.15 per cent). This indicates that the programme had benefited primary school going children of Rayagada more than that of Puri district. The negative decline in Puri district was primarily due to the factor as outlined above.

Attendance:

One of the important objectives of mid day meal programme is to increase the attendance of children in primary schools. During the Pre-MDM period average percentage of attendance in Orissa was 80.29. This increased to 86.09 per cent in the Post-MDM period. The percentage point increase in attendance was 5.8 between Pre-MDM and Post-MDM periods. This improvement interalia was possible mainly on account of mid-day meal programme in schools (Table-5).

Caste Wise:

It is seen from the available data that the average percentage of attendance for scheduled caste children in the Pre-MDM period was 78.38, which increased to 85.62 per cent in Post-MDM period. On the other hand average percentage of attendance was 80.08 for scheduled tribe children in Pre-MDM period which increased to 86.11 per cent in Post-MDM period. The increase in attendance was therefore stood at 7.24 percentage point for scheduled caste children and 6.03 percentage point for scheduled tribe children. For general caste the percentage point increase in attendance rate was 5.36 between the two periods. The forgoing analysis reveals that the introduction of mid-day meal programme has greater impact in improving the attendance rate among scheduled caste children followed by scheduled tribe and general caste children.

Sex Wise:

It is further seen from the available data that average percentage of attendance for boys in the Pre-MDM period was 81.44 which increased to 86.89 per cent in Post-MDM period. Similarly the average percentage of attendance for girls was 78.9 in Pre-MDM period, which increased to 85.19 per cent in Post-MDM period. The increase in attendance rate where as stood at 5.45 percentage point in the case of boys, the same was 6.28 in the case of girls. In Orissa where the girls literacy rate is lower compared to boys, the scheme has gone a long way in improving the attendance rate of girls more than boys.

District Wise:

Average percentage rate of attendance in Puri district was 80.75 during Pre-MDM period. This increased to 85.84 per cent during Post-MDM period. Between the periods, percentage point increase in average attendance rate was 5.09. In Rayagada, on the other hand, average percentage of attendance in the Pre-MDM period was 78.81 per cent. In the Post-MDM period this increased to 86.89 per cent. Between Pre-MDM and Post-MDM periods, average percentage point increase in attendance rate was 8.08. The impact of mid-day meals programme is therefore more felt in Rayagada district than in Puri district which is more an educationally advanced district with high percentage of literacy.

Dropouts:

The major problem of primary education in Orissa is the prevalence of higher percentage of dropouts, which was as high as 47.0 per cent in the year 1998-1999. The primary objective of mid-day meal programme is to improve the retention rate of children in schools by reducing their dropouts.

Available field data reveal that average percentage of dropout rate was 41.01 during Pre-MDM period. In the Post-MDM period this declined to 25.58 per cent. Over the period, the decline was 15.43 percentage point (Table-6). It is thus clear that on account of the

introduction of mid day meal programme, there has taken place a significant fall in the dropout rate in the state

Caste Wise:

It is further seen that the average dropout rate as 37.30 per cent in the Pre-MDM period for the scheduled castes in Orissa. In the Post-MDM period this came down to 22.53 per cent. Over the period the decline was 14.77 percentage point. For scheduled tribes, average dropout rate in the Pre-MDM period was 59.06 per cent. After the mid day meal programme, dropout rate came down to 50.70 per cent. Over the period the decline in average dropout rate was 8.36 percentage point. Between scheduled castes and scheduled tribes, the impact of reduction in dropout rate is more felt among the scheduled caste than scheduled tribe children. Even in case of general caste children, there was perceptible fall in average dropout rate. The percentage point decline in dropout rate was 14.83 between Pre-MDM and Post-MDM periods.

Sex Wise:

The average dropout rate for boys in Pre-MDM period was 41.90 per cent. In Post-MDM period it declined to 26.26 per cent. Over the period, the percentage point decline was 15.64 per cent. On the other hand, the average dropout rate for girls was 39.89 per cent in Pre-MDM period, which declined to 24.85 per cent in Post-MDM period. The percentage point decline was 15.04 over the period. The percentage point decline is therefore, more sharp for boys than for girls.

District Wise:

Percentage point reduction in dropout rate was 14.34 in case of Puri district as against 13.50 in Rayagada district. The average percentage point reduction in dropout rate in both the districts was much less compared to the state average of 15.43 percentage point. The increased percentage point decline in average dropout rate in Puri district over Rayagada district is due to greater parental awareness and improved attendance rate of children in schools. In both the districts there is further scope of reducing dropout rate and this suggests the need for further continuance of the programme.

Retention:

Reduction in average dropout rate means increase in average retention rate. Due to reduction in dropout rate, average retention rate that stood at 58.99 per cent during Pre-MDM period increased to 74.42 per cent during Post-MDM period. Over the period percentage point increase in retention rate was by 15.43 which indicates that due to MDM programme the primary schools of Orissa are now in a better position to retain higher percentage of children in schools (Table 7)

Caste Wise:

The available data show that the average retention rate for scheduled caste children during Pre-MDM period was 62.70 per cent. This increased to 77.47 per cent in Post-MDM period. Over the period, the percentage point increase in retention rate was 14.77 for scheduled caste children. For scheduled tribe children the average retention rate was 40.94 per cent during Pre-MDM period, which increased to 49.30 per cent during the Post-MDM period, an increase of 8.36 percentage point over the period. Average retention rate was, therefore, higher for scheduled caste children than for scheduled tribe children. This suggests the need for further continuance of the programme in Tribal districts of the state.

For general caste, the percentage point increase in retention rate between Pre-MDM and Post-MDM period was 14.83, indicating thereby greater impact of the programme on such children.

Sex Wise:

The average retention rate for boys was 58.10 per cent during Pre-MDM period, which increased to 73.74 per cent in Post-MDM period, an increase of 15.64 percentage point over the period. For girls, average retention rate was 60.11 per cent during Pre-MDM period, which increased to 75.15 per cent in Post-MDM period, an increase of 15.04 percentage point. The scope for further improving the retention rate among girls through mid-day meal programme and other educational incentives need be explored.

District Wise:

Analysis of data reveal that average retention rate was higher in Puri district than in Rayagada district. In Puri district, average retention rate in Pre-MDM period was 67.44 per cent, which increased to 81.76 per cent in Post-MDM period, an increase of 14.32 percentage point. In Rayagada, average retention rate in Pre-MDM period was 43.91 per cent, which increased to 57.41 per cent in Post-MDM period, an increase of 13.50 percentage point over the period (Table 7). It is thus clear that the district where the average reductions in dropout rate is higher, their average retention rate is significant. This has happened in Puri district in comparison to Rayagada district.

Overall View:

- In Orissa, annual average growth rate of enrolment was positive both in Pre-MDM and Post MDM periods. However, the decline in average annual growth rate of enrolment was more visible in Post-MDM period due to factors like, reduction in the number of children in the age group of 6-11 years and preference of parents to educate their children in English medium public schools etc. So far as attendance in concerned, the mid-day meal programme has contributed to a large extent in improving annual average percentage of attendance in primary schools. Furthermore, mid-day meal programme has contributed substantially for the reduction in average dropout rate and improving the retention rate of children in primary schools.
- Caste wise, average annual growth rate of enrolment was positive both for scheduled caste and scheduled tribe children during both Pre-MDM and Post-MDM periods. The average annual growth rate of enrolment was however, more pronounced in the case of scheduled tribe children. The general caste children, on the other hand, experienced negative annual average growth rate of enrolment. The percentage point increase in attendance rate was higher for scheduled caste followed by scheduled tribe and general caste children. Average reduction in dropout rate was higher for general caste children followed by scheduled caste and scheduled tribe children. Similarly, the average retention rate was also higher for general caste followed by scheduled caste and scheduled tribe children.
- Average annual growth rate of enrolment was positive both for boys and girls between Pre-MDM and Post-MDM periods. While for boys average annual growth rate of enrolment showed certain decline, in case of girls there was a slight improvement in average annual growth rate in enrolment. Percentage point increase in attendance rate was more pronounced in the case of girls than for boys. Furthermore, average reduction in dropout rate was more perceptible for boys than for girls indicating

thereby significant improvement in retention rate among boys in schools compare to girls.

- District wise, average annual growth rate in enrolment was negative in Puri district in Post MDM period compared to Pre MDM period. On the other hand it was positive in Rayagada district in the Post MDM period compared to Pre-MDM period when it was negative. So far as attendance rate is concerned, the percentage point increase in attendance rate was higher in Rayagada than in Puri district. Similarly percentage point reduction in dropout rate was higher in Puri district than in Rayagada district between Pre-MDM and Post-MDM periods. Consequently annual average retention rate was higher in Puri district than in Rayagada district.

Critical Gaps and Missing Links :

A positive relationship was established by observing gain in height and weight and cognitive development among children getting mid-day meals. Gain in height and weight was found to be related to the number of days of feeding. In spite of the merits claimed by the programme, a number of bottlenecks were witnessed in course of the implementation of the programme.

i) Socio-cultural :

Primary school going children of higher income groups mostly remain absent from taking mid-day meals distributed in the schools. These students prefer to take their meals in the home instead of taking mid-day meals in the schools. Besides, some children also abstain from taking mid-day meals on account of their social status and vanity. They consider mid day meals distributed in schools as inferior in quality compared to home made meals.

There are also complaints from students of general caste when the mid-day meal is prepared by the cook and the helper of lower castes. This is seen both in Puri and Rayagada districts of Orissa. The problem is also witnessed in Tamil Nadu where children often complain of mid-day meals being cooked and distributed by persons belonging to lower castes.

ii) Administrative :

In Orissa, the officials in-charge of mid-day meal programme consider the programme as an additional responsibility. They are so much over burdened with routine official works that they find no time to engage themselves wholeheartedly for the implementation of the programme. Besides, the lower cadre in administration is often found to be indifferent due to lack of any incentives tagged to the programme. This is however, not the case in Tamil Nadu, where separate staff are appointed by the government to look after the implementation of the scheme.

In Orissa, supervision and monitoring of mid-day meal is hampered due to dearth of staff. The present staff looking after the mid-day meals programme find no time to undertake the job of supervision and monitoring. The supervisory responsibility is not taken wholeheartedly by the existing staff. Due to lack of supervision, corruption and pilferage in the course of administering the programme has cropped up.

iii) **Managerial :**

In Orissa, the assistant teachers are mainly engaged in the mid-day meal programme. The teachers find very little time to engage themselves in teaching. They are engaged fully in the preparation and distribution of mid-day meals. The efficiency of the teacher and their teaching habits, therefore, gets eroded. The teachers are required to maintain the attendance of the children taking mid-day meals. They also shoulder the responsibility of receiving the stock of food items supplied by FCI and the state government. The storage of food items is also the responsibility of the teachers. They are also required to undertake regular supervision of mid-day meals distributed in the schools. The teachers are further required to furnish detailed information about receipts and expenditure on account of mid-day meals to block authorities and other government officials as and when required. On account of this they fail to take classes regularly. In the process the students are the losers. The scheme has actually affected study by diverting teachers' attention from their main vocation. Saddling them with additional responsibility, the project appears to have become a burden on the teachers (Pioneer : 1997). In Tamil Nadu where cooked food is served to children in primary schools, the noon-meal organizers undertake all the activities those are performed by teachers in Orissa. Hence the teachers there take classes regularly and children are never found to be staying away from classes for lack of teaching and the teachers

In Orissa, cooking made in school verandah. Children take their meals in the same verandah or in one of the classrooms. This largely affects teaching in the school. More time is wasted in cleaning the verandah and the classroom. Of ten students are engaged for this work.

Delayed supply of rice, dal, and other cooking ingredients by government to school is often a problem in Orissa. In the event of food items not supplied in time, distribution of mid-day meal in the schools is hampered.

iv) **Financial :**

For the implementation of the mid-day programme, no separate budgetary provision is there in Orissa. Out of the funds allocated to Women and Child Development Department, a portion is earmarked towards the implementation of mid-day meal programme. The amount sanctioned for spices, edible oil, vegetables and firewood by the government is scanty in Orissa. This has affected the quality of food items. Besides, there is the difficulty of getting cook and helpers at such low wages. For all the programme is considered as a big financial burden on the exchequer.

Policy Prescriptions :

In view of the above problems, it is often advocated that the programme be scrapped or downsized. Another suggestion is that several nutritional support programmes, as they exist in the state, be converged to form a single unified scheme for the benefit of the children. In Orissa, there is proposal for scrapping the programme altogether. The argument of the supporters of this view are as follows :

- There is large scale corruption and pilferage in the programme. It has outlived its utility and hence be scrapped.

- It at all the programme is to continue, it must be confined to scheduled caste and scheduled tribe children of BPL families in tribal areas. This will ensure cost effectiveness of the programme.
- In order to make the programme problem free, distribution of 3 kg of rice and 1 kg of dal in poly pack be made per student per month on the ground that they have secured more than 80 per centage of attendance in the schools.
- Once the programme is scrapped the efficiency of the teacher will improve. He will be more attentive towards the children and for teaching in the schools.

It is not proper to scrap the programme altogether. The programme has certainly contributed towards improvement of enrolment, attendance and reduction of dropout in primary schools. Besides, when the policy of universalization of primary education is so often stressed and advocated by the government in that context, abolition of mid day meal programme will stand as an obstacle in the path of realizing the avowed objective of universalization of primary education.

It is against this background that above objections raised by the critics of the programme are challenged.

- Corruption and leakage in the programme can be dealt firmly by administrative measures and political will of the statesmen.
- The mid day meal programme holds good for all type of children and irrespective of the regions. Segregation of the scheme for a particular group and for a specific region is not desirable. The basic goal is to promote universalization of primary education for all children.
- Practice of giving 3 kg of rice and 1 kg of dal per student per month would benefit the middlemen. The poor are so poor that they would sell the food items to the middlemen who have the capacity to purchase.
- Teachers be freed from noon-meal activities. They need be replaced in a phased manner by noon-meal organizers, who will be engaged temporarily to discharge the activities at the minimum wage fixed by the government.
- Separate budgetary provision be made for the programme. District, block and school-wise allocation be made annually on the basis of the feeding strength of the children in schools and this be reflected in the budget during the course of its preparation.
- Attempts be made at least on a pilot basis to bring the NGO element into the programme. This has the ultimate effect of minimizing the present hierarchical system existing to look after the programme.
- The possibility of the convergence of pre-school nutritional programmes like, Anganwadi and Balwadi with mid-day meal programme is very remote. Orissa does not have the Balwadi programme. The pre school programme entirely rests with ICDS's Anganwadi programme. This cannot be converged with mid-day meal programme on account of the differences in the age group of children, organization and management of programme and type of food served to the children under the programmes.
- Mid-day meals programme alone is not sufficient to attract children to schools. The programme be supplemented by package of educational incentives like, free books, free uniforms, writing materials and free bus passes etc. In some states these incentives have contributed largely for the growth of literacy for example in Tamil Nadu and Kerala.

Conclusion :

The mid-day meal programme is a state sponsored nutritional intervention programme aimed at improving enrolment, attendance and reduction dropout rate amongst children in primary schools. The working of the programme since 1995 has largely contributed towards improving enrolment, attendance and retention rate amongst children by reducing their dropout rates in the Post-MDM period. In course of its operation the scheme has exhibited several weaknesses which if taken care of appropriately through effective policy measures would certainly contribute towards improving the nutritional status of the children and their participation in school educational activities.

Notes and References :

1. The nutritional support to primary education takes different nomenclatures like mid-day meals scheme, noon-meal programme and school lunch programme. Since these programmes have a common goal of improving nutritional status of children in primary schools, they are used interchangeably in this article.
2. The study covers the period from 1989-1999, a period of 10 years divided into Pre-MDM period (1989-1990 to 1994-1995) and Post MDM period (1995-1996 to 1998-1999).

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Table 1
Districts Arranged in Ascending Order of Total Literacy Rates in Orissa

SI No.	Name of the District	Total Literacy Rate (As per 1991 Census)	Total Literacy Rate (As per 2001 Census)
1.	Nawarangpur	18.62	34.26
2.	Malkangiri	20.04	21.26
3.	Koraput	24.64	36.20
4.	Rayagada	26.01	35.61
5.	Nuapada	27.52	42.29
6.	Gajapali	29.37	41.73
7.	Kalahandi	31.08	46.20
8.	Kandhamal	37.23	52.95
9.	Mayurbhanj	37.88	52.43
10.	Balangir	38.63	54.93
11.	Boudh	40.98	58.43
12.	Sonepur	42.62	64.07
13.	Deogarh	44.45	60.78
14.	Keonjhar	44.73	59.75
15.	Ganjam	46.72	62.94
16.	Baragarh	47.65	64.13
17.	Angul	51.53	69.40
18.	Sambalpur	51.56	67.01
19.	Jharsuguda	52.64	71.47
20.	Sundargarh	52.97	65.22
21.	Dhenkanal	54.91	70.11
22.	Nayagarh	57.20	71.02
23.	Balasore	57.64	70.94
24.	Jajpur	58.00	72.19
25.	Bhadrak	60.54	74.64
26.	Puri	63.30	78.40
27.	Kendrapara	63.61	77.33
28.	Cuttack	65.44	76.13
29.	Jagatsinghpur	65.78	79.61
30.	Khurda	67.72	80.19
	ORISSA	49.09	63.61

Source : Census of India, 1991 and 2001 Census

Table 2
Blocks Arranged in Ascending Order of Total Literacy Rates in Puri District

Sl. No.	Name of the Block	Total Literacy Rate (As per 1991 Census)
1.	Krushnaprasad	52.37
2.	Brahmagiri	54.37
3.	Puri Sadar	56.80
4.	Kakatpur	60.23
5.	Kanas	61.45
6.	Astaranga	61.66
7.	Gop	63.61
8.	Pipili	63.89
9.	Satyabadi	65.43
10.	Nimapara	65.64
11.	Delang	66.77
	Puri District	63.30

Source: Government of Orissa, DE & S. District Statistical Handbook Puri (1995)

Table 2A
Blocks Arranged in Ascending Order of Total Literacy Rates in Rayagada District

Sl. No.	Name of the Block	Total Literacy Rate (As per 1991 Census)
1.	Kasinagar	13.20
2.	Rayagada	15.90
3.	Chandrapur	16.40
4.	K. Singhpur	18.89
5.	Gudari	19.27
6.	B. Cuttack	21.01
7.	Muniguda	21.47
8.	Gunupur	23.16
9.	Kolanara	26.03
10.	Ramanguda	28.34
11.	Padmapur	34.51
	Rayagada District	26.01

Table 4
Growth Rates (in per cent) of Enrolment of Students in Different Periods in the Sample Districts of Orissa

District / State	Period	SC			ST			Others			Total		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Puri District	1989-90 to 1994-95	3.71	4.91	4.03	-	-	-	0.07	1.30	0.61	0.75	0.84	1.21
	1995-96 to 1998-99	3.52	-0.58	-0.05	-	-	-	-1.40	-0.99	-1.27	-1.17	-0.89	-1.06
	1989-90 to 1998-99	2.75	3.08	2.67	-	-	-	-0.42	0.54	-0.02	0.11	0.93	0.45
Rayagada District	1989-90 to 1994-95	11.01	14.53	11.47	-2.61	-6.71	-4.55	3.52	-2.80	-0.26	-0.77	-3.79	-2.15
	1995-96 to 1998-99	3.46	10.94	6.55	7.66	10.13	8.39	-3.89	3.28	-0.62	4.51	8.03	5.94
	1989-90 to 1998-99	8.72	13.35	10.08	3.34	1.60	2.39	1.65	0.60	0.68	2.89	2.23	2.54
Orissa State	1989-90 to 1994-95	5.34	3.39	4.31	-2.61	-6.71	-4.56	2.06	2.05	2.05	1.80	0.96	1.39
	1995-96 to 1998-99	0.96	1.49	1.15	7.66	10.13	8.39	-1.68	-0.67	-0.67	0.35	0.97	0.63
	1989-90 to 1998-99	3.37	4.50	3.75	3.34	1.60	2.39	-0.41	0.42	0.42	0.75	1.11	0.99

Table 5
Average Attendance Rate of Students (in per cent) in Different Periods in the Sample Districts of Orissa

District / State	Period	SC			ST			Others			Total		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Puri District	1989-90 to 1994-95	79.01	77.34	78.29	-	-	-	82.54	80.17	81.43	81.73	79.57	80.73
	1995-96 to 1998-99	86.60	82.90	84.74	-	-	-	86.73	85.59	86.16	86.65	84.97	85.84
	1989-90 to 1998-99	82.05	79.57	80.87	-	-	-	84.22	82.34	83.33	85.73	81.73	82.79
Rayagada District	1989-90 to 1994-95	77.59	75.56	76.45	-	-	-	4.19	(3.42)	(4.75)	4.87	(5.40)	5.09
	1995-96 to 1998-99	79.12	78.89	78.84	81.44	78.20	80.08	77.68	75.57	75.59	80.34	78.78	78.81
	1989-90 to 1998-99	86.79	89.74	89.30	87.48	83.93	86.11	86.51	87.62	87.18	87.55	85.93	86.89
Orissa State	1989-90 to 1994-95	82.98	83.23	83.02	83.85	80.49	82.49	81.33	79.19	80.23	85.22	80.44	82.04
	1995-96 to 1998-99	79.67	70.85	70.46	(6.04)	(5.73)	(6.03)	(9.13)	(14.05)	(11.59)	(7.21)	(9.15)	(8.06)
	1989-90 to 1998-99	78.99	77.57	78.36	81.44	78.20	80.08	82.14	79.49	80.90	81.44	75.91	80.29
Orissa State	1995-96 to 1998-99	87.07	84.18	85.62	87.48	83.93	86.11	86.73	85.75	86.26	86.89	85.15	86.09
	1989-90 to 1998-99	82.20	80.22	81.26	83.85	80.49	82.49	83.97	82.00	83.04	83.62	81.42	82.61
	1989-90 to 1998-99	(8.02)	(6.61)	(7.24)	(6.04)	(5.73)	(6.03)	(4.59)	(6.26)	(5.36)	(5.45)	(6.25)	(5.80)

Table 6
Average Dropout Rate (in per cent) of Students in Different Periods in the Sample Districts of Orissa

District / State	Period	SC			ST			Others			Total		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Puri District	1989-90 to 1994-95	30.61	32.34	31.38	-	-	-	32.26	33.49	32.83	31.94	33.29	32.56
	1995-96 to 1998-99	21.46	21.96	21.68	-	-	-	18.07	18.37	17.20	18.87	17.66	18.24
	1989-90 to 1998-99	26.95 (9.15)	28.19 (10.38)	27.50 (9.70)	-	-	-	26.59 (14.19)	26.64 (17.12)	25.56 (15.63)	26.71 (13.07)	27.03 (15.83)	28.33 (14.32)
Rayagada District	1989-90 to 1994-95	28.29	28.06	53.81	62.34	53.72	59.06	40.57	46.07	45.53	57.79	54.26	56.09
	1995-96 to 1998-99	6.08	39.19	22.89	49.68	62.62	50.70	35.84	35.27	35.45	41.15	44.56	42.59
	1989-90 to 1998-99	20.21 (20.21)	62.51 (38.87)	41.44 (30.92)	57.88 (13.66)	63.28 (11.10)	55.72 (8.36)	41.68 (4.73)	41.73 (13.80)	41.68 (13.38)	51.14 (16.64)	50.38 (9.70)	50.65 (13.50)
Orissa State	1989-90 to 1994-95	33.78	41.72	37.30	62.34	53.72	59.06	35.83	34.50	35.28	41.90	39.89	41.01
	1995-96 to 1998-99	13.34	25.97	22.53	49.68	62.62	50.70	21.39	19.52	20.45	26.26	24.85	25.58
	1989-90 to 1998-99	28.00 (14.44)	35.38 (15.85)	31.39 (14.77)	57.88 (13.66)	63.28 (11.10)	55.72 (8.36)	33.85 (4.44)	33.51 (14.98)	29.34 (14.83)	35.65 (15.64)	33.87 (15.04)	34.84 (15.43)

Table 7
Average Retention Rate (in per cent) of Students in Different Periods in the Sample Districts of Orissa

District / State	Period	SC			ST			Others			Total		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Puri District	1989-90 to 1994-95	69.39	67.66	68.62	-	-	-	67.74	66.51	67.17	66.06	66.71	67.44
	1995-96 to 1998-99	78.54	78.04	78.32	-	-	-	81.93	83.63	82.80	81.13	82.34	81.76
	1989-90 to 1998-99	73.05	71.81	72.50	-	-	-	73.41	73.36	73.42	73.29	72.97	73.17
Rayagada District	1989-90 to 1994-95	71.71	21.94	46.19	36.66	46.28	40.94	56.43	53.93	54.17	42.21	45.74	43.91
	1995-96 to 1998-99	91.92	60.81	77.11	50.32	47.38	49.30	61.16	54.73	64.55	58.85	55.44	57.41
	1989-90 to 1998-99	79.79	37.49	41.44	42.12	46.72	44.28	58.32	58.25	58.32	48.86	49.62	49.31
Orissa State	1989-90 to 1994-95	66.22	58.28	62.70	36.66	46.28	40.94	64.17	65.50	64.72	58.10	60.11	58.99
	1995-96 to 1998-99	80.66	74.13	77.47	50.32	47.38	49.30	78.61	80.48	79.55	73.74	75.15	74.42
	1989-90 to 1998-99	72.00	64.62	68.61	42.12	46.72	44.28	68.95	71.49	70.66	64.35	66.13	65.18

Specialized Paper

OUT OF SCHOOL CHILDREN IN ORISSA

Prafulla Kumar Dhal
Brahmotri Biswal

2003



How many children are there in Orissa under the age of 6-14 years? How many of them are enrolled in the school and reading by 2003? How many of the children under the age of 6-14 years are outside of the school system even after the 56-56 years of Indian independence? These are few important questions remain largely unanswered by the government due to unreliability of the estimation. This is what bothers the educationist and planners when they are engaged in vision building exercise and setting targets for the Vision 2020. While the sources from DFPEP and OPOPEPA claims the out of school children in Orissa by 2002 is 2.1 million[†], many independent studies estimating the figure at 1.5 million^{††}. According to the MHRD (2001-1999), the out of school children in Orissa is about 1.2 million^{†††}. But the number is much more than the above. The UNDP, NCDS (OHDR) 2002 draft report says about 37 per cent of the children in the age group of 6-14 years are out of school children in Orissa by 2002.

Out of school children are total children under the age of 6-14 years minus the children enrolled at primary and upper primary level or in the elementary level plus the drop out student of elementary level. This is what popular perception among the planners. What is the child population in Orissa in the age of 6-14 years by now? Except Registrar general of Census of India there is no reliability in other sources. In the year 1998-1999 the NHFS found out 34 % of the total population in Orissa are children under the age of 0-14 years. Which means total child population in Orissa at present is about 12.6 million. Another source of the children in the age group of 6-14 years is the Economic Survey of Orissa 2000-2001, which claims it to be 8.2 million by 2002. "It is envisaged to enroll 54.47 lakh children in the age of 6-11 years and 27.80 lakh children in the age group of 11-14 years by the end of ninth plan period". The Ninth Plan Period was to be ended by 2002. The Ninth Plan document has also mentioned total children (6-14 years) by the year 2002 will be around 87 lakh. The entire above source were the projections

The Child Population in 6-14 years age group in 1991 census was 61.10 lakh comprising 19.3 % of the total population. And child population in the age group 3-6 years was also 34.29 lakh comprising 10.8 % of states total population. According to Registrar of Census of India, total population in Orissa in 2001 census was 36.7 million out of which 32 % of the total population are children in the age of 0-14 years. This means the child population in the state at present is around 11.7 million. Out of them 5.2 million are 0-6 years. Thus 7-14 years are 65 lakh. Calculating the 6-14 years of children in the state it could say that the total children in this age group are 69 lakh. Second dimension of out of school children should be the child in the age group of 3-5 years who are not given school facilities in the state. Because the Dakar framework of Education For All includes the early child hood Care and education as the fundamental precondition for the universal elementary education in all over the world. According to 2001 census total children in the age group of 0-6 years is 5.2 million. Putting 10 % of the total population of the state as children in the age group of 3-6 years it could be said that around 3.7 million. By the year 2001, total children enrolled in this age group enrolled in the ECE programme in the state is 8.17 lakh from all sources (1). Thus around 2.9 million children are remaining out of ECE systems

Estimation of the out of school children (6-14) years in Orissa (2003)

Details	Source -I*	Source -II**	Remarks
Total population in Orissa (2001 Census)	36.7 million	36.7 million	
Total child population (0-14 years)	11.7 million	11.7 million	Calculated on the basis of 32 % of the total population as the child population***
Child population (0-6 years)	5.2 million	5.2 million	As per 2001 census
Children in the age group of 7-14 years	6.5 million	6.5 million	
Children in the age group of 6-14 years	6.5 million	6.9 million	Source II is calculated by putting 19 percent of the total population as the child population ****
Children enrolled (6-11) years by 2002	4.7 million	4.7 million	Both came from DPI DSME: GOO Bhubaneswar 2002
Children enrolled 11-14 years	1 million	1 million	Do
Total enrollment in the school in 6-14 years	5.7 million	5.7 million	By adding the enrollment at the primary and upper primary in 2002
Never enrolled children	0.8 million	1.2 million	Calculating from the total children in the 6-14 years minus enrollment 2002
Drop out at the primary level	42 % of enrolled children	42 % of enrolled children	DPI DSME: GOO 2002
Drop out children in number at primary level	1.9 million	1.9 million	By putting 42 % of the enrollment
Drop out at the upper primary level	57 % of enrolled children	57% of the enrolled children	DPI DSME: GOO 2002
Dropout out children in number at upper primary level	0.5 million	0.5 million	By putting 57 % of the enrollment at the upper primary level
Total children out of schools at the primary and upper primary due to drop outs	2.4 million	2.4 million	By adding dropouts children at primary and upper primary schools 2002
Total children out of schools due to non-enrollment and dropout in the age group of 6-14 years	3.2 million	3.6 million	By adding drop out children and never enrolled children at primary and upper primary level
Total child population 3-5 years	2.5 million	2.5 million	
Children enrolled in the E-CE systems	9.81lakh	20 % of the total children (3-6) years	Source I with reference of W&CD GOO 2002

	Details	Source - I*	Source - II**	Remarks
i)	Children enrolled in FCE in numbers	0.9 million	0.5 million	Source II on the basis of W&CD (1997) and source I Economic Survey 2002-2003
ii)	Children 3-6 years not enrolled	1.5 million	2.0 million	
iii)	Children out of schools in the 3-14 years in Orissa	4.7 million	5.6 million out of 9.0 million	More than 50% of eligible children for the schools at the FCE and Elementary level are out for schools system

* Source I been calculated from 6.5 million total children 6-14 years

** Source II calculated 6.9 million as total child population 6-14 years.

*** 32 per cent is calculated from the total child population indicated in the DIET micro planning Ganjam 2003

Thus out of schools children in the age group of 6-14 years is between 3.2 million to 3.6 million by the year 2002. If calculated by taking 3-6 years together with 6-14 years then out of total 9.0 million children (3-14) years in the state between 4.7million to 5.6 million children are out of schools systems (ECE and Elementary Schools).

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