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**MINISTRY OF HUMAN RESOURCE DEVELOPMENT  
GOVERNMENT OF INDIA**

**REPORT**  
of  
**The Committee on**  
**National Common Minimum Programme's Commitment of**  
**SIX PER CENT OF GDP TO EDUCATION**

**NUEPA DC**

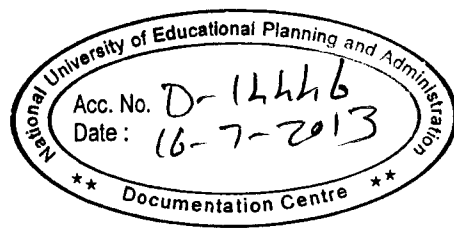


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**NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION  
NEW DELHI**

**November 2005**

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Shri Sudeep Banerjee  
Secretary  
Ministry of Human Resource Development  
Government of India  
New Delhi

17 November 2005

Dear Shri Banerjee,

I have great pleasure in remitting to Government the Report of the Committee appointed to examine the ways of implementing the decision to allocate six per cent of the GDP for education and to suggest the phases in which this may be done. The committee has suggested several scenarios, each with the corresponding phasing of the expenditure. The choice, of course, will depend on the options Government will have, given its anticipation of the budgetary situation developing over the next few years.

We have kept the report as short as possible, considering the urgency of the situation. For a further elaboration of the background and the questions involved Government may perhaps consider also the three Annexes to the Report.

Annexes are the notes/submissions made by Professor Jandhyala B G Tilak, Professor Jayati Ghosh and Professor R Govinda, Members of this Committee. These were three important contributions to our deliberations and I personally found these extremely useful and decided to include these as Annexes in the Report.

I am tempted to add here the often repeated but sometimes forgotten proposition that expenditure under the head of education does not automatically qualify for being regarded as investment in education. Careful itemization and strict vigilance in implementation alone can turn the public expenditure of six per cent of the GDP into real investment in human capital. Perhaps for this purpose Government should consider immediately putting in

place a credible and independent regulatory mechanism at the national level even before the Right to Education Bill is passed.

I would like to record here my deep appreciation of the contributions of all the Members and of the shouldering of the added burden of the Member-Convenor by Professor Tilak. The Committee also were greatly encouraged by the help and advice rendered by Professor Ved Prakash, Director of NIEPA and the secretarial support provided by NIEPA. I am also grateful to you and the Ministry for always responding promptly to our wants but never pressing us too hard in spite of the obvious urgency! In this connection I would also like to mention the help from Sri Ray, Financial Advisor to the Ministry who kindly attended one of our meetings and provided us with some of the latest data we needed urgently.

I personally found this whole exercise educative and potentially useful. I sincerely hope Government would find it helpful too.

With kind regards,

*T. Majumdar*

Tapas Majumdar

## Members of the Committee

1. **Professor Tapas Majumdar**  
**Jawaharlal Nehru University**  
**New Delhi** *Chairman*
  2. **Professor Jayati Ghosh**  
**Jawaharlal Nehru University**  
**New Delhi** *Member*
  3. **Professor R Govinda**  
**National institute of Educational**  
**Planning and Administration,**  
**New Delhi** *Member*
  4. **Professor Jandhyala B G Tilak**  
**National institute of Educational**  
**Planning and Administration,**  
**New Delhi** *Member-Convenor*
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**REPORT of**  
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**SIX PER CENT OF GDP TO EDUCATION**

*In an age of science, there can be no greater risk than a policy of drift  
and niggardliness in education...*

Education Commission (1966, p. 892).<sup>1</sup>

How much should India invest in education as a proportion of her national income? The Common Minimum Programme of the UPA Government "pledges to raise public spending in education to at least 6% of the GDP" and that "This will be done in a phased manner." Though it is not a new promise, it is an important reiteration of the new government. To reach this goal, a detailed plan is necessary on the needed annual increases in allocation of resources. Since it is well known that our education system is severely starved of funds, and that it does require huge sums, even much above six per cent of the gross domestic product, for quantitative expansion, for improvement in quality, for improvement in equity, for strengthening diversity and other vital aspects of educational development, there is no need to make any estimate of resource requirements at this stage. Quite a few detailed estimates are already available on this issue by different levels of education, as described later. Noting this, and recognizing the need for a clear idea of the magnitude of the resources required to reach the six per cent goal, the Ministry of Human Resource Development, Government of

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<sup>1</sup> *Education and National Development: Report of the Education Commission 1964-1966.* New Delhi: Government of India [reprint: NCERT, 1971].

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India, has constituted a committee, with the following terms of reference:

- i. To quantify actual allocation of public resources (Centre and State Governments and Local Bodies) to education during the first four years of the Tenth Plan (2002-06), in absolute terms and as percentage of GDP, and to estimate likely allocation of resources, based on current growth projections for the period, 2006-12, and
- ii. To quantify total resources which would become available for education during the above period 2006-12, if public expenditure on education were to equal 6% of GDP during each of these six years.

The following are the members of the Committee:

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|----|-------------------------------|------------------------|-----|
| 5. | Professor Tapas Majumdar      | <i>Chairman</i>        |     |
| 6. | Professor Jayati Ghosh        | <i>Member</i>          |     |
| 7. | Professor R Govinda           | <i>Member</i>          | and |
| 8. | Professor Jandhyala B G Tilak | <i>Member-Convenor</i> |     |

### The New Resolve

As the terms of reference of this committee make it clear, the government would like to allocate six per cent of GDP to education from 2006-07 onwards, i.e., to reach the goal by the end of the tenth five year plan.

It may be noted that the terms of reference mentions six per cent of GDP, not GNP, as the target of allocation for education. Though given the existing capital base it is GNP that reflects the overall resource deployment capacity of the nation better than GDP, and though it is GNP that was referred to by the Education Commission (1964-66), and also is commonly used in all international comparisons in such a context, the distinction does not make much of a difference for our purpose. Given the terms of reference, we have used GDP in the present report for projections on government expenditure on education in the following years. It may be noted that it will

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not make any significant difference whether we use GNP or GDP as the denominator, even with the magnitude of the huge quantities of resources required, as shown in Table 1.

Secondly, the Committee also considered essentially government expenditure – centre and state. Local bodies spend very little on their own education, and whatever is spent by them are necessarily the grants received from the state governments. Centre-State shares have to be decided mutually by the centre and the states, though generally many seem to argue that better, the union government bears the responsibility for all the additional expenditure. Anyway, both the union government and the state governments will have to raise their allocations to education substantially from the present levels. Thirdly, it is felt that since education is a long term investment, with serious long term implications, a long term plan has to be prepared. Accordingly it is felt that at least a ten year plan, if not a 15- or 20-year plan be prepared in this context, than say until the end of 2011-12, though the later marks conveniently the end of the twelfth five year plan.

### Should We Stop at Six Per Cent?

Though outside the terms of reference the Committee thought it necessary to draw the attention of Government to the point that the six per cent norm, though important as our immediate target, does not have the standing of an independently argued out "natural" upper bound to the rate of growth of public investment in education. The committee felt that the consensus among the economists of education and concerned educationists in general was that emphasis has to be placed in the *short run* on fulfilling the various constitutional and legal commitments that Government has with respect to universalisation of elementary school education of good quality, the consequent social obligation to promote universalisation of secondary education in its wake, and the renewal and the qualitative improvements of

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the existing stock of human capital through investments in the production of high quality teachers in the education system and high quality manpower at all levels of higher education and research.

However, at the same time a longer-term goal must not be lost sight of: It is that of providing for further growth of high quality manpower commensurate with India's growing position in the world economy and the urgent need to keep pace with global developments in all spheres of science and technology. This additional responsibility will involve the total allocation for public spending on education and research to go *well above 6 percent* of the GDP. For example, Seth (1985) had estimated that the corresponding proportion for provision of 'appropriate' education would be ten per cent.<sup>2</sup> Tilak (1994) estimated that to reach even modest goals in education development, allowing normal growth in enrolments in all levels of education, we would require about eight per cent of GNP by 2000 AD.<sup>3</sup> Recent estimates for universal elementary education, made in the context of CABE meetings, suggest that the allocation to elementary education needs nearly to be doubled as a proportion of national income. Rapid growth in elementary education will have effects on demand for secondary education, which will, in turn enhance demand for higher education. Efforts are already being contemplated for initiation for universalisation of secondary education, which would also require stepping of the resources considerably. An enrolment ratio of about 20 per cent. is also being tentatively aimed at in case of higher education for the near future. In short, any exercise that considers these aspects may produce an estimate of resource requirements much above 8-10 per cent of GDP. Further, many of the estimates made so far, have not made any provision for increases in the quality and standards of education to reach

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<sup>2</sup> S.C. Seth: India: *The Next 7000 Days*. New Delhi: Wiley Eastern, 1985.

<sup>3</sup> Jandhyala Tilak: *Resource Requirements of Education in India: Implications for the Twelfth Finance Commission*. New Delhi: NIEPA, 1994.

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international levels of excellence, or of spending per student amounts anywhere equivalent to the levels the developed countries spend. In one such exercise, Bhanoji Rao<sup>4</sup> had estimated that India might require a whopping amount like 25 per cent of GNP, to spend amounts equivalent to what relatively advanced countries like Singapore spend per student on education.<sup>5</sup>

In this connection the Committee felt that though the Education Commission desired the proportion allocated to education in India to be at the levels provided in the developed countries, this could only have been as taking a necessary first step to narrow India's education gap with the developed world. To narrow it substantially in the quality and quantum of education provided at almost any level between India and the advanced countries will obviously need much greater efforts in terms of resources alone. This is because six per cent of GNP in India means in absolute amounts much less than the six per cent of GNP of an educationally advanced rich country like U.S.A., U.K., France, Germany or Japan. Moreover, the differences in size of the target population of India is many times that of almost every other country, which makes it further clear that even an allocation of similar proportions of GNP would not suffice to make the public expenditure per student in India anywhere near that in the developed countries.

Considering all this, as has been stated above, it is important to note that six per cent of national income is the minimum level that is required *now* for public expenditure in the education sector in India, and that the actual requirements would have to be eventually seen as substantially larger in the

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<sup>4</sup> V.V. Bhanoji Rao: A Note on Financing Education: Towards a Strategy for the 1980s and Beyond. *Journal of Educational Planning and Administration* (January 1992): 73-78.

<sup>5</sup> There are also several other studies that estimated the requirements of education sector, which stressed the need for a substantial increase in allocations; they however, have not estimated the requirements as a proportion of national income. See for example, Tilak, "A Note on Resources for Education in India". National Seminar on Financing of Education. Madras: Madras Institute of Development Studies, 1985 (paper prepared for Ministry of Education, Government of India, in the context of the National Policy on Education 1986); and Tilak and Varghese, Resources for Education for All". *Journal of Education and Social Change* 4 (4) (January-March 1991): 24-59 (paper prepared for the Planning Commission in the context of the seventh five year plan.

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future.

### Alternative Scenarios of reaching the Six per cent Goal

Realisation of the six per cent of GDP for education goal requires a substantial raise in the allocations to education. Three alternative scenarios have been worked out here on the magnitude of allocation of resources required to reach the norm of six per cent of GDP to education under alternative assumptions relating to the target year to reach the goal and the path of growth of expenditure on education. During the last decade (1995-96 to 2004-05), GDP has increased at a real rate of growth of 5.81 per cent per annum. But according to the current forecasts of the government, it is likely to increase in future at a rate of growth of seven per cent, if not higher. In fact, some argue that it will be eight per cent or higher. But a seven per cent rate of growth of GDP is assumed for the next decade in this Report, and three scenarios are worked out and the details are given in Table 1.

It may be noted that in the estimates presented below

- a) expenditure on education includes expenditure to be allocated by education and other departments – centre and states.
- b) expenditure on education includes revenue as well as capital expenditure. No distinction between the two is made here, as it is increasingly argued that such a distinction is not useful in our budgetary framework,<sup>6</sup> at least in case of education sector, as even expenditure on capital items like construction of buildings is incurred out of revenue expenditure.
- c) expenditure requirements are estimated in 2004-05 prices (re-

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<sup>6</sup> See, for example, C. Rangarajan: Fiscal Restructuring, Keynote Address, Conference on 'India: Fiscal Policies to Accelerate Economic Growth.' New Delhi: National Institute of Public Finance and Policy/Department for International Development (UK)/World Bank (21-22 May 2001) (mimeo).

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estimated based upon 1993-94 GDP series).

- d) the available data on expenditure on education for 2003-04 and 2004-05 are respectively *revised* and *budget* estimates and are not actual expenditures.
- e) Similarly the data on GDP relating to 2002-03, 2003-04 and 2004-05 used here are *provisional*, *quick* and *advanced* estimates respectively.

	Scenario A		Scenario B		Scenario C	
	Rs crores	% of GDP	Rs crores	% of GDP	Rs crores	% of GDP
<i>Actual</i>						
2004-05 BE	99937	3.52	99937	3.52	99937	3.52
<i>Projections</i>						
2005-06	182206	6.00	118960	3.92	118960	3.92
2006-07	194960	6.00	141604	4.36	141604	4.36
2007-08	208608	6.00	168558	4.85	168558	4.85
2008-09	223210	6.00	200643	5.39	200643	5.39
2009-10	238835	6.00	238835	6.00	238835	6.00
2010-11	255553	6.00	255553	6.00	284297	6.67
2011-12	273442	6.00	273442	6.00	338412	7.43
2012-13	292583	6.00	292583	6.00	402829	8.26
2013-14	313064	6.00	313064	6.00	479506	9.19
2014-15	334978	6.00	334978	6.00	570780	10.22
<i>Required Annual Rate of Growth (%)</i>						
2004-5/14-5	9.62		12.86		19.03	
2004-5/9-10			19.03			
2009-10/14-5			7.00			

Note: See the text for the assumptions of the three Scenarios.

**Scenario A:** According to Scenario A, the government will allocate 6 per cent of GDP to education from 2005-06 onwards, as indicated in the Terms of Reference of the present Committee. It will continue to allocate six per cent

uniformly until 2014-15. In other words, a sudden 'big push' in public funding of education is assumed, which will necessitate preparations on war footing for drawing up of sound plans, formulation of effective schemes, setting-up of mechanisms for their efficient execution, and thereby efficient utilisation of increased allocation of resources. Probably our education system requires such a 'shock treatment'.

**Scenario B:** A sudden increase in, actually nearly doubling of the allocations to education in one year may not be desirable, even if feasible, as questions relating to absorptive capacity of the system arise. Hence this is avoided in Scenarios B and C. According to Scenario B, the Government will raise its allocation to education starting from the present financial year 2005-06, in such a way that the six per cent of GDP goal is reached by 2009-10 and then the government will continue to allocate six per cent of GDP until 2014-15. In other words, the goal is set for reaching by the middle of the eleventh Five Year Plan, and through out the eleventh and even the twelfth five year plan periods, the share of expenditure on education will be uniformly six per cent. In contrast to Scenario A, Scenario B does not involve a 'big push', it gives time to the government to gradually plan to reach the goal and maintain that level for a decade or so thereafter. But the efforts in the form of raising the allocations will be initiated immediately.

**Scenario C:** Like in Scenario B the government will raise its allocation to education under Scenario C gradually in such a way that by the beginning of the eleventh five year plan, it will be six per cent of GDP. But unlike in Scenario B, in the subsequent period, the same tempo, i.e., the rate of growth in expenditure on education planned for the period until the beginning of the eleventh plan, will be continued in the following period. This will make the share of education in GDP to increase steadily (beyond six per cent) from 2011-12 onwards.

All the three scenarios presented here imply a high growth in

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expenditure on education. All suggest that it requires nearly doubling of the resources to reach six per cent of GDP, from the present level. Scenario A expects an annual rate of growth of 9.6 per cent in expenditure on education in real prices, and Scenario C 19 per cent, while Scenario B requires an overall rate of growth of 12.9 per cent – 19 per cent in the first five years, and 7 per cent in the later five years.

If the government wishes to reach the goal of six per cent by the end of the tenth five year plan, i.e., by 2006-07, or by the beginning of the eleventh plan, i.e., by 2007-08, it means a further higher raise in the allocation of resources in the next few years than presented above.

Scenario C should not be seen as an ambitious one. After all, the Education Commission felt that expenditure on education should grow at a rate of growth double to the rate of economic growth. After all, the GDP is set to grow at 7-8 per cent per annum, and using the thumb rule, one should expect a 16 per cent rate of growth in expenditure on education. The expected rate of growth in Scenario C is a little more than this. Hence Scenario C may seem to be the most desirable approach, though it seems as if the goal of reaching six per cent of GDP is postponed. In fact, the goal is not postponed, as the Scenario C assumes that efforts will be made right from this year towards reaching progressively the six per cent goal by 2009-10. It further assumes that the rate of growth in expenditure on education planned for the period until 2009-10 will continue in the later period also, thus allowing the proportion of GDP to be spent on education to grow above six per cent. By 2014-15, this might cross tent per cent. If the trends continue, this proportion will further rise. We feel that if the GDP grows faster than anticipated (seven per cent), and if the needs of the education system are reasonably fulfilled, this proportion need not continue to grow at the same rate for a long period. In fact, the proportion of GDP that has to be allocated to education can get stabilized around 8-10 per cent. It all, however, depends upon the

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performance of the education system and of the economy.

### *Intra-Sectoral Allocation of Resources*

In the recent years, it was promised that about half the allocation of education would be made available for elementary education, which means that the remaining half would be available to post elementary education. The CAFE Committee on Financing Higher and Technical Education suggested that of the agreed six per cent of GDP to education, three per cent be allocated to elementary education, 1.5 per cent to secondary education, one per cent to higher general education and 0.5 per cent to higher technical education. These mark significant improvement over the current situation. In 2004-05, elementary education received 1.43 per cent of GDP, secondary education 0.88 per cent, higher general education 0.34 per cent and technical education 0.03 per cent. Following the recommendations of the CAFE Committee, which can be used as thumb rules for the time being, the following can be worked out as a tentative indicative intra-sectoral allocation of resources within education.

The indicative pattern given in the table does not include quite a few other expenditure heads like adult education, physical education, language and development, etc. The present levels of allocations to these categories are very small, and they can be easily adjusted in the above structure.

Under the three scenarios, allocations to every level of education are expected to be hiked at a high rate. Under Scenario C, which is argued to be the most desirable one, and also under Scenario B, by 2009-10, i.e., when six per cent GDP is allocated to education, the allocation to elementary education will be 2.5 times higher the present allocation, that of secondary education by more than 2 times, and higher education by nearly five times.

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	Elementary	Secondary	Higher		
			Total	General	Technical
2004-05 BE+ Actual	40587	24990	10383	9562	820
<i>Projections</i>					
<i>Scenario A</i>					
2005-06	91103	45552	45552	30064	15488
2006-07	97480	48740	48740	32168	16572
2007-08	104304	52152	52152	34420	17732
2008-09	111605	55803	55803	36830	18973
2009-10	119417	59709	59709	39408	20301
2010-11	127777	63888	63888	42166	21722
2011-12	136721	68361	68361	45118	23243
2012-13	146292	73146	73146	48276	24870
2013-14	156532	78266	78266	51656	26610
2014-15	167489	83745	83745	55271	28473
<i>Scenario B</i>					
2005-06	59480	29740	29740	19628	10112
2006-07	70802	35401	35401	23365	12036
2007-08	84279	42140	42140	27812	14327
2008-09	100321	50161	50161	33106	17055
2009-10	119417	59709	59709	39408	20301
2010-11	127777	63888	63888	42166	21722
2011-12	136721	68361	68361	45118	23243
2012-13	146292	73146	73146	48276	24870
2013-14	156532	78266	78266	51656	26610
2014-15	167489	83745	83745	55271	28473
<i>Scenario C</i>					
2005-06	59480	29740	29740	19628	10112
2006-07	70802	35401	35401	23365	12036
2007-08	84279	42140	42140	27812	14327
2008-09	100321	50161	50161	33106	17055
2009-10	119417	59709	59709	39408	20301
2010-11	142148	71074	71074	46909	24165
2011-12	169206	84603	84603	55838	28765
2012-13	201414	100707	100707	66467	34240
2013-14	239753	119877	119877	79119	40758
2014-15	285390	142695	142695	94179	48516

Note: \* Revenue expenditure only.



The increase in higher education seems to be particularly high, as the allocation to higher education in the base year (of our comparison), 2004-05 is very low. It is well known that allocations to higher education suffered severely both in absolute amounts and in relative proportions during the 1990s and later, creating a huge backlog in investments in higher education reflected in the form of thousands of vacant teaching positions, and poor infrastructure in several universities, colleges and other institutions of higher education. The 12 times increase in allocations to technical education will also be justified, given the huge backlog of public investment in this sector on the one hand, and the increasing demand for professional and technical education on the other.

However, the suggested intra-sectoral pattern should not be taken as an inflexible one. They should be taken more as indicative. It may hold good probably for the next five years, and it need not be held rigidly for the next decade as a whole. If significant progress is achieved in elementary education, and if it results in rapid growth in demand for secondary and higher education as one may rightly expect, the suggested distribution may have to be altered, say after the first five years, i.e., from 2010-11 onwards, first in favour secondary and later higher education. Or if additional investments for improvement in quality of school education are required, the distribution may marginally be altered in favour of elementary or secondary education. However, the rapid demographic transition that is taking place in many states in India resulting in declining growth in primary school going age children, may not necessitate this. In fact, these states may save resources in primary education, and may have to reallocate their resources from quantitative expansion towards improvement in quality in primary education.

## **Concluding Observations**

Before we conclude, a few important issues may have to be emphasized:

The recommended allocations presuppose formulation of proper plans, formulation of proper schemes, and setting up proper mechanisms of spending the resources efficiently. In the absence of fulfillment of such prerequisites, increased allocation of resources may lead to wasteful spending, or misuse of resources. In short, the absorptive capacity of the system has to be raised.

Secondly, the recommended allocations need to be complemented by investments from other sectors. Some of these complementary investments fall outside the education sector. For example, it is not enough if schools are set up to attract girl children in rural and even in urban areas to schools. Complementary investments in the form of setting up proper security mechanisms for girl children on roads, street lighting, transport, etc., are important. Similarly, unless the child labour laws are effectively implemented, parents may still continue to opt to send their children to work than to schools. Sustainable mechanisms of rehabilitation of children withdrawn from work and to allow them to enter and continue in schools have to be developed. Obviously these are not investments in education, but are necessary complementary investments for education investments to be effective.

Thirdly, we wish to reiterate that the suggested levels of expenditure and the proportion of GDP have to be made available from government resources – centre and the states, and that they are not inclusive of any contributions from the private sector, community in general and students and parents in particular.

We recognise that it will require stupendous efforts on the part of

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government to raise the allocations to the estimated levels as mentioned above, but it is not a very difficult task. Allocations to education can be increased either (i) by reallocating resources from other sectors, or (ii) by raising more resources by the government for common pool of resources or specifically for education sector, or (iii) by both. Reallocation of resources from other sectors should not be viewed as if it takes place *at the cost of* other sectors; after all almost all other sectors are beneficiaries of the investments made in education, in terms of availability of the graduates the education sector produces. Hence a generous approach needs to be adopted in allocation to and reallocation of resources in favour of education. Secondly, government's resource base can be increased by improving the system of taxation – taxes, tax structure and tax collection. Presently the tax/GDP ratio is around 15 per cent (2003-04), almost same as in 1990-91, and this may have to be raised.<sup>7</sup> In many developed countries, the corresponding ratio, based on central government tax revenues alone is much higher: 24 per cent in Australia, 27 per cent in UK, 28 per cent in Norway, and 30 per cent in Denmark, New Zealand (in 2003).<sup>8</sup>

It is well known that the continuance of illiteracy on a large scale in the adult population and the large numbers of children still outside school along with the high rates of dropout and the low rates of success in schools (and colleges) - all resulted in very low levels of the average effective years of schooling of the population in our workforce. The severe inadequacy in quality and quantity of human capital (in the shape of teachers and educational administrators) and of the physical infrastructure, the wide and glaring rural-urban, inter-state and intra-state inequalities in levels of educational attainment, along with the low levels of the quality of educational output – all have lent thrust to the current demand for a

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*Public Finance statistics 2003-04.* New Delhi: Ministry of Finance.

*World Development Indicators, 2005.* Washington DC: World Bank.

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continued "liberal approach" to the question of state funding of education in India.

To conclude, the Committee notes that in this context there is a basic need to redefine the approach to assessing the need for public funding of education in India. Apart from accepting the right to education as a basic human right under the Constitution as interpreted by the highest judiciary in the country, the state has to recognize unambiguously that in India education serves today as a public good at almost all levels, producing huge externalities. It has always been an important instrument for levelling social status, and for empowering the weaker sections by providing occupational, social and economic upward mobility through directly and qualitatively improving the productivity of the workforce. All in all, investment in education has become, for the India of the twenty-first century, the most crucial component of investments in human development as a whole - in fact, the most credible means at its disposal for emerging quickly as a globally important Knowledge Power.

## **Annexes**

### **Notes/Submissions made by Members of the Committee**

1. **Jandhyala B G Tilak: Background of The Six Per Cent Goal and India's Progress Towards It**
2. **Jayati Ghosh: Note on Increasing Public Expenditure on Education**
3. **R Govndia: Building and Sustaining a Quality Education System**
4. **Office memorandum (Ministry of Human Resource Development, dated 3<sup>rd</sup> October 2005)**

## *Annex 1*

### **Background of the Six Per Cent Goal and India's Progress Towards It**

**Jandhyala B G Tilak**

How much should India invest in education as a proportion of her national income? It is well known that our education system is severely starved of funds, and that it does require huge sums, even much above six per cent of the gross domestic product, for quantitative expansion, for improvement in quality, for improvement in equity, for strengthening diversity and other vital aspects of educational development. Many estimates have been made on the resource requirements of the system. Long ago, the Education Commission (1964-66) (chaired by Professor D S Kothari) had recommended in 1966 that we should allocate six per cent of national income to education. But the goal remained unfulfilled. The Common Minimum Programme of the UPA Government "pledges to raise public spending in education to at least 6% of the GDP" and that "This will be done in a phased manner." Though there is nothing new in it, it is an important reiteration of the government. A detailed plan is necessary on the needed annual increases in allocation of resources to reach this goal,

The Education Commission had recommended six per cent of national income to education. The Commission made a detailed analysis of the past trends since independence and estimated requirements of the educational system in India up to 1985-86, and recommended that "we should accord the highest priority to education and allocate the largest proportion of GNP possible to it" (p. 873), and suggested, based on certain not altogether unrealistic assumptions regarding economic growth, population growth, growth in enrolments, and expenditure per student, that this proportion should be six per cent. The Commission also compared this estimate with the corresponding figures of other countries, available in the UNESCO statistics: "Japan and the

USA and the USSR are spending considerably more than 6% of GNP on education" (p.860); they spent no more than a small fraction of their GNP on education at the beginning of the century. The Commission also felt that these countries might be spending about ten per cent of GNP by 1986, and in fact more than ten per cent, if comprehensive disarmament takes place. Hence the need for India to increase its public expenditure at least to the level of six per cent of GNP by 1985-86.

Thus the six per cent target suggested by the Education Commission is based on the following considerations (p. 873):

- The requirements of the system for the next twenty years
- Economically advanced countries like Japan, USA and USSR were spending more than six per cent of their GNP on education. These countries spent no more than a small fraction of their GNP on education at the beginning of the century. Further, these countries might be spending about 10 per cent of GNP by 1986, and in fact more than 10 per cent, if comprehensive disarmament takes place. The gap between India and other rich countries needs to be reduced.
- Normally expenditure on education should grow at a rate of growth double to the rate of economic growth in the early stages of educational development. But the Education Commission set a modest target of 10 per cent growth in educational expenditure, compared to six per cent rate of economic growth.

Thus the Commission felt that the target of the six per cent of GNP not at all an 'ambitious one'. Methodological, including conceptual and definitional aspects of educational expenditure and the details of the analysis and the targets of the Education Commission are unambiguously clear. The rationale provided by the Commission for its recommendation was also sound and the Commission also gave enough time to the government for reaching the goal, providing a twenty year period.

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Of the several recommendations made by the Kothari Commission, the six per cent of national income is one that the Government of India has accepted and it resolved in the *National Policy on Education 1968* "to increase the investment in education so as to reach a level of expenditure of 6 per cent of the national income as early as possible" (p. 9).

But what has been the performance over the years?

### The Performance

At the inception of planning (1951-52) India was spending 0.6 per cent of GNP, and by 2004-05 (budget estimates) it increased to 3.5 per cent. Even though the growth is not smooth, this is indeed a remarkable increase. But the goal has not been achieved not only by the date suggested by the Kothari Commission but also even twenty years later, as shown in Table 1.

Share of Government Expenditure on Education in GNP (%)	
1951-52	0.67
1965-66	1.82
1985-86	3.71
1989-90	4.21
1999-2000	4.30
2000-01	4.40
2001-02	3.90
2002-03	3.83
2003-04RE	3.81
2004-05BE	3.54

Note: Expenditure on education includes central and state government budget expenditure under revenue, capital and loan accounts on education incurred by education and other departments.  
RE: Revised estimate; BE: Budget estimate  
Source: Based on *Budgetary Resources for Education 1951-52 to 1993-94, Analysis of Budget Expenditure on Education and Economic Survey 2004-05*.



After crossing the four per cent mark in 1989-90, just about the time the new economic reform policies were to be introduced, the proportion slid down below four per cent in the following years -- to 3.9 per cent in 1991-92 and to 3.6 per cent by 1997-98. There was a modest increase later and again at the beginning of the present century (2000-01), it was above four per cent; but the four per cent level could not be sustained in the following years. The current ratio is the lowest since 1985-86, i.e., after the National Policy on Education 1986 was formulated that reiterated the fulfillment the goal!

It also needs to be underlined that the current proportion is also less than

- (a) the requirements of the education system to provide reasonable levels of quality education to all the students enrolled presently,
- (b) the requirements of the system to provide free and compulsory universal elementary education of good quality of eight years for every child of the age-group 6-14, as a fundamental right, as proclaimed in the 86<sup>th</sup> amendment of the Constitution of India in 2002, and the consequent growth in secondary and higher education,
- (c) the proportion of GNP invested in education in many other developing, leave alone developed, countries of the world, including Africa. According to the latest statistics, India ranks 80<sup>th</sup> among 130 countries of the world on which such data are available, in the proportion of GDP spent on education in 2000-02.<sup>1</sup>

As the goal remained unaccomplished, the *National Policy on Education 1986* (revised in 1992) also resolved, "It will be ensured that from the Eighth Five Year Plan onwards it (the *outlay* on education) will uniformly exceed to 6 per cent of the National income" (p. 29). The under accomplishment of the goal led the government to repeatedly reiterate the commitment in subsequent years in every five year plan, in every policy statement, party manifestos and other

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<sup>1</sup> *Human Development Report 2005*. New York: UNDP.

agenda, and even in the Independence Day speeches of the Prime Minister from the ramparts of the Red Fort.

The under achievement of the goal set by the Education Commission, or in simple terms the under investments in education is regarded as one of the most important reasons for our failure in realising many of our educational goals and targets, such as those relating to (i) universal adult literacy, (ii) universal elementary education including universal enrolment, universal completion of eight years of schooling, and universal achievement of minimum levels of learning, (iii) vocationalisation of secondary education, (iv) maintenance of, if not improvement in quality and standards in higher education, (v) reduction in regional disparities, and (vi) equity by gender, and other socioeconomic groups of population. Even nearly six decades after independence, unacceptably large numbers of people are illiterate; large numbers of children are yet to see a school; and socioeconomic, gender and regional inequalities in education are still very wide. The failure in reaching the educational goals also resulted in under accomplishment with respect to socioeconomic, cultural and political transformation of the society, leaving the country to continue to be labeled as an 'under developed' or as a 'developing' nation. International forecasts<sup>2</sup> still describe the nation as one that will not reach the EFA goals or the Millennium Development Goals in the near future and group India along with countries in Sub-Saharan Africa.

### **Unnecessary Controversies**

The failure to allocate six per cent of GNP to education, and thereby reach the goal set by the Kothari Commission long ago is not so much surprising as are the attempts made to subvert the definition and scope of the terms, to mis-interpret the letter and the spirit of the recommendation of the

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<sup>2</sup> E.g., *Education for All: Global Monitoring Report 2004*, Paris: UNESCO, 2004; and *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*, New York: UN, 2005.

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Education Commission, and the resolution of the *National Policy on Education 1968*, to misinterpret the facts, quantitatively under-define the goals, and state that the six per cent of national income should consist of not just government expenditure, but government and all private expenditure including family expenditure on education and private sector expenditure, and even to show that as the goal is already over-achieved, it becomes redundant, and that it does not deserve any more attention. Such attempts<sup>3</sup> deliberately ignore the fact that the Kothari Commission had referred mainly to public expenditure, the UNESCO and other international statistics that the Kothari Commission used as a base for comparison also refer to government expenditure only, and the recommendations made by the UNESCO, UNDP, the Delors Commission etc., in subsequent years refer to government expenditure only. More importantly these attempts also diverted the public attention from the very need to substantially increase the public allocations to education to realise the educational goals and quantitative targets periodically set and revised by the government.

Now of course the government seems to be somewhat clear about it and also seems to be showing some seriousness of achieving the six per cent goal. The goal earlier set for accomplishment by the end of the tenth five year plan, is, according to the Common Minimum Programme of the UPA Government, to "be done in a phased manner;" and no clear date is fixed. But the interesting point is that while in the recent years, as stated above, attempts have been made by the government to interpret the goal to refer to total (public and private) expenditure, the Common Minimum Programme makes it clear that it will be "public spending," meaning that it will be the budget expenditure of the union and state governments.

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<sup>3</sup> See for example, among other, M.R. Kolhatkar, Education Expenditure in India in Relation to National Income (1980-88): Trends and Implications, *Journal of Education and Social Change* Vol.2 no. 2 (1988) (also circulated as a paper from the Planning Commission); the *Economic Survey 1998-99* (p.150); and the *Draft Ninth Five Year Plan* (Vol.II, p.101). See, for a comment, Jandhyala Tilak, National Human Development Initiative: Education in the Union Budget, *Economic and Political Weekly* (1999 March 6).

## The Gloomy Future

What are the chances of achieving the six per cent of the GNP goal in the near future? How do the forecasts look like?

As shown earlier in Table 1, the past trends have not been encouraging. In nearly forty years after the Education Commission made the recommendation, the proportion of GNP could not even be doubled: it increased from 1.8 per cent in 1965-66 to 3.5 per cent in 2004-05. Projections for the future are also not encouraging; the goal may continue to be elusive. It is feared that unless significant efforts are made, the target would remain far and farther away from realisation in the near future, as the trends in Table 2 indicate.

<b>Likely Trends in the Share of Education Expenditure in GNP/GDP</b>				
	% of GNP		% of GDP	
	Scenario A	Scenario B	Scenario A	Scenario B
Actual				
2004-05 BE	3.54	3.54	3.52	3.52
Projections				
2005-06	3.55	3.52	3.54	3.50
2006-07	3.57	3.49	3.55	3.47
2007-08	3.58	3.47	3.56	3.44
2008-09	3.59	3.44	3.58	3.42
2009-10	3.60	3.42	3.59	3.39
2010-11	3.61	3.39	3.60	3.37
2011-12	3.62	3.37	3.62	3.34
2012-13	3.63	3.34	3.63	3.32
2013-14	3.64	3.32	3.64	3.29
2014-15	3.65	3.29	3.65	3.27
<b>Growth rates assumed</b>				
<i>Scenario A:</i> the trends of the last decade (1995-96—2004-05) continue, i.e., the realised rates of growth to continue. GNP: 5.89%; GDP: 5.81%; Expenditure on Education: 6.22%				
<i>Scenario B:</i> GNP: 7%; Expenditure on Education: 6.22%				

If the trends in the rates of growth in national income and in expenditure on education experienced in the past decade, 1995-96 to 2004-05, continue for a decade more, one may note that by the end of the next decade, i.e., by 2014-15, the share of education expenditure in GNP will increase at best to 3.65 per cent, which is only marginally better than the present position. On the other hand, if GNP increases at an annual rate of growth of seven per cent, as expected by the government, but if the expenditure on education increases only at a rate of growth experienced during the last decade, the relative share of education will be only 3.3 per cent by 2014-15, falling below the current level, which itself marks the lowest level ever since the National Policy on Education 1986 was formulated. The corresponding ratios in 2014-15 are marginally smaller, if GDP is used as the denominator, in stead of GNP. It is generally feared that either of the above two scenarios is most likely, keeping the six per cent goal far away from realisation, unless very special efforts are immediately initiated and significant increases are made in the allocation of resources to education.

### **Alternative Estimates**

If the government is serious about realising the goal, it has to substantially raise the allocations to education. Five alternative plans are worked out here on the magnitude of allocation of resources required to reach the norm of six per cent of GNP to education under alternative assumptions relating to (a) growth in GDP, (b) target year to reach the goal.

It may also be noted that the six per cent norm, though important, does not have much sanctity on its own. It assumes importance mainly as the goal remained unaccomplished so far, it is otherwise feared to be unaccomplished in the near future, and allocation of six per cent of GDP now means a substantial increase in, nearly doubling of the allocation to education sector from the current levels, as shown later below. The six per cent norm also does not have much sanctity, as the estimate was made long ago by the Education Commission, as

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the requirement of the education system, based on somewhat austere estimates of growth in enrolments, per student expenditure and other parameters. The austere estimates and assumptions may not be much relevant today. Accordingly, any fresh exercises of requirement of resources for education sector may mean much above six per cent of GDP.<sup>4</sup>

It may be noted that GNP is used as the denominator, and not GDP in the present report, as it is GNP that reflects the overall economic capacity of the nation better than GDP, and also it is GNP that is used mostly in the international comparisons in such a context. Government expenditure – centre and state – is considered essentially, as one. After all, local bodies spend very little on their own education, and whatever is spent by them are necessarily the grants received from the state governments. Thirdly, it is felt that at least a ten year plan may be prepared in this context, than say until the end of 2011-12, though the later marks conveniently the end of the twelfth five year plan.

The alternatives are given in a tabular form.

It may be noted that in the estimates presented below

- (a) expenditure on education includes expenditure to be allocated by education and other departments – centre and states.
- (b) expenditure on education includes revenue as well as capital expenditure. No distinction between the two is made here, as it is increasingly argued that such a distinction is not useful in our budgetary framework,<sup>5</sup> at least in case of education sector, as even expenditure on capital items like construction of buildings is incurred out of revenue expenditure.
- (c) expenditure requirements are estimated in 2004-05 prices (re-estimated based upon 1993-94 GDP series)

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<sup>4</sup> See e.g., Tilak (1985), Tilak (1994), Rao (1992).

<sup>5</sup> See, for example, C. Rangarajan (2001).

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(d) the available data on expenditure on education for 2003-04 and 2004-05 are revised and budget estimates and are not actual expenditures.

(e) Similarly the data on GNP relating to 2002-03, 2003-04 and 2004-05 used here are provisional, quick and advanced estimates respectively.

As described at the end of the table, the assumptions involved under the five alternative Alternatives are as follows:

**Alternative 1:** The real rate of growth of GNP during the last decade (1995-96 to 2004-05) has been 5.89 per cent; it is assumed that this will continue. The Government will raise its allocation to education in the present financial year 2005-06, to reach six per cent of GNP, and this proportion will be maintained in the following years for a decade.

**Alternative 2:** According to the latest estimates by the government, the rate of growth of GNP is above 7 per cent, and it is assumed the economy will grow at the same rate in the following years. The Government will raise its allocation to education in the present financial year 2005-06, to reach six per cent of GNP, and this proportion will be maintained in the following years at least for a decade.

**Alternative 3:** The GNP may grow at 7 per cent annually, the expenditure on education will continue to increase only at 6.22 per cent rate of growth, as experienced in the past decade, until 2006-07. The Government will raise its allocation to education to reach six per cent from the beginning of the eleventh five year plan, and will maintain the same ratio during the period under study, i.e., from 2007-08 to 2014-15. This means that the relative share of education in GNP will actually decline in the next three years, i.e., up to 2006-07, and will fall below 3.5 per cent; and later it will be 6 per cent.

**Alternative 4:** The government will raise its allocation to education gradually in such a way that by the end of the tenth five year plan, it will be six per cent of GNP and the same six per cent ratio will be maintained thereafter. The economy will grow at 7 per cent rate of growth.

**Alternative 5:** It is similar to Alternative 4 until the end of the tenth five year

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plan. But in the subsequent period, the same tempo, i.e., the rate of growth in expenditure on education planned for the period until the end of the tenth plan will continue in the following period. This will make the share of education in GNP to increase steadily (beyond six per cent). This is perhaps the most desirable one.

Table 3

**Required Allocations to Education under Alternative Assumptions to Reach the Goal of Six Per cent GNP**  
**Rs in crores in 2004-05 prices**

Alternatives	1		2		3		4		5	
	Rs crores	% of GNP	Rs crores	% of GNP	Rs crores	% of GNP	Rs crores	% of GNP	Rs crores	% of GNP
<b>Actual</b>										
2004-05 BE	99937	3.54	99937	3.54	99937	3.54	99937	3.54	99937	3.54
<b>Projections</b>										
2005-06	179182	6.00	181050	6.00	106156	3.52	118808	3.94	118808	3.94
2006-07	189747	6.00	193724	6.00	112762	3.49	141244	4.37	141244	4.37
2007-08	200934	6.00	207285	6.00	207285	6.00	167915	4.86	167915	4.86
2008-09	212781	6.00	221794	6.00	221794	6.00	199624	5.40	199624	5.40
2009-10	225326	6.00	237320	6.00	237320	6.00	237320	6.00	237320	6.00
2010-11	238611	6.00	253933	6.00	253933	6.00	253933	6.00	282135	6.67
2011-12	252679	6.00	271708	6.00	271708	6.00	271708	6.00	335412	7.41
2012-13	267577	6.00	290727	6.00	290727	6.00	290727	6.00	398750	8.23
2013-14	283353	6.00	311078	6.00	311078	6.00	311078	6.00	426662	8.23
2014-15	300059	6.00	332854	6.00	332854	6.00	332854	6.00	507231	9.14
<b>Required Annual Rate of Growth (%)</b>										
2004-5/14-5	8.46		9.59		13.40		12.79		17.86	
2004-5/9-10							18.88		18.88	
1009-10/14-5							7.00		16.06	
2004-5/06-7					6.22					
2006-7/14-15					10.93					
<p>Alternative 1 : Target Date: 2005-06 GNP grows at the rate of growth experienced between 1995-96/2004-05; Education sector is allocated 6% of GNP.</p> <p>Alternative 2 : Target Date: 2005-06 GNP grows at 7% and 6% of GNP is allocated to education</p> <p>Alternative 3 : Target Date: 2007-08 GNP grows at 7%; expenditure on education continues the old trend until 2006-07, and then 6% is allocated</p> <p>Alternative 4 : Target Date: 2009-10 GNP increases at 7%; %GNP for education increases gradually to 6% by 2009-10 and then continues at the same level of 6%</p> <p>Alternative 5 : Target Date: 2009-10 GNP grows at 7%; %GNP for education increases to 6 by 2009-10 and continues the tempo later (to grow beyond 6%)</p>										



It is also clear from the table that it requires nearly doubling of the resources to reach six per cent, from the present level. Alternatives 1 and 2 require a sudden jump, a big push in public expenditure.

Implications by levels of education (tables under different alternatives follow).<sup>6</sup>

Basically there is a need to change the approach to funding education. It has to be recognised that it is a public good, producing a huge set of externalities, a merit good, a basic human right, an important instrument of socio-economic equity, providing occupational, social and economic mobility to the weaker sections of the society, and an important investment producing significant economic effects, besides being an important investment in human development as a whole. Further, the large numbers of illiterate population, large numbers of children outside school, low enrolment ratios in secondary and higher education, high rates of dropout and low rates of success – which in all result in very low levels of mean years of schooling of our population and of our workforce, the severe inadequacy of human (teachers) and physical infrastructure in our schools and institutions of higher education, wide and glaring seriocomic, rural-urban, inter-state and intra-state inequalities in levels of educational attainment, and low levels of quality of educational output – lend additional thrust on the need for a liberal approach to state funding of education. As the Education Commission (1966, p. 892) warned *“In an age of science, there can be no greater risk than a policy of drift and niggardliness in education...”*

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<sup>6</sup> Not attached here.

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## Annex 2

### Note on Increasing Public Expenditure on Education to 6 Per Cent of GDP\*

Jayati Ghosh

2 November 2005

(Note for Tapas Majumdar Committee set up by MHRD)

The UPA government's commitment to increasing the share of public spending on education to 6 per cent of GDP has been expressed in the National Common Minimum Programme. This is a very important commitment, especially given the huge shortfalls in good quality education to the population, and has clear implications for future growth as well. It could be argued that, given the current levels of public spending on education (at 3.2 per cent of GDP) and the international average of such spending (at 5 per cent of GDP), this is a very high figure to aim at, with unnecessary ambition at the current juncture given the known fiscal constraints and low prevailing tax-GDP ratios. However, it can be argued that given the inadequate state of education in the country, it may even be necessary to aim at a higher proportion than 6 per cent. In any case, there are several reasons why this is both a necessary and desirable goal for the medium term.

- Quite apart from its social and economic effects, education must be seen as a basic human right, which is recognised in the Universal Declaration on Human Rights but which has still not been made available to all citizens of India. In fact, the government of India has still failed to meet the commitment made in the Constitution at the time of constituting the Republic more than five decades ago, of providing universal primary education to all our children.
- Not only is an unacceptably large proportion of our population still illiterate, but the gaps in provision of education are huge at all levels. There is major excess demand for quality public education, ranging from pre-school and elementary schooling to higher education, technical training and professional courses.
- It is well known and now widely accepted that investment in education is critically important for the future economic growth and social cohesiveness of society. Many of the potential payoffs to society from various types of public investment in education are not immediately

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\* Published as "Increasing Public Expenditure on Education" by C.P. Chandrasekhar and Jayati Ghoshi, in *Business Line* (8 November 2005)

apparent but are nevertheless very important. (For example, the much hyped software boom itself reflects at least partly the earlier public investment in IITs.) Further, there are huge advantages to society in having the general level of education in society improve, not only because the quality of the workforce improves, but because various other aspects such as health, nutrition and sanitation are positively affected, and also because educated citizens can be more effective participants in a democratic civil society.

- It is obvious in theory and evident in practice that this is one area in which relying on private provision will lead to very substantial under-provision and socially suboptimal outcomes, because the social returns to education far outweigh the private returns. Relying on private profitability to determine investment in this area, even in higher education, is socially inefficient and does not ensure future knowledge needs, which must necessarily be determined not just according to current market considerations but through some sort of plan-based assessment of the likely future requirements of society. In any case, profit-based provision of education typically excludes a major part of the population and does not ensure either merit or adequate representation by gender, class or social group, making it undemocratic in content. This is not to deny the usefulness of private investment, but simply to state that this cannot replace public expenditure in this area.
- While public spending on education typically tends to increase with per capita GDP, this is not the inevitable pattern and can be influenced by public policy attitudes. In fact several developing countries that have made very substantial public investment in education, have subsequently reaped the benefits in terms of faster and more broad-based growth. Thus, in some countries of East Asia, public spending on education had increased to as much as 8-10 per cent of GDP during the 1980s and first half of the 1990s, allowing these countries not only to improve the quality of their workforce dramatically, but also subsequently to take advantage of this to promote economic activities that involve moving up the international value chain.

### *Current levels of public education spending*

Although education is a concurrent subject in the Constitution, at present the bulk of public education spending is undertaken by the State Governments. Within this, most is on revenue expenditure, of which the largest single item is salary payments. Table 1 indicates the level of total public spending on education by Centre and States in 2004-05. This is dominated by spending of the Education Departments at Centre and State level, but also includes expenditure on

education made by 30 other government departments.

Table 1: Government expenditure on education, 2004-05

	Revenue expenditure	Capital Expenditure	Total expenditure
Centre (Rs. Crore)	19,141	Neg.	19,141
Centre (per cent of GDP)	0.62	Neg.	0.62
States (Rs. Crore)	79,913	866	80,796
States (per cent of GDP)	2.57	0.03	2.6
Total (Rs. Crore)	99,055	866	99,937
Total (per cent of GDP)	3.19	0.03	3.22

Source: Analysis of Budgeted Expenditure on Education, 2002-03 to 2004-05, MHRD

The very low extent of capital spending is worth noting, especially given the very large infrastructure gaps in the country. There are still large numbers of villages and urban settlements without government schools in the approachable vicinity, as noted below. There is also substantial overcrowding in existing schools. Around 18 per cent of rural primary schools still do not have any building, and another 20 per cent function out of only one room, which would clearly affect both the quality and effectiveness of teaching in such schools. The inadequacy of other basic infrastructure (separate toilets for girls and boys, clean drinking water supply, electrical fittings and fans, etc.) not to mention advanced teaching aids including computers, is also well-established not only for many primary schools but also for a substantial proportion of secondary schools and institutions of higher learning. Clearly, in the initial phases of increased public spending on education, there is therefore a strong case for increased capital expenditure particularly to meet these very obvious requirements.

As Table 2 indicates, the bulk of public spending is directed to elementary education, the revenue expenditure on which accounts for more than 40 per cent of all public spending on education. However, even in this area, the current availability is far below need, and there are important issues of poor quality some of which also stem simply from inadequacy of resources. However, it should be noted that this distribution of public spending is unlike many middle-income developing countries which place a larger proportion of public resources on higher and technical education. In the urge to ensure universal and compulsory primary education (which is an essential goal) the importance of

increasing public investment in technical and higher education must not be ignored.

Table 2: Revenue expenditure of Education Departments, 2004-05

(Centre and States)	Rs. crore	Per cent of total public education spending	Per cent of GDP
Elementary education	40,586.19	40.61	1.43
Secondary education	24,990.48	25	0.88
Adult education	410.72	0.41	0.01
Language development	464.87	0.47	0.02
University and higher education	9,562.19	9.57	0.34
Technical education	3,387.25	3.39	0.12
General education	820.44	0.82	0.03
Physical education	64.73	0.6	0.002
Total	80,286.87	80.34	2.84

Source: Analysis of Budgeted Expenditure on Education, 2002-03 to 2004-05, MHRD, and CSO National Accounts Statistics

### *Implications of increasing public spending to desired ratio of GDP*

The stated goal of the Government would imply a near doubling of the current education expenditure as a share of GDP. Obviously, this cannot occur within one year, as there is also the question of absorptive capacity. If we suppose that the share increases gradually (as defined below) rather than immediately, and that nominal GDP (at market prices) increases at 12 per cent per annum as the Planning Commission has projected, then we get the following total amounts.

Table 3: Projected increases in public education expenditure

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
GDP	3105,512	3478,173	3895,554	4363,020	4886,583	5472,973	6129,730
Education spending as % of GDP	3.5	4	4.5	5	5.5	6	6
Education spending in Rs. crore	99,937	139,127	175,300	218,151	268,762	328,378	367,784

Note: Projection of GDP at current market prices.

Currently, as indicated in Table 1, capital expenditure is only 0.87 per cent of total public spending on education. However, the gaps in physical infrastructure which can only be met with increased capital spending are very large. Therefore in the initial phases of the expansion, a greater proportion of resources must be devoted to capital expenditure, which could then taper off (still to a higher proportion than currently) over time. Then we get the following division of resources, described in Table 4. Obviously the bulk of these resources (around 80 per cent as is currently the case) must be devolved to States.

**Table 4: Projected increases in capital and revenue expenditure**

	2004-5	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
% share of capital spending in total	0.87	0.9	6	5	4	3	2
Projected capital expenditure	869	1,252	10,518	10,908	10,750	9,851	7,356
Projected revenue expenditure	99,068	137,875	164,782	207,244	258,012	318,527	360,428

The share of this expenditure to be allocated to different heads must be based on various criteria, which include:

- the immediate need to fulfil certain constitutional and legal norms and obligations, including for child care (Supreme Court ICDS judgements), universal access to education (Right to Schooling legislation) and school meals provision (Supreme Court judgements), etc.
- the assessment of physical requirement for education infrastructure based on existing gaps, such as ensuring pre-primary and primary schools in every village, access to secondary schools within 5 km of habitation, etc.
- the projection of changing demographic structure and the consequent increase in age-cohorts requiring schooling at various levels.
- the need to ensure adequate access to higher education to reach at least the minimum norm of 8 per cent of population of relevant age group (15-24 years), and preferably the international norm of 15 per cent (the current ratio in India is 3 per cent).
- the perceived social requirement for various types of technical and professional skills in the country in future.

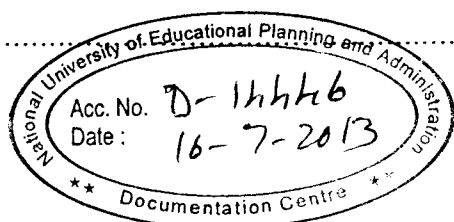
- the need to ensure at least some world class institutions of higher education and learning with international quality of physical and intellectual resources.

### *Legal obligations of the Government*

The most pressing immediate legal obligation relates to providing mid-day meals in primary schools. The cost of this at existing rates, for 2006-07 has been estimated at Rs. 3452 crore. However, this is based on the existing number of schools and does not take into account either the need to increase the number of schools and school-going children so as to provide education for all, or the need to repay arrears to FCI for past food disbursement. Therefore the actual number may be closer to Rs. 5000 crore required per annum at current prices.

The need to ensure universal schooling facilities at least at elementary level, followed by eventual fulfilment of the norm of 9 years schooling as envisaged in the Right to Education Bill, will require very large increases in physical infrastructure are described below. In addition there will be need for substantial increase in teaching staff and making available pedagogic material, newly developed and in translation. Currently only 56 per cent of children in the age group 5-9 years are attending school, according to the Census. Ensuring that all such children are in school will require a near doubling of existing teaching staff. Since in any case existing schools are understaffed and teacher-student ratios are very low, an actual doubling of teaching staff may be required to meet the national norm of 1 teacher per 40 students that GoI has declared to UNESCO. In addition, in several states, there is a dual system of elementary education, with "parallel schools" operating under Sarva Shiksha Abhiyan and similar schemes, under which teachers are not paid salaries but "honorariums" at much lower rates. Bringing the remuneration for such teachers into line with other teachers will require further allocation for salaries. Assuming that salary costs are currently around 80 per cent of revenue expenditure of the education departments, this will imply a doubling (in constant price terms) within 5 years.

This means that revenue expenditure will have to increase by at least the amounts described in Table 5 in order to meet the legal obligations of the Central Government. (Since 0-4 years and 5-9 years both amount to 11.3 per cent of population according to Census 2001, there is no estimated increase in the number of elementary school age children over the XI<sup>th</sup> Plan period.) This means that around 80 per cent of the projected increase in revenue expenditure will have to cater to meeting the legal requirements of the Government regarding primary schooling, leaving only 20 per cent of the increase for secondary, higher and technical education.



It should be noted that other concurrent costs of teaching have not been included in this, such as teaching material, running expenses of schools, etc., and that this would imply a substantially larger amount of revenue expenditure. Further, there would be additional costs in terms of teacher training etc., which are required to ensure quality education. This suggests that even raising total public expenditure on education to 6 per cent of GDP over the XI<sup>th</sup> Plan would still leave some gaps in provision of universal schooling and in quality of education (which is certainly affected by resources even if resources are not the only factor).

Table 5: Financial effect of meeting Government's legal obligations

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Rev exp of Education Dept	80,287	89,921	100,712	106,755	119,565	133,913	149,982
Per cent assumed increase in salary payments			33	66	100	100	120
Salary payment increase in Rs. crore			26,588	56,366	95,652	107,130	143,983
Rev exp with increase in salary payments			127,300	163,121	215,217	241,043	293,966
School meals		5,000	5,300	5,618	5,955	6,312	6,691
Total rev exp			132,600	168,739	221,172	247,356	300,657
Per cent of projected total revenue expenditure			80.5	81.4	85.7	77.6	83.4

*Some estimates of physical need for education infrastructure*

If we assume that the entire population of children between the ages 5 to 14 years should be in school by the end of the XI<sup>th</sup> Plan, this creates a minimum need for physical infrastructure. Accordingly the following financial requirement can be estimated, as part of the required capital spending:

Table 6: Financial cost of new classrooms required

Population aged 5-9 years	1162,32,967
Population aged 10-14 years	1105,93,462
Total population aged 5-14 years	22,68,26,429
Classrooms required (at 40 students per room)	56,70,661
Currently available classrooms	34,00,000
Funds already allocated for additional classrooms	6,75,000
Gap of required classrooms	15,95,661
Estimated cost per classroom (2005 prices)	Rs. 1.5 lakh
Total cost for required classrooms	Rs. 23,934 crore
Per cent of total projected capital expenditure	48.5 %

Based on 2001 Census and Dept of Education estimates



It is apparent that just meeting this basic requirement would cover nearly half of the projected increase in capital expenditure over the XI<sup>th</sup> Plan period as per Table 4. There is the further issue that many rural schools are situated in distant places which reduce the access of rural children. Table 7 provides information regarding the distance from educational institutions in rural areas according to the NSS. If it is argued that pre-primary and primary schools should be either within the village or at least within 2 km distance from the village to ensure access, then there is clearly requirement for more physical provision of schools. This is an especially important issue for girl children.

Table 7: Distance from village

	Within village	< 2 km	2-5 km	5-10 km	> 10 km	Not recorded
Pre-primary	66.5	14.3	4.7	1.4	11.5	1.6
Primary	72.3	16.2	6.2	1.5	2.5	1.3
Middle	28.9	21.6	35.1	7.8	5.3	1.3
Secondary	11.9	14.5	38.5	20	13.8	1.3
Higher Secondary	4.1	8.3	24.9	24.7	36.7	1.3
Degree college	0.6	1.6	7.8	16.1	72.7	1.2
ITI	0.3	0.7	3	6.6	88	1.4
Non-formal insti	6.8	2.1	5.1	5.5	78.9	1.6

Source: NSS 58<sup>th</sup> Round

All this has still left out the issue of physical requirement for secondary education and for institutions of higher learning, which will be even larger than currently because of the change in demographic structure. This will imply additional capital and revenue expenditure to the tune of at least 2 per cent of GDP over the XI<sup>th</sup> Plan period, although most of the projected amount can easily be swallowed up by the requirements of elementary education.

### Annex 3

## Building and Sustaining a Quality Education System\*

(Note for Tapas Majumdar Committee set up by MHRD)

*R. Govinda*

*NIEPA*

The last five decades have witnessed enormous expansion of facilities for school and college education in the country. The number of formal institutions of learning has grown multi-fold from around 3 lakhs to more than ten lakhs. But in spite of this expansion the country is still struggling to meet the constitutional commitment of universal free and compulsory education at the elementary stage. The question seems to be not so much of enrolling students in schools and colleges, which has been fairly satisfactory. The real issue is that of ensuring that students who join schools and colleges stay on to complete and achieve the specified competencies. Increasing concern today is that of quality of education provided in our schools and colleges.

Data reveal that around 45% children who join schools do not complete even yet years of schooling. Surveys conducted by NSSO as well as many other studies clearly show that substantial proportion of this high drop out phenomenon could be attributed to internal factors related to quality of provisions and processes in the school. Even the learning levels of those who complete have been found to be far from satisfactory. Again if one goes by public examination results it is only around 45-50 percent students who achieve even the basic minimum required for passing the secondary and higher secondary stage. This is quite alarming, considering the fact that only around 25-30 % persons of the relevant age group join secondary schooling. What happens to that still smaller proportion of persons (around 6-8%) going to higher education is no different. These figures clearly highlight that we are not doing enough on the issue of providing quality education. Though quality of education is an elusive concept, that provision of good physical and academic infrastructure along with supply of high quality human resources, both for imparting instruction and for governance of the system, are critical to achieve good quality education does not require any special evidence. It is here that serious action is called for to increase investment to improve the quality of provisions in schools and colleges and sustaining them at requisite levels.

It is difficult to find systematic data base on different aspects of quality of

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\* The note only highlights the *rationale* for increasing investment in education to meet the demands of building a quality education system at the school level. We have to incorporate relevant information and highlight the issues involved with respect to higher and technical education also.

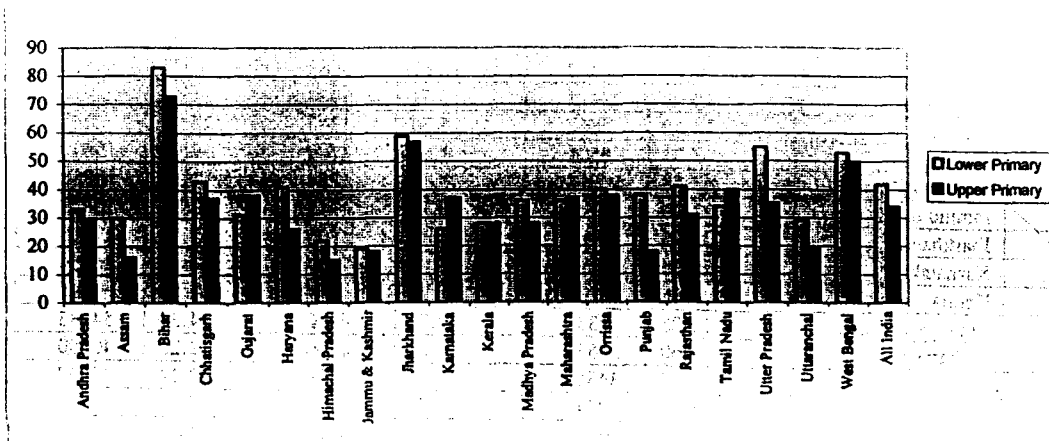
education. But even the limited information available raises serious issues. For instance, according to the 7<sup>th</sup> AIES, of a total of nearly 900,000 lower and upper primary schools, only around 80% schools have pucca building and surprisingly, around 20,000 schools have no building at all. The situation seems to be alarming in Assam with less than 40% of the schools with pucca buildings; the situation is quite serious in several other states also such as Bihar, Chattisgarh, Himachal Pradesh, Jammu & Kashmir, Orissa and West Bengal. The Operation Blackboard Scheme launched in pursuance of the NPE 1986 specified what is the minimum requirement in a primary school – at least two classrooms, at least two teachers, basic learning kits, and at least some rudimentary in-service orientation to teachers. However, a review done in the beginning of 2000 revealed that if all the requirements are taken together as a package, only around 25% primary schools met the requirement. Some of these may have been addressed during recent years through SSA. However, it is clear that the task of providing proper physical and academic infrastructure facilities in all primary and upper primary schools needs much greater attention and investment. Further, the issue is not only of making capital investment to create good infrastructure or supplying learning material, the more difficult task is to sustain them in good working condition through recurring investment in every school.

Supply of qualified teachers in all schools has been even a bigger problem. While part of the problem could be due to managerial inefficiency at the systems level, there are also real problems of availability and quality. The 7<sup>th</sup> AIES estimated the number of teachers employed in lower and upper primary schools in India in 2002-03 to be around 3.5 million. Of these, around 5-6 per cent teachers were para-teachers, who were invariably employed on contract basis and most often do not have professional training and qualification. This is an issue that has attracted considerable criticism and needs careful consideration as the proportion of such para-teachers is continuously increasing in various states as such recruitments are supported by Central Government's funds through SSA. There are no systematic studies to analyse the long-term impact of such recruitments on the quality of schools on the one hand, and on the development of a professional cadres of teachers on the other.

There is a general euphoria in recent years over the enormous increase in enrolment of children in primary schools. Are we recruiting adequate number of qualified teachers to teach them? In general, state governments are slow in recruiting teachers even against the existing positions. Almost all states have backlog of vacant teacher posts. Consequently, notwithstanding the recruitment of teachers on contract basis, teacher -pupil ratio is far above the norm of 1:40 in some of the states (Chart 1), pushing even the national average to 1:42. In particular, the situation requires immediate attention in four states, namely,

Bihar, Jharkhand, Uttar Pradesh and West Bengal. In fact, the situation in Bihar is really alarming as teachers are recruited in the states for several years now without any professional training in pedagogy.

Chart 1: Pupil-Teacher Ratio in Major States



Apart from the fact that teachers have to deal with crowded classes in these states, they have also to contend, in a large number of schools, with very minimal infrastructure and academic facilities. Around three out of four primary schools in the country involve multi-grade teaching requiring the teachers to be innovative in simultaneously teaching students of several grades. It is found that nearly one out of every six primary schools in the country is a single teacher school. This is quite surprising since the OBB Scheme was launched more than ten years ago with the main aim of eliminating single teacher schools. To expect that UEE will be achieved just by appointing a community teacher invariably without professional training to teach in so called schools which have neither physical infrastructure nor academic facilities is far fetched.

The situation with respect to secondary schools is not very different. In fact, as the 10<sup>th</sup> Five Year Plan document concedes, which is reiterated by the CABE Committee, Secondary Education has received little attention during the last several decades. The situation is further complicated as a large proportion of secondary schools (around two out of three in most states) are under private management. Information on the quality of provisions in many of these schools is not available at all. As for the teachers, several studies have shown that a large number of teachers in the private schools lack necessary academic and professional qualifications.

Table 1: Single teacher primary schools in rural and urban areas in major states, 2002-03

S. No.	State	Rural		Urban		Total	
		% of Single Teachers Schools	Total Schools	% of Single Teachers Schools	Total Schools	% of Single Teachers Schools	Total Schools
1.	Andhra Pradesh	19.87	53916	8.78	7251	18.55	61167
2.	Assam	18.79	28630	2.26	1415	18.02	30045
3.	Bihar	24.33	38428	12.63	2083	23.72	40511
4.	Chhattisgarh	15.41	22477	2.71	1474	14.63	23951
5.	Gujarat	14.55	5862	6.36	1383	29.00	3245
6.	Haryana	7.71	8504	1.80	1109	7.03	9613
7.	Himachal Pradesh	13.58	10614	0.39	254	13.27	10868
8.	Jammu & Kashmir	22.00	9745	5.11	743	20.80	10488
9.	Jharkhand	32.75	16164	14.41	895	31.78	17059
10.	Karnataka	20.36	23450	6.92	2804	18.93	26254
11.	Kerala	0.65	5251	0.14	1446	0.54	6697
12.	Madhya Pradesh	16.08	47383	2.70	6850	14.39	54233
13.	Maharashtra	25.50	34560	4.26	6290	22.23	40850
14.	Orissa	23.17	34541	5.57	2136	22.14	36677
15.	Punjab	16.95	12042	5.70	1298	15.85	13340
16.	Rajasthan	13.52	29438	5.97	3315	12.68	32953
17.	Tamil Nadu	0.00	26341	0.00	7053	0.00	33394
18.	Uttar Pradesh	11.58	96331	4.13	17215	10.45	113546
19.	Uttaranchal	19.32	12466	3.41	1436	17.67	13902
20.	West Bengal	8.06	41845	5.65	8006	7.67	49851
	All India	16.41	573085	4.63	78290	14.99	651375

Source: Estimated using 7<sup>th</sup> AIES data.

### *Equipping schools with necessary physical and academic infrastructure*

The proposed legislation on universal elementary education has specified the basic norms of provision, physical and academic infrastructure and human resources, for operating an elementary school\*. But these only specify the minimum requirements and could hardly be conceived as adequate to provide good quality education. They are not comparable to the norms and standards being adopted even by the Kendriya Vidyalayas. Moreover, the estimates made do not take into account the inadequacy of provisions in the existing schools. Actual requirement of finances to be maintained on a recurring basis will be many more times higher than what has been estimated.

The CBE committee on Secondary Education has come out with a more ambitious list of requirements for providing quality education (See Box below). For instance, the Committee proposes every school to be equipped with three laboratories. As the Committee points out, the norms may appear immediately to

\* We could insert the Schedule given in the Draft Bill

be utopian. But these norms are already being followed by the Kendriya Vidyalaya Sangathan. The norm specification has to be carefully worked out keeping in view the fact that large proportion of schools currently are in the private sector. If one follows the current trend, the share of private management in the secondary sector will increase in the years to come. If private participation is not to be seen as supporting privatization, new framework for supporting and regulating private schools has to be worked out and public expenditure has to be increased enormously in the secondary education sector also, particularly, for maintaining the quality of provisions and teaching learning process.

It should be noted that increased involvement of non-state providers and support for alternate forms of schooling to meet increase in demand within the state sector has created wide variation in provisioning of schools at elementary as well as secondary levels. It is important to take appropriate measures and make financial provisions to reduce such disparities. Also, with the Government's announced policy of universalizing secondary education, it is important to revisit the issue of financing and make a combined assessment of the requirement of finances for elementary and secondary education. It would probably necessary to revise and substantially enhance the financial estimates.

#### *Supply of qualified teachers through quality teacher education programme*

Needless to say that the requirements of providing quality education at the secondary level, and even at the upper primary level becomes quite complex as specialised teachers are required to teach a diversified curriculum. As a result, the teacher-student ratio may not be the right criteria for assessing teacher requirement. Equally true is the non-applicability of classroom-teacher ratio in upper primary and secondary education. The teacher requirement is to be based on requirement of subject specialists in different schools; the teacher-student ratio and teacher-classroom ratio can form the complementary criteria for determining the requirement of teachers.

This brings up the complex issue of building a good quality teaching force to meet the expanding requirement of the school system. The financial requirement for building and sustaining a high quality teaching force is enormous. Mere estimates based on existing per capita expenditure would fail to capture the magnitude and complexity of the problem. For instance, institutional facilities available for preservice teacher education programmes for elementary education in many states are totally inadequate to meet even the current level of requirement.

### Norms for Secondary Schools

**Land**

2 to 4 acres

**Constructed area**

not more than 50% of the land area

**Teachers**

One for every 30 students to be steadily moved to 1:20; at least one for every subject area; qualified teachers for sports, games and physical education, music and art.

**Facilities**

- One classroom for every 30 students
- One integrated junior science lab. (for Classes 6<sup>th</sup> to 8<sup>th</sup>)
- One Science lab each for physics, chemistry, biology, English Language, Geography, Mathematics for 9<sup>th</sup> to 12<sup>th</sup> grades
- Disabled friendly facilities like ramp, special toilets, classroom furniture, etc.
- Braille and sign language-related equipment/computer software\*
- SIT to receive EDUSAT programmes
- OHPs, LCD projector
- Musical instruments, Gym equipment, sports and games material
- Junior computer lab with 30 computers for 6<sup>th</sup> to 8<sup>th</sup> graders with internet connectivity\*
- Senior Computer lab. with 30 computers for 9<sup>th</sup> to 12<sup>th</sup> graders with internet connectivity
- Separate health/restrooms for boys and girls
- Separate cubicles for teachers with computing facilities – one computer for every 4 teachers with internet connectivity
- Safe drinking water facilities
- School canteen and stores
- Separate toilets for girls and boys, and staff
- Library with computer facilities and professionally qualified staff
- Separate offices of Principal and vice-principal with computer facilities
  
- Electricity
- Telephone
- School office for non-teaching staff with computer facilities
- Hobby room (s) for developing creativity and life skills including music, art and paintings
- Playgrounds – soccer, hockey, volleyball, basketball, badminton, tennis, preferably separate for girls
- Indoor games facilities separately for girls and boys
- Gymnasium separately for girls and boys
- Gardens and Social Forestry

In fact, in several states a large proportion of existing teachers do not possess adequate professional qualifications. To clear the backlog would, in itself, take several years, leave alone meeting the expanding requirement. Neither the Draft Bill on Right to Education, nor the Report on Secondary Education addresses this issue adequately. It is important to note that provision of trained teachers require sustained action over a longer period of time after creating adequate institutional facilities. Escalating cost of maintaining good quality teacher education institutions which form part of the higher education establishment has to be carefully factored in while estimating resource requirement.

This yet leaves out the major task of sustaining the quality of the teaching force through conduct of inservice professional development programmes on a continuous basis. Some efforts have been made to create institutional infrastructure for inservice education of elementary teachers in the form of Block and Cluster level Resource Centres. These form part of the support given to states under Sarva Shiksha Abhiyan and have also been taken into consideration in the financial estimates made under the Right to Education Bill. It is necessary to re-examine the adequacy of the provisions made for meeting inservice education requirements of teachers and also of sustaining these structures in an effective manner as a permanent feature. The situation with respect to professional development of practising teachers in secondary schools is quite disappointing. No institutional facilities dedicated to perform this task are functioning in any state. It is urgent to make a proper assessment of the need and establish appropriate institutional mechanisms for the purpose.

#### *Building Capacity for Educational Management*

With the expansion of the school education system and the demand for providing quality services, the pressure on education managers has increased tremendously. With the gradual decline in the importance given to traditional system of inspection, management of accountability at the school level has suffered significantly. At present, teachers who become head teachers, supervisors of schools and managers of the system at other levels largely through promotion have very little scope to acquire necessary knowledge and skill for management and supervision in a systematic manner; there are no dedicated institutions for this purpose at the state and district levels except in a couple of states with State Institutes of Educational Management and Training established under DPEP and SSA. But a single state level institution can hardly meet the demand. Strengthening the supervisory and accountability system has been in the forefront in many developed countries. Several of these countries have established independent Regulatory Institutional mechanisms to continuously

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monitor the quality of schools and teachers.

Studies have repeatedly highlighted the importance of building supervisory and management capacities within the education sector and streamlining the management of educational services. The importance of investing in such institutions has been heightened with the decentralization of educational governance empowering panchayati raj institutions and school management committees in many States. Many developed countries have also been investing substantial resources in building leadership and management capabilities among practicing teachers in view of the fact that they become managers of the schools and the education system subsequently. No systematic estimates exist for meeting the resource requirement for this purpose in the country.

## Annex 4

No.F.5-11/2005-P&M  
Government of India  
Ministry of Human Resource Development  
Department of Secondary & Higher Education

New Delhi, the 3<sup>rd</sup> October, 2005

### OFFICE MEMORANDUM

Subject: NCMP commitment of making 6% of GDP for education sector –  
Constitution of a Committee – regarding..

There is an NCMP commitment of spending 6% of the GDP on Education. This has been a goal repeated ever since the Kothari Commission. However, no systematic estimation of this 6% has been made, to enable planning process to achieve this goal. A meeting was taken by Education Secretary with a group of economists and educationists some time back on this issue. It was decided that a Committee could go into this question specifically to assess the resources likely to be available if 6% of the GDP is made available to the education sector.

2. Accordingly, a Committee is being constituted as follows with the orders of the Competent Authority:-

1. Prof. Tapas Majumdar,  
Eminent Educationist and economist - Chairman
2. Prof. (Mrs.) Jayati Ghose, JNU - Member  
[ Member, Knowledge Commission]
3. Dr. R. Govinda, NIEPA - Member
4. Prof. J.B. Tilak, NIEPA - Member/Convenor

3. The Committee's terms of reference would be as follows:-

- (i) To quantify actual allocation of public resources (Central & State Governments and Local Bodies) to Education during the first four years of the Tenth Plan (2002-06), in absolute terms and as percentage of GDP, and to estimate likely allocation of resources, based on current growth projections, for the period, 2006-12, and
- (ii) To quantify total resources which would become available for education during the above period 2006-12, if public expenditure on education were to equal 6% of GDP during each of these six years.

4. Secretariat support to the above Committee will be provided by NIEPA.

5. The Committee would be expected to submit its Report within one month.

*S.D. Awale*

(Dr. S.D. Awale)  
Joint Educational Adviser (T)

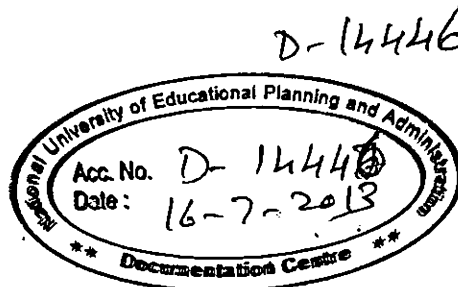
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2. Prof. (Mrs.) Jayati Ghose,  
Jawaharlal Nehru University,  
New Delhi.
3. Dr. R. Govinda,  
NIEPA,  
New Delhi.
4. Prof J.B. Tilak,  
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New Delhi.

Copy to:-

Director, National Instt. of Educational Planning & Admn. (NIEPA), New Delhi.

Copy also for information to:-

1. PS to HRM
2. Sr.PPS to Secretary (S&HF)
3. PS to AS      4. PS to JS(HE)      5. PS to JS(SE)      6. PS to JS&FA



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