EDUCATION IN EIGHTEEN YEARS OF FREEDOM

MINISTRY OF EDUCATION. GOVERNMENT OF INDIA. 1965

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PREFACE

On the 15th August 1947 with the unfurling of free India's new tricolour flag displaying the Ashoka Chakra, the symbol of Buddhist tolerance, Jawaharlal Nehru, Prime Minister and chief architect of Indian independence ushered in an era of freedom. Free India, carved out by the partitioning of the sub-continent, was born with many stresses and strains unprecedented in the history of mankind. After the restoration of some normalcy, India launched upon planned development through successive Five-Year Plans, the first beginning in 1950-51. This development in the varied sectors of the nation's life attempts to compress centuries of development into decades, ever trying to realise the people's aspirations that are the natural by-product of freedom.

In the scheme of this over-all progress, educational development lies at the very base, because education is essentially concerned with the training and development of human resources. In the pages of this small brochure, an attempt has been made to unfold the history of this educational development. The year 1965-66 being the final year of the Third Five-Year Plan, lends itself admirably for this brief stock-taking. This review of the educational development in the eighteen years of freedom, including the 15-year Plan period, will not only mirror the past but also indicate the signposts for the future.

Happily not much difference existed in the timings of this review which we were already planning, and the ensuing meeting of the Sixth Plenary Session of International Commission of Irrigation and Drainage being held in New Delhi in January 1966 under the auspices of the Central Board of Irrigation and Power. The suggestion of the Director of the Board made to this Ministry to publish a brochure dealing with the development of education in the country was, therefore, readily accepted, although this meant advancing slightly the appearance of this review. Too many statistics and other details have been avoided to make the reading easier. Varied aspects of education are given separate treatment, chapterwise, against a background—geographical, historical, cultural and educational—introducing the text. Through this brochure if we are able to familiarise our readers with what India has achieved and has yet to achieve in the field of education, science and culture, we would feel amply rewarded.

In India, under the Federal Constitution education for most part is managed by the State Governments. The Union Government have the sole executive responsibility for the maintenance of four Central Universities, national institutions of importance and others for professional, technical and vocational training and for promotion of research and coordination and determination of standards in higher education or research. The Directive Principles of the Constitution enjoin on the Union Government to provide free and compulsory education to children up to 14 years of age, to develop, enrich and spread the federal language, Hindi, as also to develop other modern Indian languages. The Union Government in the Ministry of Education discharge these obligations in the fields of education, science and culture and help the State Governments through a broad-based system of grants-in-aid. The Union and State Governments work together in the formulation, implementation and evaluation of the various programmes.

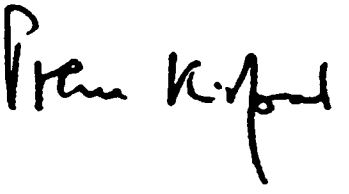
Educational efforts, both in terms of finance and manpower, in a country of the size and population of India have to be colossal and these naturally pose great challenges to the educational planners; but through the joint endeavour of the Union and State Governments the multifarious programmes have been planned and implemented with appreciable degree of success. This is borne out by the comparative pictures obtaining in 1950-51 and 1965-66, the beginning and the end of this fifteen-year planned development, encompassing the three Five-Year Plans.

While we are proud of these substantial achievements we are not complacent inasmuch as we are alive to the existing disparities in regard to the education of boys and girls as also in regard to educational progress in rural and urban areas and among the weaker sections of our community. Desperate efforts are already afoot to even out these disparities so as to give content to democracy, secularism, national solidarity and socialism, the four corner stones on which we plan to reconstruct our existing educational system.

It is primarily due to the foresight and vision of the present Education Minister, Shri M. C. Chagla, that the Ministry of Education is now engaged on a momentous and historic task. The Education Commission which he has appointed is having a survey of the entire field of educational development with a view to evolving a national pattern of education and laying down the principles and policies for

developing education at all stages and in all aspects except legal, medical and adult education. The nation is looking forward eagerly to the final report that the Commission has been directed to present not later than 31st March 1966.

A venture of the type of the present brochure can only be possible through the cooperative endeavours of all concerned. I am happy to record the willing and prompt cooperation lent by Dr. Atmanand Misra, Director of Public Instruction, Madhya Pradesh, the Planning Commission, the Directorate General of Health Services, the Indian Council of Agricultural Research and the Council of Industrial and Scientific Research and the Departments of Atomic Energy and of Social Security in enabling this Ministry to have the write-ups covering their respective fields. Dr. P. D. Shukla, Joint Educational Adviser in the Ministry, also deserves appreciation for the personal interest taken by him in this publication right from its planning to final printing.



(PREM KIRPAL)
Educational Adviser to the Government of India

New Delhi
20th December, 1965

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CHAPTER ONE

INTRODUCTION

Background—Geographical, Historical and Cultural

India is the biggest democracy and the second most populous country in the world. Bounded by the Himalayas in the north, the country stretches southwards and, at the Tropic of Cancer, tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the west. Lying entirely in the northern hemisphere, the main land extends between latitudes 8° 4′ and 37° 6′ north and longitudes 68° 7′ and 97° 25′ east, measures about 3,200 kilometres from north to south and about 2,960 kilometres from east to west, and covers an area of 326,728,391 hectares. It has a land frontier 15,080 kilometres long and a coastline of 5,656 kilometres. This is the geographical picture of India after 1947. The older India included the territories now constituting the State of Pakistan.

This spatial vastness of India is matched only by the diversity of its physical, cultural and racial components. The Himalayas and their associated groups are young fold mountains while the peninsular region is a plateau bounded by ancient mountains known as the Western and Eastern Ghats. The mighty Himalayan range with peaks above 25,000 feet can be well contrasted with the rice fields of Kerala—some of the lowest lands in the world. In between, are the rich alluvial plains formed by the Ganges and its tributary, Jamuna. The plains including those of Indus basin cover an area of 77,625,000 hectares. The Indo-Gangetic plain is the greatest stretch of alluvial land in the world and one of the most densely populated. Topographically, the northern plains are remarkably homogeneous with little relief for hundreds of miles. South of the great plains is a highland zone rising to the chain of the Vindhya mountains. These are by no means as impressive as the Himalayas, but have tended to form a barrier between the north formely called Hindustan and the peninsula often known as the Deccan. The Deccan, which is largely hilly, has many small and scattered plains formed by its rivers Godavari, Krishna and Kaveri. The basins of Narmada and Tapti rivers south of the Vindhyas also provide rich agricultural lands.

Climatically, the Himalayan region has cold winters with occasional snow and frost. In the northern plains the winter is cool, dropping the temperature to about 50° F as the sun sets, with wide variation of day and night temperature while the hot season is almost severe shooting up the temperature to about 118° F in shade. The temperature of the Deccan varies less with season. The southern plain is hot but its temperature never rises to that of the northern plains. The most important feature of the Indian climate is the monsoons or the 'rains'. Except along the west coast, rain rarely falls from October to May, when cultivation can be done through artificial irrigation or only winter crops can be raised. By the end of April, vegetation almost ceases. The temperature of the plains rises and hot winds begin to blow. Work is reduced to the minimum and the world seems asleep. Then clouds appear, high in sky; in a few days they grow more numerous and darker and by June rains come in great downpouring

torrents with much thunder and lightning. The temperature quickly drops and within a few days the world is green and smiling again. There are the driest areas of Rajasthan with less than 25 cm rainfall, and with more than 1000 cm of rain a year at Cherrapunji in Assam, India has the wettest place in the world. The rich fertile plains of Doab stand in bold contrast to the arid lands of Maharashtra. Thus, geographically, India is a small world with all kinds of climates and lands.

The Indian people numbering 439·07 million are a mixed assortment of various racial strands. In its long and unbroken history of more than 5000 years there has been a continuous mingling of races, cultures and languages with the result that a large number of languages and dialects are today spoken by different groups. In the range of complexions and features also the population reflects a wide variety from almost white to dark peoples and from the pure Caucasian to the Dravidian and the Mongolian type. All the great religions, Hinduism, Christianity, Islam, Buddhism, Jainism and several other faiths and creeds are practised in India, the largest group professing Hinduism.

Notwithstanding all these diversities and differences, the country possesses an undercurrent of unity and homogeneity of culture and outlook which is uniquely Indian. People practise different religions; belong to different races, adopt different ways of living, speak different languages and yet in a way they form an integral part of the same whole, each proud of their characteristic differences which they love to hug to themselves. This unity is a deeper and basic fact while the differences are superficial. The greatness of India lies not only in its vastness and variety but more in the continuity and unbrokenness of its ancient culture. It is this continuity of culture and tradition which differentiates India from other ancient countries like Egypt, Greece, Rome and Babylonia. In its characteristic attitude to life, its loftiness of idealism and its regard for humanitarian and universal values lies the greatness of India's culture and history.

The history of this country has been a big cauldron in which successive civilisations —the Dravidian, the Aryan, the Moghul and the Indo-British—have acted and reacted upon each other, synthesised and evolved into new patterns bearing always the stamp of Indianism. No doubt India has been a colourful and glorious country with great kings, great religious movements, rich and ancient languages, vast stores of literature and many strands of art and architecture.

Education in Ancient, Medieval and Pre-Independent India

Ancient education was mainly the education of the *Vedas*, which consisted in the perfect acquirement of the text through oral repetition from a teacher. Brahmans, *Upanishads* and *Dharma Sutras* in succession became the source springs of education. Amar Kosa and the works of Aryabhatta, Panini, Katyayana, Kautilya, Patanjali and medical treatise of Charaka and Susruta belong to the mass of literature of this period.

Buddhist education not based on Vedic study, then followed and monasteries and *viharas* became the centres of learning. Taksasila, Nalanda, Vallabhi and Kanchi developed to be the main centres of higher learning. The University of Nalanda was located in a splendid building, had a good library and an observatory, and scholars from Korea, Japan, Ceylon, Java, Sumatra etc. came there for studies.

With the advent of Muslim rule *maktabs* and *madarsahs* were opened. The *maktab* was a primary school attached to a mosque where Koran and elements of religion were

taught. The *madarsah* was a school of higher learning—a few of the status of a university—where higher education in science, philosophy, law, etc. was imparted. Some of the Hindu centres of learning in the east and south continued their work throughout the middle ages. Surveys conducted in the British period give a valuable record of the indigenous system of education in early 19th century. Hindu and Mohammedan higher seats of learning known as *tols* and *madarsahs* were found side by side with popular elementary schools known as *pathsalas* and *maktabs.*

Educational efforts on an organised and state-supported basis can, however, be traced back to the early nineteenth century when the British rulers accepted "that the great object ought to be the promotion of European literature and science among the natives of India; and that all the funds appropriated for the purpose of education would be best employed on English education alone". They also accepted that provision should be made for the continuance of schools and colleges where indigenous learning was imparted. Thus began the system of education introducing Western learning and English language in schools and colleges accompanied by the practices of examination and inspection by Government authorities; the two features being new and novel for education as practised in India so far.

With the introduction of a new system of education with a new objective, the British Government laid the foundations of modern India. India, or to be exact, a certain class of people in India came in contact with the lore and learning of the West. Education imparted in such institutions became popular because of the great interest shown in it by the educated Indians and more particularly by leaders like Raja Ram Mohan Roy and others. There was a new awakening in this class; there was a revival of national awareness in this middle strata of society. This reacquaintance with India's past, with the brighter and also the darker aspects of its culture came through British and other European Indologists like William Jones, Max Mueller, Wilson etc. Western thoughts on politics, philosophy, humanism and science made an impact on Indian thought leading to a series of reformist movements of religio-cultural mould. These thought-movements gradually oriented towards politics and economics and ultimately converged and manifested in the form of effulgent nationalism. Mention may be made here of the educational efforts of the Arya Samaj under the guidance of Dayanand Saraswati, and of Gokhale, Tagore, Gandhi and Lala Lajpat Rai.

A steady, dependable source of help from State rather than sporadic voluntary support of kings and individuals, placed educational activities on an organised and planned basis. Governmental commitment for the education of the people was a new departure from earlier concept of State's duties. Education is to be for all, irrespective of caste and status, was a new principle accepted by the State. This kind of educational policy set in a sort of silent social revolution towards a democratic, egalitarian society away from the old, stratified, hierarchical social order.

But the British educational system was after all a system conceived and implemented by an alien government for a subject people. It had its necessary limitations. The ideal of universal education was never pushed through with a will and determination expected of a national government.

The disproportionate emphasis on English to the neglect of Indian languages had its deleterious effect in alienating the educated classes from their indigenous cultural moorings. The cultural homogeneity and identity of interests, which prevailed among

the people as a whole, were rent leaving the educated classes as a group apart, separate from and indifferent to the large uneducated masses of people. Society was horizontally divided between the educated and the uneducated. The predominantly literary content of education had the evil effect of dislocating the economy of the country. The educated few were fit only for government services or for a few professions but failed to provide leadership to the masses in the various other fields of social life. They had little to contribute to the productive and economic activities of the nation or even towards moulding their ideas and outlook.

The immensity of the problems in education, which free India had to face, can be realised partly by turning to figures of literacy and unemployment obtaining at the dawn of independence in 1947. During a century of systematic state-aided educational effort only 12·2 per cent of the people in the country had been made literate. Of the total population, 8·2 per cent only were in all types of institutions of which 5·5 per cent were boys and 2·7 per cent girls. For a population more than 400 million, there were 218 thousand institutions of various types, in which 18·24 million students were enrolled. In 1947 there were 173 thousand primary schools with an enrolment of 14·11 million; 18,140 secondary schools (including middle schools) with enrolment of 2·9 million; 500 arts and science colleges with 193 thousand of enrolment; 140 professional and technical colleges with 44,000 students; and about 1,300 special schools with 499 thousand students. The total expenditure on education in 1947 was Rs. 576·6 million. The educational expenditure per head of population was Rs. 1·94 of which only Rs. 0·69 was met by the Government. These figures tell only a part of the story. It is only when the state of economy, health, social status, emotional and intellectual outlook of the people enter into the calculations, one can get the true dimensions of educational problems that sought for answers at the time the British left this country.

If together with these disappointing figures we consider the question of quality at each stage of education, the picture becomes almost appalling. Primary schools which were left to the care of local bodies presented the most depressing sights. What with the poor buildings housing the schools, the academic and professional qualifications of teachers, their working conditions, what with the equipment, playgrounds and health-care of children, the schools were meant just to turn out ill-educated children with a smattering of alphabet and numbers. Wastage and stagnation were rampant. Inspection, if and when it was done, was formal and mechanical. Little was done to enliven and lighten the squalor of the schools which competed with the squalid homes from where the children came.

Secondary schools were as bankrupt of the educative programmes as the primary schools. The time-honoured examination system with the sole aim of testing rote-memory persisted. Of educational guidance, health-programmes and progressive methods of teaching, the schools knew nothing. Little was heard or talked about diversification of subjects to suit individual aptitude and ability. Every one had to go through the same standard, uniform list of courses. The worst feature was the prevailing dichotomy between educational aims and social needs. Secondary schools which started as preparatory institutions for universities in the 19th century retained in the mid-twentieth century their old aims and purposes. Universities, in general, continued to remain degree-awarding factories turning out service-seeking graduates without initiative, without self-reliance and without that critical, awakened mind which should be the hall-

mark of an educated individual. They remained sequestered and isolated from the main cement of social life when, in fact, they should have been the nurseries of new ideas.

There was thus a host of educational problems—quantitative as well as qualitative—which the Government of free India had to grapple with.

Freedom and Education

Having attained freedom from foreign rule, the Indian people framed the Constitution of their new State which was inaugurated on the 26th January, 1950. By the new Constitution, India became a Sovereign Democratic Republic. The aim of the Constitution is to secure for all its citizens 'Justice, Social, Economic and Political; Liberty of thought, expression, belief, faith and worship; Equality of status and of opportunity; and to promote among them all Fraternity assuring the dignity of the individual and the unity of the nation.'

To forestall all future trends towards autocracy and totalitarianism, certain directive principles of State policy are enshrined in the Constitution which, though not enforceable will nevertheless serve as guide-posts for all future governments of the country. These principles ensure the continuity of broad aims and policies despite changes of government and parties. They lay down that the State shall strive 'to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice—social, economic and political—shall inform all the institutions of the national life'. In short, the Constitution guarantees a democratic and equalitarian social order. It is with a view to promoting that broad aim that Article 45, a part of the directive principles, commits the Government of the country to endeavour to provide for free and compulsory education for all children until they complete the age of fourteen years. For, there cannot be a democratic social order without an educational structure with a broad base. This directive policy of the Constitution is itself a great advance towards on educational horizon from the position and posture taken by the pre-independence Government.

The era of educational reconstruction inevitably followed in the wake of social and economic reconstruction initiated by the National Government after 1947, education being the chief instrument for reconstruction and transformation of society. The first steps taken in the direction of educational reconstruction were the appointment of a series of commissions to survey, study, review and recommend improvements in the different sectors of education.

To look into the problems of university education, the University Education Commission was appointed by the Government of India in 1948 under the chairmanship of Dr. S. Radhakrishnan, the present President of India. The Commission made valuable suggestions for improving the standard of university education in the country. Introduction of a three-year degree course for the first university degree, greater use of tutorial system of instruction, formulation of new aims, emphasis on developing knowledge and critical thinking rather than mechanical passing of examinations, establishment of Rural Universities, and introduction of moral education were some of its salient recommendations.

The Radhakrishnan Commission had surveyed the field of secondary education in a passing manner and had admitted that 'our secondary education remains the weakest

link in our educational machinery and needs urgent reform'. This fact was the *raison d'etre* of an All India Commission for Secondary Education appointed in 1953 under the chairmanship of Dr. Lakshmanaswamy Mudaliar. Secondary education which had so far the aim of preparing students for the universities could not go well with a society whose organisational pattern and purposes had undergone a revolutionary change. This Commission offered a number of suggestions to adjust secondary education with the new goals and needs of free India. The aim was now to train our youths for intermediate leadership and for democratic citizenship. Secondary education was to be a terminal stage for a large majority of the nation's youth, who would take up their places in society after their school education and provide leadership to the general masses. The Commission was equally concerned with qualitative improvement of the schools. To develop individual talents, curricular offerings were extended and diversified. To achieve the new aims of education, changes in methods of teaching were suggested. New trends in examination, guidance and extra curricular work were brought into the school programmes. Multipurpose secondary school was a new concept recommended by the Commission to the country. Inclusion of craft, social studies and general science in the curriculum was aimed at orienting students towards an industrial and science-centred democratic life.

Basic education was adopted to be the national pattern at the elementary stage. Education in a Basic school was required to be given, as far as possible, through the medium of work activities and linked with the child's physical and social environments. An assessment committee was appointed in 1956 under the chairmanship of Shri G. Ramachandran, on whose recommendations Basic education is being developed now.

Then followed the setting up of National Committee on Women's Education in May, 1958. Education of girls had lagged very much behind that of boys. There was a crying need for making up the leeway in this sector of education. Following the recommendations of this committee, a National Council for Women's Education was set up by the Union Government in September, 1959. This Council has been offering schemes and suggestions to remove the lag between the educational progress of girls and boys as also between women's education in urban and rural areas.

The Committee in its report published in 1959, recommended that the highest priority should be given to establishing a parity between the education of boys and girls and a bold and determined effort should be made by the Centre and the States to facethe difficulties and magnitude of the problem. It recommended co-education up to the middle school stage but separate institutions for girls at the high school stage where more diversified curriculum suited to girls should be introduced. It desired ample provision for school mothers, creches, training of women teachers and employment facilities for adult women. It desired that suitable atmosphere should be created for greater enrolment of girls, for greater effort by voluntary organisations, more provision for scholarships for girls at all stages and particularly at the university stage.

The Government of India appointed an Education Commission in 1964 to survey the entire field of education and formulate a national integrated system of education rooted in the basic values and the cherished traditions of the Indian nation, suited to the needs and aspirations of modern society and capable of meeting the challenge of modern scientific and technological age. The terms of reference of this Commission are

so comprehensive that it can consider education as a whole and not fragmented into parts and stages. It will study the resources available and determine the priorities and broad programmes of action which the country should adopt in various spheres of education. It will recommend a well-articulated system of education, improvement of quality and standards, and development of leadership for the future. At present the Commission is engaged in its momentous and historic task which it is carrying on with the help of twelve task forces in which persons eminent in their respective fields are participating.

Features of Existing Systems of Education

The educational systems which have grown to the present form in the various States presents some diversity. The span of primary education in a majority of States is of five years. But in a few it varies from four years to seven years. At the middle stage the span in a majority of States lasts for three years. But in few it varies from two years to four. At the secondary level high schools exist along with higher secondary schools in a number of States where the process of upgrading schools to the higher secondary pattern is still continuing. In two States, no high schools exist because all the secondary schools are of higher secondary pattern of 11 years duration.

Attempts are being made to syphon out such students, as have no aptitude for higher learning, towards vocational and technical streams from middle stage upwards. Vocational centres for post-primary students, industrial training institutes for post-middle pupils, junior technical schools corresponding to the higher secondary schools and polytechnics offering certificate and diploma courses for post-secondary products are cases in point. But these are still to be extended and developed so as to make them effective and all-embracing. But the definite emphasis in the post-independence educational system is to make the higher secondary stage a terminal point, a complete reversal of the system as it existed in the pre-independent India.

At the university level, consequent on the introduction of three-year degree course a one-year pre-university course has been introduced in the transitory period. In the States where either no high schools or colleges exist, the pre-university course also does not exist. A few universities like Bombay, Agra, Allahabad, Lucknow and Gorakhpur have not introduced the three-year degree pattern. In these States, two-year intermediate education forms part of the school or the university stage.

The total length of education for a first degree in the large majority of States is 14 years. However, in Andhra Pradesh (present pattern), Bihar, Gujarat, Madras, Western Maharashtra (colleges affiliated to Bombay University), Orissa, Goa, Daman and Diu and Pondicherry, it takes 15 years to obtain a first degree. In Assam, Nagaland and Manipur, students have to study for 16 years to obtain a first degree. This is due to the addition of classes 'A' & 'B' of the primary stage to the system of school classes.

Educational Planning—A Rapid Survey

Free India had launched its ambitious Five-Year Plans in 1951. It was an unprecedented experiment in history for a democratic country with an agrarian and backward economy to speed up its economic growth through a planned management of its human and material resources. This goal of economic growth had its necessary implications for education. In the First Plan it was mentioned that, education being of basic

importance in the planned development of a nation, educational machinery should be geared for these specific tasks which the nation sets itself through the Plan, so as to make available in the various fields personnel of suitable quality at the required rate. The First Plan made it quite clear that in a democratic set-up, the role of education becomes crucial as it can function effectively, only if there is an intelligent participation of the masses in the affairs of the country. No plan could succeed unless it invested in an improvement of human material by education and technical training.

The Second Plan stated that the system of education had a determining influence on the rate at which economic progress was achieved and the benefits which could be derived from it. An important statement made in the Second Plan was that for economic development to make its full contribution to the well-being of the mass of people, programmes of education should be ahead of economic plans.

The Third Plan has referred to education as the most important single factor in achieving rapid economic development and technological progress and in creating a social order founded on the values of freedom, social justice and equal opportunity. Programmes of education lie at the base of the effort to forge the bonds of common citizenship, to harness the energies of the people and to develop natural and human resources of every part of the country. At all stages of education, the aim is to develop both skill and knowledge and a creative outlook, a feeling of national unity which stands above region, caste and language, and an understanding of common interests and obligations.

During the post-independence period, the literacy percentage went up to 24·0 in 1961. The number of recognised institutions of all types increased to 473 thousand in 1960-61 and enrolment to 47·96 million. The percentage increase in institutions was 100 and in enrolment 163 during fourteen years. The number of primary schools increased to 330 thousand and enrolment to 34·6 million ; the secondary schools to 66,920 and their enrolment to 10·9 million; arts and science colleges to 1,039 and their enrolment to 808 thousand; professional, technical and special colleges to 1,060 and their enrolment to 287 thousand; and vocational and special schools to 71,229 and their enrolment to 2·12 million. The total expenditure on education went up to Rs. 3,441·1 million or increased by nearly 500 per cent from what it was in 1947, and the Government met 68·0 per cent of this expenditure. The average annual cost of education per capita of population rose to Rs.7·7 or by nearly 300 per cent in fourteen years of the post-independence period.

Education is spreading more and more to those groups for whom schooling was once a rarity. Less developed areas, which had long lagged far behind in education, have steadily risen in school enrolment though they still are below the national average.

This, in short, is the story of the quantitative growth of education in the country during the last 18 years after freedom. Attempts have also been made to improve the quality of education and adopt the educational system as a whole to teach the new skills and outlook needed by an independent and developing nation. At present there is hardly any area of the nation's social and economic life, which is not looked after and manned by the Indian skill and talents, no matter at what level it is needed. This picture seen in the perspective of qualitative growth dealt with in other chapters of this volume, will certainly impress any objective and impartial observer. A sincere and bold attempt has been made by the Government and the educational planners to catch

up with the progress made by countries of the West in the last 50 to 80 years, in the short span of 18 years under review.

The ambition of India to compress a century of development into a few decades should not look like an empty dream. The past achievements of the country are reassuring and its future is full of promise.

CHAPTER TWO

ADMINISTRATION OF EDUCATION

With the phenomenal expansion in all sectors of education since independence, the number of people directly involved in administering the programmes of educational institutions also shot up reaching to about 1·8 million in 1961-62. This had given rise to a number of complex administrative problems. The administration of education in India has, therefore, become a challenging governmental task. During the post-independence period, a number of new dimensions have been added to the functions and responsibilities of the Union Government in regard to policy-making, coordination and fulfilment of national targets in education.

Determination of Standards in University, Technical and Professional Education

Entry 66 of the Union List of the Constitution of India places an obligation on the Union Government for the coordination and determination of standards in institutions of higher education, which include scientific, technical and research institutions. In order to fulfil this responsibility, the Government of India in pursuance of the recommendations of the University Education Commission, established the University Grants Commission in 1956 by an Act of Parliament, to determine and coordinate and maintain the standards of education in universities. The Commission sanctions financial grants to the universities and its affiliated colleges and looks to the balanced and planned growth of higher education.

With the expertise available and the increasing funds allocated to the University Grants Commission—Rs. 370 million in the Third Plan against Rs. 190 million in the Second Plan—it has been possible for the Commission to bring about substantial qualitative improvement of higher education. The various programmes for which the University Grants Commission has given grants to the universities include the three-year degree course, construction of hostels and staff quarters, strengthening of libraries and laboratories, revision of pay-scales of teachers, etc. To provide opportunities to scholars of outstanding ability for advanced study and research, the Commission has set up 26 Centres of Advanced Study during the Third Plan.

On the advice of the Commission under Section 3 of the U.G.C. Act, the following institutions were declared up to 1964-65 'deemed to be universities' for the purpose of Central grant by the Government of India:

(*i*) Indian Agricultural Research Institute, New Delhi
(*ii*) Indian Institute of Science, Bangalore
(*iii*) Indian School of International Studies, New Delhi
(*iv*) Gurukul Kangri Vishwavidyalaya, Hardwar
(*v*) Jamia Millia Islamia, New Delhi
(*vi*) Gujarat Vidyapeeth, Ahmedabad
(*vii*) Kashi Vidyapeeth, Varanasi
(*viii*) Tata Institute of Social Sciences, Bombay
(*ix*) Birla Institute of Science and Technology, Pilani

Technical education and scientific research have received special emphasis during the post-independence period. The All India Council for Technical Education was constituted in November 1945. It is composed of representatives of Union and State Governments, Parliament and associations in the fields of commerce, industry, labour, the professions and education. Though the Council has advisory functions only, experience shows that its recommendations have invariably been accepted by the Union and State Governments. The four Regional Committees with their offices at Kanpur, Madras, Bombay and Calcutta cover a group of States each and perform approximately the same functions in the development of technical education in their respective regions as does the All India Council for the country as a whole. The All India Council for Technical Education has set up seven Boards of Technical Studies to advise the Council on such technical matters as the preparation of model courses of studies, laying down standards and regulating the award of national diplomas. On the recommendation of the All India Council for Technical Education, each State has set up a Board of Technical Education.

Another important feature of the post-independence period is the establishment of Indian Institutes of Technology at Kanpur, Madras, Bombay and Delhi in collaboration with the Governments of the USA, Germany, USSR and Britain respectively on the pattern of the Indian Institute of Technology, Kharagpur. These Institutes were declared Institutions of National Importance by an Act of Parliament in 1961. Other specialised institutions administered by the Union Ministry of Education are the School of Planning and Architecture, Delhi; the Indian School of Mines, Dhanbad; the National Institute for Training in Industrial Engineering, Bombay; and the All India Institutes of Management at Calcutta and Ahmedabad.

In the field of medical and agricultural education the Indian Council of Medical Research and the Indian Council of Agricultural Research respectively are responsible for the coordination and maintenance of standards.

Role and Responsibility of State Governments

According to the provisions laid down in the Constitution, education is essentially a State subject. All important policy decisions at school level are taken by the State Governments; and even in higher education, colleges are set up with their approval and universities are established through the enactments passed by the State legislatures.

The organisational structure of the system of education varies from State to State. The basic structure has, however, undergone little change over the last 18 years.

In every State there is an Education Minister at the apex, assisted by an Education Secretary. In some States there is also a Deputy Minister of Education. The Department of Education has two main organs: (*i*) the secretariat, which has a policy-making and coordination function; and (*ii*) the directorate of education which performs the functions of direction, regulation and inspection.

The directorate of education which is the 'hard core' of the machinery of educational administration in each State has developed a tendency in recent years to be concerned mainly with the school level of education. The establishment of independent directorates of collegiate and technical education is another recent trend noticeable in

some States. In some States, technical education is administered by the Department of Industry; in others, by the Public Works Department.

With the phenomenal increase in the range of educational activities during the last 18 years, the organisation of the State departments of education has inevitably expanded. In some States, the education secretary is assisted by a number of deputy secretaries, who in turn are assisted by assistant secretaries. Again, in many States, the director of education's responsibility is shared by an additional director or a joint director (in a few States both these posts exist). Next come the deputy and assistant directors in charge of different sectors of education, *e.g.*, primary education, secondary education, etc. They have also to perform different administrative duties, *e.g.*, finance, personnel, management, etc.

Since independence, legislation has been enacted in the States, pertaining to the establishment of new universities or the setting up of boards of secondary education or to provide for compulsory primary education.

A relatively new development in the last few years is that some States have constituted advisory bodies to advise their Governments on matters relating to education. The advisory bodies are represented by non-official and official members.

Another recent development is the enormous increase in the number of areas of special services operated by the State departments of education. A number of units/ bureaux have been set up, such as the textbooks unit, the bureau for educational and vocational guidance, the units for audio-visual aids, for evaluation, for curriculum and for planning. In almost all the States the production and distribution of textbooks is being nationalised, consequent on the failure of private publishers to improve quality.

Yet another recent development is the provision of useful specialised institutes, *viz.*, establishment of State institutes in special subjects to train personnel and to provide other consultative services. Andhra Pradesh, Kerala, Madras and Mysore have jointly established an Institute of English at Bangalore to provide special training for teachers of English. State Institutes of English have also been set up in the Punjab, Bihar, West Bengal and Uttar Pradesh and are being planned in a few other States. A State Institute of Education has been set up in almost every State for the in-service training of school inspectors and headmasters and to undertake research in the problems of school education. A shift is noticeable from purely administrative functions to specialised services with an academic bias.

In the last few years the district has become an important unit of administration and the district inspector of school (in some States his counterpart the district education officer) has come to be charged with educational leadership functions in the district. He supervises educational institutions at school level and is assisted by a few deputy inspectors and a number of assistant or sub-deputy inspectors who are responsible for the inspection of primary schools. The status of the district inspector of schools has been raised. In practically all districts he is a class I officer of the State Education Service. His main function is inspection and supervision, though he has other duties such as reporting to the Government on the recognition of the school, hearing appeals from the teachers, representing the Government on the selection boards to select teachers for local bodies' schools. At regional level, there are regional deputy directors of education in some States.

Primary education in most States is under the administrative control of local bodies. For the administration of secondary education, responsibility is divided between the secondary education board and the State directorate of education. These boards conduct public examinations at the end of the secondary stage and award certificates. They prescribe courses of study and textbooks for the secondary stage. The boards also accord recognition to the schools for the purpose of examinations conducted by them. Some boards are engaged in examination reforms and conducting research in this field. The Central Examination Unit of the Directorate of Extension Programmes for Secondary Education helps the State evaluation units and the boards of secondary education to improve the examination system.

Private management plays a dominant role in the administration of secondary schools in different States. In the country as a whole, nearly 64 per cent of secondary schools are managed by private enterprise. Departments of Education exercise their control over private schools through the rules of recognition and grant-in-aid. The quantum of grant varies from 95 per cent of the net recurring expenditure in some States to 50 per cent in others. Academic standards in these schools vary widely owing to diversity of management. Some private schools are outstanding institutions, but some others show poor results. A noticeable trend in recent years is that in some States where grant-in-aid rules have proved ineffective to secure standards in the organisation and administration of privately managed schools, Acts have been passed by the State legislatures to provide for greater security for teachers. The Acts contain a provision empowering the Government to take over the administration of schools when the management defaults in spite of repeated warnings.

Educational Supervision and Inspection

Before 1947, inspection was a device to ensure that an institution receiving grant-in-aid from the Government utilised money correctly. Another function of the inspector was to extend recognition to privately managed schools on the basis of certain criteria. The concept of inspection has now changed, and inspection tends to promote the professional growth of teaching personnel. The role of inspector is that of a senior colleague to teachers. The re-designation of 'inspector' as 'education officer' in many States marks this shift in the emphasis of his duties.

The administrative functions of the inspectors, it is sometimes urged, should be curtailed so as to allow them more time to guide teaching personnel in instructional work. An inspector is not, however, expected to be a specialist in all school subjects. The latest trend has been to send a team of specialists in the main school subjects to schools at the time of inspection. Andhra Pradesh and Mysore have started appointing subject-inspectors at headquartes. In a few other States inspection of secondary schools is carried out by a panel of experts drawn from other schools and training colleges.

The inspectors of schools in the States belong to the State Education Service and are placed in different grades in that service. In 1960-61, there were 7,380 inspectors in all the States against 3,611 in 1950-51. But this increase has not kept pace with the larger increase in the number of educational institutions and the growing complexity of the educational programmes.

Role of Local Bodies

The organisation and administration of primary education acquired greater urgency with the recognition of the State's responsibility to provide for free and compulsory education to all children up to the age of 14. The Kher Committee that was appointed by the Central Advisory Board of Education in 1951, recommended the association of local bodies with the administration of primary schools.

Democratic decentralisation in education was introduced in many States on the recommendation of the Balwantrai Mehta Committee Report (1959) under which powers in regard to the control of primary education were transferred to local bodies. This was indeed a turning point in the development of local self-government in India. The Balwantrai Mehta Committee identified the community development block as the administrative unit, and recommended the transfer of control of primary education to the panchayat samitis.

Rajasthan was the first State to introduce the scheme of democratic decentralisation in education by the Rajasthan Panchayat Samiti and Zila Parishad Act, 1959. Primary education was transferred to panchayat samitis, and they were required to meet 50 per cent of the cost on contingent and non-recurring expenditure. The State Government bore the entire cost on teachers' salaries. Andhra Pradesh, Maharashtra, Assam, Jammu and Kashmir, Madras, Orissa and Madhya Pradesh followed suit. In Gujarat, Mysore and the Punjab, the panchayat samitis are formed at taluka level.

Financing Education

There was a time during the British regime when it was primarily the community, including its economically fortunate sections, who used to come forward in setting up and supporting the educational establishments. The various streams of cultural and nationalist movements had also played a significant part in building the educational edifice of the country. Since independence, however, the State has been taking on ever increasing responsibilities. The aptly drawn up image of 'inverted pyramid' of education under the foreign yoke is fastly being erased. The quantum of total educational expenditure, the ratio it holds to the national income, the figure it works out per head of population and its objectwise and levelwise apportionment—all go to indicate the vastly expanding dimensions of the educational scene.

The contributions in cash and kind made by the community particularly in supporting the primary education in rural areas do not appear in the monetary costs of education which again are divided into two categories—'direct' and 'indirect'. Direct expenditure is what is incurred on the various types of educational establishments at different levels and indirect expenditure is related to direction and supervision, buildings, scholarships and some other items that cannot be apportioned to any type at any level. The country is on the verge of completing its third five-year period of planned development and for the purpose of indicating the progress of educational expenditure the figures relating to three most representative years, namely, 1950-51, 1955-56 and 1960-61 would be most revealing, marking, as they do, the beginning of the three Plan periods. The growth of total educational expenditure is thus:

Total Educational Expenditure in India

(Rupees in Thousand)

Year	Direct	Indirect	Total
1950-51	910,539	233,282	1,143,822
1955-56	1,448,069	448,542	1,896,610
1960-61	2,573,588	870,214	3,443,801

The annual increase in educational expenditure over the decade (1950-51 to 1960-61) has been about 10 per cent (at constant prices). And significantly enough, it has kept well ahead of the population growth. From Rs. 3·2 per head of population in 1950-51, the expenditure increased to Rs. 4·8 in 1955-56 and to Rs. 7·8 by 1960-61. From 1·20 per cent of the national income in 1950-51, the expenditure increased to 2·44 per cent by 1960-61.

The table below indicates the objectwise and levelwise apportionment of the educational expenditure:

Distribution of Total Educational Expenditure by Objects

(Rupees in Thousand)

Level/Type	1950-51		1955-56		1960-61	
	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent
		Direct Expenditure				
Pre-school	1,198	0·1	2,499	0·1	5,873	0·2
Primary	364,843	31·9	537,272	28·3	734,461	21·3
Middle	76,990	6·7	154,050	8·1	429,220	12·5
Total of First Level	**443,031**	**38·7**	**693,821**	**36·6**	**1,169,554**	**34·0**
General Secondary ..	230,450	20·1	376,144	19·8	689,117	20·0
Teacher Training ..	15,229	1·3	19,757	1·0	34,811	1·0
Vocational	21,714	1·9	34,751	1·8	72,280	2·3
Special Education	23,335	2·0	26,529	1·4	31,997	0·9
Total for Second Level	**290,728**	**25·4**	**457,181**	**24·1**	**835,205**	**24·3**
Universities and Institutions	132,361	11·6	223,423	11·8	401,661	11·7
Teacher Training Colleges	3,547	0·3	6,566	0·3	21,514	0·4
Colleges for Professional Education ..	38,646	3·4	63,442	3·3	136,527	4·0
Colleges for Spl. Ed.	2,224	0·2	3,635	0·2	9,125	0·3
Total for Third Level	**176,778**	**15·5**	**297,066**	**15·7**	**568,827**	**16·5**
Total for Direct Expenditure ..	**910,539**	**79·6**	**1,448,069**	**76·4**	**2,573,588**	**74·7**
		Indirect Expenditure				
Direction and Supervision	27,364	2·4	40,006	2·1	70,123	2·0
Buildings	99,270	8·7	196,358	10·4	428,158	12·4
Scholarships ..	34,456	3·0	82,172	4·3	200,222	5·8
Other Items ..	72,192	6·3	130,006	6·9	171,711	5·0
Total Indirect ..	**233,282**	**20·4**	**448,542**	**23·6**	**870,214**	**25·3**

From the above table, it is easily discernible that indirect expenditure has recorded proportionately a marked increase as compared with direct expenditure. From Rs. 233·282 million or 20·4 per cent of the total educational expenditure in 1950-51, the indirect expenditure has risen to Rs. 870·214 million or 25·3 per cent. This is mainly due to increasing expenditure on scholarships and buildings.

In regard to direct expenditure, higher education has recorded more increase proportionately—from 15·5 per cent of the total educational expenditure in 1950-51 to 16·5 per cent in 1960-61. But, in absolute figures, expenditure with regard to all categories and at all levels has recorded significant increase. Expenditure on elementary education has thus risen from Rs. 443·031 million in 1950-51 to Rs. 1,169·554 million in 1960-61 (or about three times), that relating to secondary stage from Rs. 290·728 million in 1950-51 to Rs. 835·205 million in 1960-61 (or more than three times) and the expenditure relating to the higher stage from Rs. 176·778 million to Rs. 568·827 million (or more than three times). One very crucial shortcoming now, however, relates to unusually low expenditure on teacher training as compared with the general pattern in other countries.

This ever-increasing educational expenditure which is designed to play its due role in the social and economic upliftment of the country, is financed by six main sources. These sources and their share in the total expenditure through the years of planned development are indicated in the table below.

Percentage Share in Total Educational Expenditure by Sources

Year	Central Govt.	State Govt.	Dist. Boards	Municipal Boards	Fees	Endowments Etc.
1950-51 ..	3·1	54·0	6·9	4·0	20·4	11·6
1955-56 ..	6·4	55·4	5·2	3·4	19·4	9·2
1960-61 ..	8·6	59·4	3·4	3·1	17·1	8·4

The above figures unmistakably establish two facts. Firstly, both the Union Government and the State Governments, severally and together, are contributing their share on a continuously increasing scale, in education; and secondly, although the tuition fee still constitutes the second biggest source of financial support, this is dwindling from year to year. Up to grade VIII (or VII) education is now free in all the States and fees are charged only in some special private schools. In 1960-61 only 3·9 per cent of the pupils in primary schools and 16·4 per cent in middle schools were paying fees. In secondary schools about 65 per cent, and in universities and colleges about 85 per cent of the students pay fees.

CHAPTER THREE

SCHOOL EDUCATION

Educational conditions in India on the eve of independence were inadequate both in quantity and quality. Conspicuous deficiencies in quantity related to low enrolment in the age-group 6-14, still more inadequate enrolment of girls, unequal development of education among different classes of society and various parts of the country.

Educational facilities in rural areas were very inadequate. Education was excessively academic and book-centred and did in no substantial measure succeed in promoting social and cultural development. While there was a pronounced dominance of external examinations at every stage, stagnation and wastage were rampant particularly at the primary stage. The condition of teachers and teacher-training facilities were equally unsatisfactory. In many States salaries were so meagre that they could hardly meet their barest needs. Generally speaking, the type of education given in the schools under British rule was in no way attuned to the needs of a nation aspiring to catch up with the progress made by science and technology in the modern world. Free India was, therefore, called upon to attempt simultaneously two major tasks of educational reconstruction: (1) to expand the existing system of education sufficiently to provide free and compulsory education for all children up to the age of 14; and (2) to reduce some of the glaring evils of the educational system inherited as a legacy from the pre-independent India.

Although the nationalist opinion was pursuing the cherished goal of free and compulsory elementary education as early as 1910 (when Gokhale introduced his resolution for compulsory primary education in the Central Legislature) and elements of compulsory education had been provided in some areas, no appreciable progress can be claimed to have been made in realising these objectives. Except for a few areas, attendance at the school remained in the main on the voluntary basis. For example, in 1940-41, compulsion was in force only in 194 urban areas and 3,279 rural localities (comprising 14,501 villages) in British India. Of these, as many as 66 urban and 2,908 rural areas were in the Punjab alone.

Independence and Elementary Education

However, before the attainment of independence this matter was considered by the Central Advisory Board of Education, which in its Report (1944) entitled 'The Post-War Educational Development in India (popularly known as the Sargent Report) outlined a scheme for the provision of universal free and compulsory elementary education, on Basic education lines, within a period of 40 years. But this was considered an unduly long period of waiting. The National Government on the attainment of independence set out on the urgent task of tackling the question of expansion and reorganisation of the elementary education. The All India Educational Conference convened by the first Education Minister of free India, the late Maulana Abul Kalam Azad, in 1948 directed that the pace should be accelerated and the task completed in a period of

16 years. This was further modified and a provision under Article 45 of the Constitution was incorporated enjoining upon the State to endeavour to provide within a period of 10 years of the commencement of the Constitution, free and compulsory elementary education to all children till they attain the age of 14 years. Efforts to fulfil this objective were, in the first few years, greatly hampered by the influx and unending stream of refugees from across the border and the difficult position of resources, both financial and human.

Nevertheless, the pace of progress in the post-independence period has been fairly rapid. In classes I-V, the total enrolment of children increased from 14·11 million (or 35 per cent of the population in the age-group 6-11) in 1946-47 to 19·2 million (or 42·6 per cent) in 1950-51, to 25·2 million (or 52·9 per cent) in 1955-56, to 35·0 million (or 62 per cent) in 1960-61, and is expected to rise to 51·2 million (or 77·8 per cent) in 1965-66. The additional enrolment of children at the primary stage has thus increased from 5·09 million in the post-war period to 6·0 million in the First Plan, to 9·8 million in the Second Plan and is expected to rise to 16·2 million at the end of the Third Plan. Similarly, in classes VI-VIII, the total enrolment of the children increased from 2 million (or 9 per cent) in 1946-47 to 3·1 million (or 12·7 per cent) in 1950-51, to 4·3 million (or 16·5 per cent) in 1955-56, to 6·7 million (or 22·8 per cent) in 1960-61 and is expected to increase to 10·8 million (or 31·6 per cent) in 1965-66. The additional enrolment of children at the middle school stage has thus increased from 1·1 million in the post-war period to 1·2 million in the First Plan, to 2·4 million in the Second Plan and is expected to rise to 4·1 million in the Third Plan.

Independence and Secondary Education

Expansion of secondary education since independence has been phenomenal surpassing even the targets of development envisaged under the Five-Year Plans. The total enrolment in classes IX-XI, in 1949-50, was 1·05 million. It rose to 1·18 million (or 5·2 per cent of the population in the age-group 14-17) in 1950-51, to 1·86 million (or 9·4 per cent) in 1955-56, to 3·14 million (or 11·3 per cent) in 1960-61 and is expected to rise to 5·24 million (or 17·8 per cent) of the corresponding age-group population in 1965-66. The growth in the number of high and higher secondary schools during the corresponding period has been as under :

1949-50	6,682
1950-51	7,288
1955-56	10,838
1960-61	17,226
1965-66 (estimated)	24,000

Popular urges have been playing a not-too-insignificant part in this impressive expansion of education at the secondary stage which is in the main due to : (*a*) the extension of facilities of education at the elementary stage especially in the rural areas, (*b*) the general awakening among the backward sections of the population for the need to send their children, particularly girls, to secondary schools, (*c*) the extension of facilities for secondary education in the rural areas, and (*d*) liberal fee-concessions given to girls and pupils belonging to socially and economically backward communities.

The trend is thus markedly towards broadening whose pace is likely to assume greater momentum with the provision of free education at the secondary stage. Already, secondary education is free in Jammu and Kashmir, Madras, Andaman & Nicobar Islands and L.M. & A. Islands.

Educational Survey

The picture of expansion of facilities for school education will be incomplete without a mention of the completion in 1958-59, of an educational survey as on March 31, 1957. The Survey was intended to study the location of the existing primary, middle and secondary schools in the whole country and to form a concrete and reliable basis for the location of new ones. It has proved to be of immense value in this direction. It found that ultimately the country would need a total of 323,463 primary schools of which 150,215 would be independent schools and 173,248 would be group schools and between them they would serve the educational needs of approximately 96·70 per cent of the total number of habitations in the country. The survey found that altogether 47,992 middle schools would be needed which would serve a total of 748,098 habitations (89·05 per cent), and 13,487 secondary schools to serve a total of 698,874 habitations (or 83·2 per cent). The educational plans and programmes have taken these and other suggestions of the educational survey into consideration.

Reorganisation of School Education

Closely related to the general efforts to improve the quality of education at the elementary stage is the introduction of the principles of Basic education propounded by the Father of the Nation. Basic education aims at improving the traditional system by correlating learning with physical and social environment of the child and craft activity. Work in the school is organised to inculcate right habits of work, a spirit of cooperation, self-help, dignity of labour and other desirable traits so that on growing up the child would become a useful member of the society and contribute towards the progress and welfare of the community. Basic education has been accepted as the national pattern of education at the elementary stage. Ultimately, all schools are to be converted to this pattern.

Systematic efforts for its development started with the First Five-Year Plan when a number of schemes were formulated and implemented. Notable among them was the scheme of intensive development in selected areas incorporating a project of establishing a group of experimental and closely integrated Basic institutions from the junior Basic school to the postgraduate Basic training college. Besides, the Union Government set up in 1956 the National Institute of Basic Education at New Delhi. The Institute has been conducting research studies and investigations on various aspects of Basic education, and set up a number of extension service centres in several teacher training institutions.

An Assessment Committee on Basic Education, also set up in 1956, reviewed the progress in this field. It recommended the substitution of select-area method by a scheme for orienting all elementary schools to the Basic pattern by introducing in them certain simple but significant features of Basic system, as a first step in the ultimate conversion of all schools into Basic type. As a result of these efforts, the number of junior Basic schools (corresponding to primary schools) has increased from 31,711 in

1950-51 to 42,971 in 1955-56, to 65,949 in 1960-61 and is expected to go up to 153,000 by the end of the Third Plan. The number of senior Basic schools (corresponding to middle schools) increased from 4,842 in 1955-56 to 14,269 in 1960-61 and is expected to rise to 16,700 in 1965-66.

The organisation pattern recommended by the Secondary Education Commission of 1952 is as follows :—

(*i*) Secondary education should commence after four or five years of primary or junior Basic education and should include (a) the middle or senior Basic or junior secondary stage of 3 years, and (b) the higher secondary stage of 4 years;

(*ii*) As a consequence, the first degree course in the university should be of three years' duration.

Most States which accepted the new pattern have introduced elementary education of 8 years' duration followed by a higher secondary course of three years' duration. The States of U.P., Maharashtra, Gujarat, Madras and Kerala have not introduced the new pattern. In Maharashtra, Vidarbha and Marathwada areas which were formerly parts of old Madhya Pradesh and Hyderabad States have higher secondary schools. Delhi and Madhya Pradesh have completely switched over to the new system. Substantial progress in upgrading to the new pattern has also been achieved in the States of West Bengal, Rajasthan and the Punjab. The total number of higher secondary schools at the end of 1963-64 was 5,571 against 17,312 schools which continued to follow the old high school pattern.

The main difficulties encountered in the implementation of this important reform are : (a) dearth of qualified postgraduate teachers particularly in science, mathematics and English; (b) inadequate financial resources to provide for additional buildings, science and other equipment and books and to meet higher salaries of teachers with postgraduate qualifications; and (c) financial difficulties of private colleges, a substantial part of whose fee income is received from students of the pre-university classes.

Enriching Elementary Education

Improving the content of elementary education has been a continuous and persistent process since independence. Besides introducing an integrated syllabus combining the essential features of the Basic syllabi with those of the traditional in several States, curricula have been revised and improved in all the States. Steps are being taken to introduce effective and useful science teaching in all elementary schools and craft teaching on a wider scale. Other measures for improving the elementary education relate to the adoption of better teaching methods, greater provision of equipment and teaching aids, improvement in teacher-pupil ratio and effective inspection.

For such children in the age-group 11 to 14 as discontinue their studies after primary stage for economic reasons or lack of aptitude, pre-vocational centres are being set up in semi-urban or rural areas on an experimental basis to start with. They are designed to provide a composite 3-year training course comprising general education and vocational training and also part-time courses. Vocational content includes basic skills for industrial operations as well as methods and techniques for increased

agricultural production. Five regional training centres in Ludhiana, Bombay, Secunderabad, Madras and Narendrapur (W.B.) were set up in 1963-64 to train craft instructors for such centres. At present there are 55 centres in the country.

Diversification of Secondary Education

An important programme towards the reconstruction of secondary education recommended by the Secondary Education Commission was the establishment of multipurpose schools. In addition to core-subjects such as languages, social studies, general science, craft and physical education, these schools make provision for the teaching of two or more of the following groups of subjects : humanities, science, agriculture, commerce, home science, fine arts, and technical subjects. The number of multipurpose schools at the end of the First Plan was 374. This number rose to 2,115 at the end of the Second Plan. The number of multipurpose schools now is 3,873.

Following the principle of diversification and to make secondary education more meaningful, 86 junior technical schools have been started in the country on an experimental basis. The age of entry to such schools is the same as higher secondary schools *i.e.* 14 +. Its duration is three years during which besides the normal school education the boys are given over 2500 hours of workshop practice and drawing. This comprises over 55 per cent of the curricula. The main purpose of these schools is to divert such students as do not possess aptitude for higher education but at the same time have sufficient aptitude for creative work.

Among the new type of school establishments, central schools under the direct auspices of the Union Government designed primarily to cater to the needs of the children of the defence personnel and transferable employees of the Union Government, are of recent origin. They are being developed as quality residential schools, providing in them such features as higher teacher-pupil ratio and a large range of electives in the humanities and science subjects. Initiated in 1963-64, 86 schools have so far been set up with a total enrolment of 34,000.

Teaching of Science

Since independence much thought has been given to the effective teaching of science at the secondary stage. The aim is to provide facilities for the teaching of elective science in as many secondary schools as possible and general science to all students who do not offer elective science as one of their subjects.

The establishment of the Department of Science Education in the National Council for Educational Research and Training marked an important step in the promotion of science education in the country. Its important functions are : revising science curricula, preparing textbooks, training key personnel, ensuring standards and norms for science apparatus and equipment, preparing their prototypes and promoting science clubs and organising search for science talent among secondary school pupils. The Department has already worked out curriculum for general science up to the middle school level, appointed panels of experts to write textbooks, and started designing science apparatus. In this connection mention may also be made of the very useful work done by the Committee on Plan Projects of the Planning Commission in drawing

up standard lists of equipment and apparatus for secondary schools and preparing designs of laboratory rooms and furniture for use in science laboratories.

Acute shortage of science teachers, particularly with postgraduate qualifications, has been presenting a serious impediment. This shortage is partly being met by raising emoluments of science teachers and largely by organising various short-term and long-term training courses for the existing and prospective science teachers. Summer institutes to acquaint science teachers with latest advances in various branches of science and with the latest techniques in science teaching and Central assistance for the setting up of State institutes of science education, deserve special mention in this regard.

The Union Government have launched a crash programme to assist the State Governments financially to equip school science laboratories. Assistance under this programme, which also includes strengthening library services in schools, amounted to Rs. 40 million during 1964-65 and 1965-66.

A Unesco Team of Experts recently made a survey of science education and has submitted a report containing important suggestions for the strengthening of science teaching. A comprehensive plan for the development of science education in the country for implementation during the Fourth Plan is under preparation.

Examination Reforms

Following the recommendations of the Secondary Education Commission, the Union Government set up a Central Evaluation Unit for carrying out the much needed reform in the examination system. Since its inception the Unit has done extremely useful work in conducting research on examination reform and producing literature clarifying the new concept of evaluation. A number of re-orientation courses for the staff of the teacher training colleges have been organised and new test material has been evolved, by the Unit in cooperation with the examiners and paper-setters of the boards of secondary education. To accelerate the pace of reform, State evaluation units have been established in all the States. These State units work in close collaboration with the Central Evaluation Unit.

Educational and Vocational Guidance

Educational and vocational guidance to school-going population came to be introduced as a useful feature on an increasing scale since the publication of the Secondary Education Commission Report. The Central Bureau of Educational and Vocational Guidance was established in 1954 followed by such bureaux in practically all the States. Working in full cooperation with the Vocational Guidance Wing of the Union Ministry of Labour and Employment, the Central and the State bureaux have been carrying on diverse activities on collecting and disseminating occupational information among school students, training guidance personnel and creating guidance consciousness among parents and the general public. The Union Government have been providing financial assistance for strengthening the activities of the State bureaux for the appointment of guidance counsellors in selected multipurpose schools and the training of part-time career-masters.

Audio-Visual Education

Audio-visual aids have been playing an increasingly important role in school education in this country. The All India Radio has for a long time been broadcasting special programmes for schools. For some time All India Radio has also started a television programme for schools in Delhi. The National Institute of Audio-Visual Education established by the Union Government has been organising regular training courses for teachers and other key personnel in the use of audio-visual aids. A large film library of the Institute supplies on loan educational films to schools. Most States have by now established their audio-visual units that work in close collaboration with the National Institute.

Textbooks for School Education

Before 1947, school textbooks were generally produced by private publishers. Sometimes they failed even to maintain instructional standards. Generally, the textbooks were deficient in content, organisation of subject-matter and style of presentation. Since education has started reaching all sections of the population, and as the Government have not yet found it possible to provide textbooks free to all students at school, it has become imperative not merely that the quality should improve, but that the cost should be brought within the reach of the common parents. These and other considerations led several States of the Indian Union to 'nationalise' the production and distribution of school textbooks as a matter of policy. Though States have not yet been able to nationalise *all* textbooks, a beginning has been made at the primary stage, and at some places the experiment has been carried on to the middle level. This has immensely helped the maintenance of standards and resulted in cheaper and better-produced textbooks. Certain difficulties were encountered at the initial stages but things have improved considerably with experience.

Specific steps to secure the improvement and nationalisation of textbooks relate to the setting up and reconstitution of the textbook bureaux and committees who arrange for the preparation, review and production of textbooks with the collaboration of recognised scholars. For books that have not been nationalised, suitable and adequate arrangements are made for the selection of the best books. Textbooks presses have been established in one or two States; others are thinking of following suit. Distribution of nationalised textbooks has been regulated and entrusted to cooperatives, school teachers and special agents. Steps have also been taken to supply textbooks free to deserving and indigent students, at primary level, to begin with.

The Third Five-Year Plan identified the provision of good textbooks as one of the major problems requiring immediate attention. In view of this emphasis, reinforced by the recommendation of the Chief Ministers' Conference held in 1961, to the effect that the Centre should prepare model textbooks, the National Council of Educational Research and Training set up in 1962 a special committee, 'The Central Committee on Educational Literature', whose main objective, among others, is to prepare and publish or assist in the preparation and publication of books, manuals and readers designed as textbooks or supplementary educational material for use in educational institutions, in languages in use in such institutions.

This Committee, presided over by the Union Minister for Education, was given wide powers to facilitate its working. A beginning has been made with the preparation

of model textbooks for higher secondary classes. Eight panels have been set up, in the first instance, for physics, chemistry, biology, geography, mathematics, history, general science and Hindi. Four more have followed in commerce, Sanskrit, technology and agriculture. All these panels work under the guidance of recognised scholars in the subject concerned. Besides, textbooks are being prepared at the Department of Curriculum, Methods and Textbooks, under social studies and reading projects. Both the projects have made detailed and specialised studies in the respective fields. The textbooks are in various stages of preparation, and are expected to be published within the next two years. So far, two books in Hindi prose and poetry and three books in biology have been published. A panel has also been set up to write textbooks for teachers of training institutions.

At the national level, for the production of school textbooks, three printing presses will be set up at Bhubaneswar, Mysore and Chandigarh. The Government of West Germany have agreed to donate these. Since the beginning of Third Plan, the publication of school textbooks has been greatly facilitated by the gift paper that is being received yearly from the Governments of Sweden and Australia.

Teacher Education

The teacher is the heart of any system of education. Free India was not slow in realising that he is, in a special sense, the pivot of a democratic system of education. With the acceptance of the objective of universal, free, compulsory elementary education, the task of securing an adequate supply of suitable teachers assumed enormous proportions after 1947. The position in 1947 was depressing. As against the total requirement of 2·8 million teachers necessary to implement a programme of universal elementary education, only about 561,000 were available. In 1946-47 the average primary teacher had completed only the middle school education. In 1949-50, the total number of matriculate teachers in primary schools was 45,534 or 8·8 per cent of the total number of primary school teachers and that in middle schools was 35,228 or 44·7 per cent. By 1958-59 the number of matriculate teachers increased to 211,092 (or 30·5 per cent) in primary schools and to 122,958 (or 50·9 per cent). Thus from 12·59 per cent of matriculate teachers in elementary schools in 1949-50, the percentage has now risen to 40. The Union Government have encouraged the States to lay down target dates beyond which no non-matriculate should be recruited and this date is proposed not to go beyond 1970-71. And this is realisable with the expansion that is taking place in secondary and collegiate education.

In 1949-50 there were in the country as a whole 517,898 primary, 78,865 middle and 116,157 high/higher secondary school teachers. Of these, 302,050 primary, 41,478 middle and 62,247 high school teachers were trained. In other words, 41·68 per cent in primary, 47·4 per cent in middle and 46·41 per cent in high schools had received no professional preparation. The problem was the heaviest in the primary area because of the tremendous expansion that was planned. Steps were taken to reduce this backlog by starting new training schools, increasing the intake capacity of the existing schools, adding training classes to high schools and instituting short in-service courses. Some States even resorted to reducing the period of training from two years to one. In secondary teacher education, more universities started faculties of education and affiliated colleges started preparation of teachers. As training classes were

THE TWO SCHOOLS—TYPICAL OF THE MANY IN RURAL AND URBAN AREAS

Madras University

REPRESENTATIVE SEATS OF HIGHER LEARNING

All India Institute of Medical Sciences, New Delhi

occasionally attached to the existing arts and science colleges, this proved to be an inexpensive expansion. The percentage of trained teachers has grown steadily as this table indicates :

Percentage of Trained Teachers in Schools

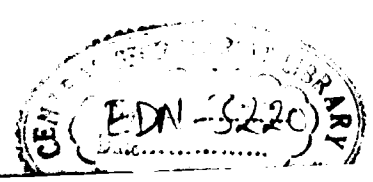
Year	Primary	Middle	High/Hr. Secondary
1949-50	58·32	52·6	53·6
1950-51	61·42	54·2	55·3
1956-57	62·26	60·1	63·2
1958-59	63·73	65·8	63·2
1960-61	65·00	60·3	63·8
1963-64	66·60	72·0	66·0

At present, it is estimated that there are still about 500,000 untrained teachers.

A look at the figures of the training institutions and their intake capacity will reveal that the situation is heartening. In 1946-47, there were only 649 training schools with an intake capacity of about 39,000, *i.e.*, a yearly output of about 20,000 teachers; while in 1960-61, there were 1,358 institutions with an intake capacity of 103,890. As many of these now run a one-year course, the annual output is about 75,000 teachers. In the secondary field, similarly, there were only 41 training colleges or university education departments in 1947; but at present their number has risen beyond 250 with an annual intake capacity of 20,000. Of these, more than twenty-five institutions and universities have provided for M.Ed. and Ph.D. courses, while in 1947 there was hardly any comparable arrangement in the country.

In 1961, another event of great significance in the field of teacher education was the establishment of the National Council of Educational Research and Training. The Council set up a National Institute of Education as a national organisation to offer high-level teacher education and to investigate into the problems of education and suggest solutions for them. A Department of Teacher Education has been recently set up in the N.I.E. Its objectives, among others, are to examine, evaluate and coordinate the programmes of teacher education conducted by the State departments of education and the universities and to take all such measures as will lead to an improvement in teacher education at elementary and secondary levels.

In 1964, a chain of State institutes of education have been set up in all the 15 major States with the assistance of the Union Government. The main purposes and functions of the institutes are, among others, to provide various training courses for the supervisors of schools or teacher-educators, organise conferences and seminars for senior State education officers, or non-official office-bearers of local bodies connected with education, provide, conduct or supervise extension services to training institutions for elementary teachers, organise research to provide correspondence courses for teachers, to improve the programme of teacher education in the State and to assist the State education departments in the preparation and implementation of educational plans.



Another important project for teacher education in the diversified system of secondary education relates to the setting up four Regional Colleges of Education and their attached demonstration multipurpose schools at Ajmer, Bhubaneswar, Mysore and Bhopal. The first three started in 1963 while the latter in 1964. These colleges are designed to represent a new enterprise in teacher education to train competent teachers and teacher-educators in certain critical areas like science, technology, industrial crafts, commerce and agriculture, so that they can function in their selected subject-fields, in any system of education like technical, commerce and agriculture schools, and not only in multipurpose schools. Mainly, four types of programmes have been planned in the regional colleges with a total annual intake of 720 and total enrolment of 1,870. These programmes are : four-year bachelor's degree programmes in science, technology, commerce, agriculture, and English; one-year training programmes in science, commerce, and agriculture; industrial crafts programmes of one- two- and three-year duration; and two-year master's degree programme. When the courses are fully developed in accordance with the plan, each college will produce over 500 trained teachers and teacher-educators each year. The regional colleges are also planning to undertake a crash programme of training teachers to clear the backlog through correspondence-*cum*-summer schools, which may be regarded as sandwich courses.

Girls Education

In the particular context of the socio-economic situation that the country inherited from the British period, education of girls and women constituted a crucial area not merely in the educational development but also in the country's march towards progress and prosperity. A concerted effort is being made since independence to advance the education of girls and women. The education of girls has, as a result, been progressing more rapidly than at any time in the past. Between 1949-50 and 1958-59 the enrolment of girls almost doubled itself. In 1949-50, the number of girls enrolled at various stages was 6,011,320 or an average of 33 for every 100 boys. In 1958-59, this number increased to 11,814,951, or 40 for every 100 boys. The gap between the education of boys and girls was not, however, being bridged as rapidly as the pace of development needed.

A special programme for expanding and improving the education of girls with a provision of Rs. 120 million has been made in the Third Plan for implementation by the States with hundred per cent Central assistance. Aimed at overcoming the special difficulties that stand in the way of the education of girls and removing the various disabilities from which they suffer, the special programme includes measures such as the appointment of school mothers, grants of scholarships and stipends, special prizes to girls, educating public opinion and parents regarding the importance of girls' education at the elementary stage, free education to certain categories of girls, provision of separate secondary schools for girls, hostels in all girls' schools, free or subsidised transport, and preparation and appointment of women teachers in increasing numbers at the middle and secondary stages, construction of quarters and village allowance for women teachers. As an advance action for the acceleration of girls' education during the Fourth Plan, allocation of Rs. 2·61 million has also been made to various States

and Union Territories for the construction of quarters for women teachers and hostels for girls during 1965-66.

To conclude this section, a comparative picture of the development of school education as between boys and girls and as between the beginning of Five-Year Plans and the close of the Third Plan is given below :

Classes/Age-Group	Enrolment in Million		Percentage to Population in the Age-Group	
	1950-51	1965-66	1950-51	1965-66
A. I-V/6-11	Actual	Anticipated		
Boys	13·77	31·60	59·8	94·6
Girls	5·38	19·60	24·6	60·6
TOTAL	19·15	51·20	42·6	77·8
B. VI-VIII/11-14				
Boys	2·59	7·92	20·7	45·6
Girls	0·53	2·88	4·5	17·2
TOTAL	3·12	10·80	12·7	31·6
C. IX-XII/14-17				
Boys	1·02	4·12	8·7	27·3
Girls	0·16	1·12	1·5	7·8
TOTAL	1·18	5·24	5·2	17·8

On the whole, considering the limited financial resources available for education, th ere has been an unprecedented expansion at all levels and in all areas of school education during the first three Plans, founding simultaneously a sure basis for quality in the content needed for the resurging nation.

CHAPTER FOUR

HIGHER EDUCATION

Since the achievement of independence, there has been a significant expansion in the field of higher education, evidenced by the increasing student enrolment in various sectors and the growing number of universities, institutions deemed to be universities under Section 3 of the UGC Act, and the colleges. The number of universities in the country has risen from 20 in 1947 to 62 in 1965. In 1946-47, there were 297 arts and science colleges, and 140 professional and technical colleges. The number of colleges has been rising steadily in response to the growing demand for higher education. There were 2,360 colleges functioning in the country during 1964-65, and 85·5 per cent of the total number of students in the field of higher education were enrolled in these institutions. About 44 per cent of the postgraduate students in arts and science, 57 per cent in commerce, 60 per cent in teachers' training, and 35 per cent in law were in the affiliated colleges. The phenomenal rise in student enrolment since the achievement of independence and its trends according to faculty (including enrolment in intermediate classes) is indicated in the following table:

Enrolment in Higher Education

Sl. No.	Faculty	1946-47	1951-52	1956-57	1961-62	1964-65
1.	Arts including Oriental Learning	124,667	212,923	395,672	511,940	641,186
2.	Science	85,735	142,666	210,039	336,722	478,702
3.	Commerce	20,322	41,458	66,674	125,142	147,789
4.	Education	2,006	4,982	13,000	21,718	29,528
5.	Engineering and Technology	5,348	13,900	21,237	58,168	78,114
6.	Medicine including Veterinary Science	8,847	16,942	27,003	44,783	67,453
7.	Agriculture	4,302	4,856	10,389	24,794	44,228
8.	Law	9,774	16,746	20,707	29,401	32,000
9.	Others	4,843	4,551	4,747	2,712	9,227
	TOTAL ...	265,844	459,024	769,568	1,155,380	1,528,227

While there has been significant expansion in all the streams, the total enrolment has increased about sixfold from 1946-47 to 1964-65.

There has also been a significant increase in the number of students undergoing postgraduate studies and doing research. In arts, science and commerce, the enrolment at these levels almost multiplied threefold during the decade 1954-55 to 1964-65. The figures for various faculties are given in the following table :

Enrolment of Postgraduate and Research Students

Faculty	Postgraduate			Research		
	Enrolment 1954-55	Enrolment 1964-65	Index 1954-55 =100 as Base Year	Enrolment 1954-55	Enrolment 1964-65	Index 1954-55 =100 as Base Year
Arts	16,938	47,316	279	1,229	3,440	280
Science	6,023	18,392	305	965	2,850	295
Commerce	2,415	7,906	327	70	236	337
Education	688	1,717	250	82	116	141
Engineering and Technology	415	1,540	371	65	179	275
Medicine including Veterinary Science	651	3,447	529	16	101	631
Agriculture	327	2,900	887	37	129	349
Law	344	983	286	—	53	—
TOTAL ...	27,801	84,201	303	2,464	7,104	288

This impressive expansion in higher education necessitated a considerable extension and development of the existing facilities along with measures for the improvement of standards. This required the investment of large sums of money from the public exchequer. The total outlay on university education was Rs. 140 million in the First Plan, Rs. 450 million during the Second Plan and Rs. 820 million during the Third Plan period (for arts, science and commerce only).

The funds made available to the University Grants Commission amounted to Rs. 190 million in the Second Plan and Rs. 370 million in the Third Plan (excluding Rs. 65 million on engineering and technological education for institutions run and maintained by the universities).

In this connection mention may be made of a notable trend that has just started gaining momentum. The increasing needs of trained manpower for the all-round and fast developing economy of the country has necessitated the introduction of many diploma and certificate courses of diverse types after secondary education. To meet the keen desire for higher education of the students who opt for these courses, it has become necessary to introduce correspondence courses and provide facilities of evening colleges. A greater recourse to correspondence courses and evening colleges is likely to reduce pressure of enrolment on universities and colleges. To begin with, correspondence courses for the first degree course in the humanities were started in 1962-63 in Delhi University. The introduction of correspondence courses in other universities and starting evening colleges are likely to be speeded up in the Fourth Plan.

Improvement in the standards of higher education in the post-independence period may be ascribed mainly to the development programmes sponsored by the University Grants Commission. The Commission has been providing special assistance to 26 promising departments of 12 different universities, carefully selected on the basis of their work, reputation, existing facilities and potentialities of further development, to function as centres of advanced study. The centres engaged on 26 special disciplines of 13 different subjects are intended to encourage 'the pursuit of excellence' and to improve quality and raise standards at the postgraduate and research levels. The programme is likely to be expanded during the Fourth Plan period. It may be within the point to mention here that in a number of subjects in some of the Indian universities the present standards of teaching and research compare favourably with the best in the more advanced countries.

To provide opportunities to teachers for acquainting themselves with modern development in their respective fields of knowledge and new curricula and techniques of instruction, the Commission has been assisting universities for organising summer schools, seminars, academic conferences and refresher courses. The response to this programme has been extremely encouraging and it is proposed to expand this as far as possible. During 1964, sixteen summer institutes were organised for college and university teachers and a similar number for secondary school teachers.

A number of review committees were appointed to examine the existing syllabi and facilities for teaching and research in various subjects of study, and to make suggestions for their improvement and modernisation. The reports of the review committees dealing with bio-chemistry, botany, chemistry and mathematics have been published and circulated to the universities for their consideration. The report of the review committee on English has also been printed. The reports of the committees dealing with social work, education and library science are under print. Other reports are expected to be available soon. A systematic study of the academic standards prevailing in universities and colleges was undertaken by a committee appointed by the Commission in August, 1961. The committee has produced a comprehensive report and has made important suggestions for the improvement of standards.

In regard to opening new universities, the Commission has recommended that before any new university is established, it would be desirable for the State Governments concerned to prepare, in consultation with the UGC, a perspective plan for the next 5 to 10 years taking into account the available resources and facilities and the need for further development and expansion of higher education.

The Commission's grants to universities and colleges relate mainly to strengthening the staff, equipment, libraries, laboratories and to the expansion of other facilities. Adequate salaries and the provision of essential amenities and incentives for the teaching profession are important factors in the maintenance of proper standards. Besides upgrading the salaries of university and college teachers, the Commission has taken other measures for teachers' welfare. Assistance is provided to universities to enable them to invite distinguished teachers and experts in various fields of academic work. Teachers in universities and colleges are helped to carry on research or learned work. The services of the selected teachers are utilised after their superannuation for teaching and research under a special scheme. Travel grants are made available to teachers and research workers to enable them to visit and work at centres of research or advanced

study in the country, and for attending conferences abroad. Grants are given to universities and colleges also for the construction of staff quarters and teachers' hostels.

Programmes relating to students' welfare have also been receiving due attention. Grants are being provided for the construction of hostels, student homes, non-resident student centres, health centres and hobby workshops. Assistance is being given to universities and colleges for the establishment of textbook libraries and students aid fund. Provision has been made for research scholarships and fellowships besides the assistance given to universities and colleges for improving library and laboratory facilities for advanced study.

Grants are offered to universities for organising extension lectures and for publishing doctoral theses and research work. Universities are being helped to establish or improve their printing presses. Limited foreign exchange is provided for importing scientific equipment, books, journals and other articles required for teaching and research.

The Commission has also been operating various foreign aid programmes relating to the supply of specialised equipment, training of Indian scholars abroad and visits by foreign experts.

Other Institutions of Higher Learning

Apart from the endeavours made by the University Grants Commission, the Union Government have been assisting a few recognised institutions of higher learning which are doing work of special importance for developing educational activities and introducing new ideas and techniques in education which have national importance. Besides, the setting up of two specialised institutes during the recent past is of considerable significance. An Institute of Advanced Study has been set up under the management of an autonomous body at Rashtrapati Niwas, Simla, to provide facilities for advanced research to teachers and research workers of universities and similar organisations in the fields of the humanities, Indian culture, social sciences, natural sciences and comparative religion. An effective programme of studies of Russian language and different aspects of life and culture of the Soviet Union has assumed an added importance in view of the rapid development of science and technology in the USSR in the recent past. An Institute of Russian Studies has accordingly been established at New Delhi in October, 1965. The Institute will function as an autonomous society, but will eventually merge into the Jawaharlal Nehru University when it is set up.

Rural Higher Education

The University Education Commission had in 1949 strongly urged the need for a general advancement of rural India through a system of rural colleges and rural universities. Accordingly a National Committee was appointed in 1954 to undertake a comprehensive survey and appraisal of the promising ideas, institutions and experiments in the field of higher education in rural areas and to recommend a pattern of education suited to the needs and resources of the country. This Committee recommended the establishment of Rural Institutes of Higher Education which would offer facilities to the rural youth to acquire that training and skill which would make them effective leaders of the community. In pursuance of these recommendations, the

Ministry of Education selected ten existing institutions which had done pioneering work in the field of rural education for setting up Rural Institutes. The National Council for Rural Higher Education, with the Union Education Minister as chairman. was also constituted in the year 1956 *inter alia* to advise the Government of India and the State Governments on all matters concerning the development of rural higher education in the country and to conduct examinations for the various courses approved by it.

The number of such Rural Institutes has now increased to fourteen and each of them is conducting one or more of eight different diploma, post-diploma and certificate courses of one to three years' duration in subjects like rural economics, rural sociology, civil and rural engineering, agricultural science etc. The curricula and the courses in the Rural Institutes are designed as an integrated whole comprising study, research and extension. The curricula have been geared to the needs of the rural people.

These Institutes are yet in the nature of pilot projects. It has now been decided to reorganise the Rural Institutes into three zonal Institutions of Rural Higher Education to be designated as 'deemed' universities under Section 3 of the UGC Act.

Agricultural Education

The University Education Commission had reported that 'education to promote the interest of agriculture is extremely inadequate and agricultural education should be recognised as a major national issue'. This recognition of the importance of agricultural education led not only to the expansion of facilities but also to a reorganisation of agricultural education in the existing as well as new institutions set up to provide facilities for the training of agricultural workers in the various branches of agricultural sciences with particular emphasis on the quality of educational programmes.

In the course of the last eighteen years the number of agricultural and veterinary colleges have grown from 17 and 6 to 69 and 19 respectively. The intake capacity of the agricultural colleges in undergraduate classes has swelled from 1,500 to 8,900 per annum. Postgraduate training facilities leading to M.Sc. and Ph.D. degrees are available for 1,300 and 150 students respectively as compared to less than a total of 100 in 1947.

In the earlier phases of expansion of agricultural education, the pre-independence structure of teaching institutions unsupported by extension and research activities continued. However, the weakness of such a system was soon recognised and in order to place agricultural education on a sound footing it was agreed to start agricultural universities modelled on the lines of Land Grant Colleges of the USA where agricultural education, research and extension would be integrated. One such agricultural university was set up in the Second Plan in 1960 at Pant Nagar in U.P. This was further developed during the Third Plan with the establishment of new agricultural universities in the Punjab, Rajasthan, Madhya Pradesh, Andhra Pradesh, Mysore, Orissa and West Bengal making a total of 8 such universities. At the Indian Agricultural Research Institute, New Delhi where a postgraduate teaching programme resulting in the award of an associateship diploma was already in existence, a regular postgraduate teaching-*cum*-research-*cum*-extension programme awarding M.Sc. and Ph. D. degrees was instituted in 1958.

The network of higher agricultural institutions necessitated the establishment in 1952 of the Indian Council of Agricultural Education as the coordinating agency of

agricultural education in the country. This council, constituted as a wing under the Indian Council of Agricultural Research, served as a clearing house of information by holding its annual sessions and advising the Union and State Governments on matters relating to agricultural education. The Indian Council of Agricultural Education has now been replaced by the Board of Education of the Indian Council of Agricultural Research with expanded activities.

With a view to attract meritorious students to agricultural and veterinary colleges, the Indian Council of Agricultural Research instituted in 1963 the award of 250 merit scholarships for undergraduate studies. In addition, the Council has been extending this facility for postgraduate studies. The number of scholarships/fellowships at the postgraduate level has been raised to 200 since 1965-66.

The University Grants Commission is cooperating with the Indian Council of Agricultural Research by setting up review teams for the improvement of agricultural education in the country.

Technical Education

In 1947, the country was faced with the great challenge of developing her predominantly agricultural economy into a major industrial one in a short span. Perhaps one of the most remarkable achievements in India during the last 18 years of independence is the phenomenal growth of technical education. Almost from scratch, the country had to build up its technical education within a very short period.

In 1947, India produced only 930 graduates in engineering and 320 graduates in technology. Facilities for advanced training and research at postgraduate level in technology were very meagre and in engineering almost nil. The growth of technical education during the last 18 years is reflected, both in the rapid increases in the student enrolment and the number of institutions. As against an annual admission of 3,000 students for first degree courses and 3,700 students for diploma courses in 1947, the admission increased more than eightfold in 18 years. In 1964-65, the admission capacity in technical institutions for first degree was 23,760 and that of diploma 46,250. Against only 38 institutions for first degree and 53 for diploma in 1947, in 1964-65 the number of degree institutions has gone up to 131 and that of diploma to 264. Financial investment in technical education during the last 18 years has also correspondingly increased many-fold. At the end of the First Plan, investment in technical education was of the order of Rs. 202 million. During the Second Plan, the investment was of the order of Rs. 490 million and in the Third Plan Rs. 1,420 million. As a sequel to the reorganisation of secondary education and with a view to improving the quality and standard of the engineering education, a new five-year integrated course for the first degree in engineering has been introduced. The main purpose of the new pattern is to enhance the scientific content of the courses, which forms the basis of all advanced technical studies and research. These new arrangements would facilitate bringing together science and technology, a much needed combination required for technological development. In the field of diploma education also much thought has been given to reorganise it. During the emergency in 1962, a closer look was given to the present diploma courses and it was felt that in order to improve it, it would be necessary to introduce broad specialisation. Keeping that end in view, two years' post-higher secondary technician courses were introduced in selected institutions.

Although girls are not debarred from taking admissions into normal technical institutions, a separate provision has been made to provide technical education to women specially suited to their needs. A special type of institution known as women's polytechnic has been started for providing opportunities for the girls to develop their creative talents and to chose a technical profession after they have finished their secondary education. This scheme is at an experimental stage and for the time being there are 17 women's polytechnics throughout the country.

Before 1947, India had to send its students abroad for advanced training in engineering and technology. As a first step towards the development of advanced technical education in this country, the Union Government established a chain of 5 higher technological institutions known as the Indian Institutes of Technology, located at Delhi, Kanpur, Kharagpur, Bombay and Madras. These institutions offer facilities for a wide range of subjects up to the highest standard. In addition, steps were taken to augment the facilities for postgraduate studies and research at the Indian Institute of Science, Bangalore and to open a number of Regional Engineering Colleges. There are today 38 institutions/universities offering postgraduate courses in a wide range of engineering and technological subjects. The total admission capacity of the institutions offering such courses is of the order of 1,500. To attract brighter students to postgraduate education, the Government is paying Rs. 250 per month as scholarship to each postgraduate student, and those students who undertake research work are being paid Rs. 400 per month. Since the tempo of development of postgraduate courses and research is gathering momentum, India could be proud of the facilities which would be available in the near future for advanced studies.

Due to sudden expansion of technical education, almost every institution is facing difficulties in recruiting good teachers. There is a substantial shortage of teachers at the degree level and more so in the diploma institutions. To obviate this difficulty and to improve the quality of teachers, the Government launched the teachers training programme for degree institutions in 1959. Under this scheme, fresh graduates with good academic career are recruited and trained at selected centres for a period of three years. At present, provision has been made for recruiting 200 such teacher-trainees every year to be trained at 9 centres. This scheme has proved very successful as there is a large demand from the teaching institutions for the teachers who have been trained under the scheme. Regarding the training of teachers for diploma institutions, steps have been taken to start four regional institutions at Chandigarh, Bhopal, Calcutta and Madras. In addition to this, the States are encouraged to send their inservice teachers to various institutions in India and abroad to improve their qualifications. Some States have started their own institutions for the training of teachers for diploma institutions.

Planning for the creation of technical manpower has to be matched with the demand of industries and other associated organisations. In view of this, special care has been taken to examine the requirements, specially in fields like aeronautical engineering, printing technology, power engineering and mining and metallurgy etc. Certain institutions have been specially selected to conduct these courses and the admissions are controlled according to the estimated demand. At present, aeronautical engineering has been introduced at the undergraduate level only in the Indian Institutes of Technology in addition to the facilities already available at the Madras Institute of Technology and the Indian Institute of Science, Bangalore. Similarly in the fields of management,

printing technology, etc. selected institutions are being developed so that there may not be any over-production in these specialised fields. Over-production and consequent unemployment not only causes frustration among technical men but it also results in huge waste of human material and money which are so much needed for other sectors of education.

Since technical education is not complete without properly organised practical training, the Ministry of Education, in close cooperation with industry and other establishments, has organised practical training for a large number of students passing out of the technical institutions with a view to condition them for gainful employment in life. According to this programme, selected candidates are paid during their training stipends of Rs. 250 per month in the case of graduates and Rs. 100 per month in the case of diploma-holders. In some cases, expenditure involved is being shared by the Union Government and the training establishments.

Medical Education

Till 1946, there were 15 medical colleges in the country with an annual enrolment of 1,200. Little or no emphasis was laid on postgraduate education and training of specialists even by the oldest colleges in India. Only a handful of doctors qualified for MD and MS in general medicine and surgery and the bulk of those who wished to qualify in various specialities proceeded abroad for training.

The number of medical colleges which stood at 30 with an admission capacity of 2,489 at the beginning of the First Five-Year Plan increased to 46 by the end of the First Plan with a concurrent increase in the admission capacity to 3,958. By the end of the Second Plan, the number of medical colleges increased to 66 with an admission capacity of 6,846. The target for the Third Plan was to add 18 more medical colleges to bring the total up to 75. This target was achieved by 1963 and at present there are 81 medical colleges with an admission capacity of over 10,000. By the end of the Third Plan, it is expected that there will be a total of 85 medical colleges.

On the recommendations of a committee appointed by the Union Government in 1949, upgraded departments were set up in a number of medical colleges with financial assistance from the Union Government during the First Plan. This scheme was continued in the Second and Third Plans at several centres. There are 16 upgraded departments in various medical colleges, of which 3 were established during the First Plan and 13 during the Second.

The Health Survey and Planning Committee (1959-61) made comprehensive recommendations for the expansion of postgraduate facilities to make India self-sufficient in the training of specialists, teachers and research workers in the field of medical education. One of the recommendations was for the establishment of regional postgraduate centres. This is being implemented. At present, 56 medical centres affiliated to about 32 universities are offering postgraduate studies in different subjects besides the All India Institute of Medical Sciences at New Delhi. The latter institute was established by an Act of Parliament in 1956 as an autonomous institution responsible for setting effective patterns of medical education and high standards in all associated fields.

administrators. The Institute will also provide a regular programme of advance training for leaders in public health administration which will include short courses, conferences, seminars and study groups for various types of health personnel.

The standards of medical education are laid by the Indian Medical Council which is a statutory body. Besides, there are periodical conferences held by the Postgraduate Committee on Medical Education appointed by the Government, the Indian Academy of Medical Sciences, the Postgraduate Federation, the Indian Association for the Advancement of Medical Education and similar other bodies which are also interested in the development of medical education in the country.

International agencies such as World Health Organisation, Rockefeller Foundation, etc. are also closely associated with the development of medical education through exchange of teachers, equipment, travel fellowships and expert guidance. A summer institute in medical education is being organised under the auspices of the WHO. The World Medical Association is holding the Third World Conference on Medical Education in November, 1966 in India on the subject 'Medical Education-Factor in Socio-Econnmic Development'.

The Mudaliar Committee has recommended that it would perhaps be a safe target to aim to have one doctor for every 3,000—3,500 population at the end of the Fourth Plan period. There should be one medical college for at least 5 million population which would mean that there should be 90 medical colleges for the existing population, and for the anticipated population in 1971, the number of medical colleges will have to be nearer 100. Similar targets have to be fixed for dental, nursing, pharmaceutical and other paramedical personnel.

Textbooks for Higher Education

At university level the problem of production of suitable textbooks arises from the fact that the country was to rely mostly on foreign books which are too expensive for an average student. With the phenomenal growth of higher education, the production of low-priced editions of such books has assumed great importance.

The question of developing an adequate programme to encouage the inexpensive publication in India of foreign books of reference and other standard works was considered some years back by an Inter-Ministerial Committee set up under the auspices of the Ministry of Education and select lists of titles were drawn up in various subjects like: (1) humanities; (2) basic sciences; (3) medicine; (4) agriculture and veterinary science; and (5) engineering and technology. A number of projects are in operation now and good progress has been achieved in the matter.

A programme of bringing out cheap editions of American standard works and books of reference has been in operation under the auspices of the United States Information Service on behalf of the American Embassy. Financed out of PL 480 funds, the programme is implemented with the active cooperation of the Ministry of Education. An Indo-American Board consisting of 14 members (seven representing the Government of India and seven the Government of U.S.A.) looks after all policy matters concerning the programme. The average cost of each republished title works out to one-third of the original. So far, over 220 titles have been republished under this scheme. The Government of the UK has initiated a scheme for the production of low-priced

books of reference and standard works for use in the higher education in India. Under the guidance of an advisory committee on the selection of low-priced books set up by the UK Government, books are brought out in what is known as the ELBS Series (English Language Book Society Series). The titles for republication under this scheme are selected through a procedure similar to that adopted under the Indo-American Scheme. Printed in the UK and imported through normal trade channels, the price range of the republished books varies from 9sh. to 15sh. a volume, about one-third of the normal value and in some cases, even less. So far some 100 titles have been republished under the scheme.

An agreement has been reached in principle between the Ministry of Education and the Pergamon Press of Oxford. This provides for any organisation designated by the Government of India to enter into specific agreements with the Pergamon Press for adopting, adapting and translating into English and any Indian language any book brought out by the Pergamon Press in the Commonwealth and International Library. A few organisations have been designated for the purpose and they are in correspondence with the Pergamon Press.

It has also been proposed to initiate a similar scheme of translation and republication of books of Russian origin. For this purpose an Indo-Soviet Board consisting of 10 members, 5 Indians and 5 Russians, on the lines of the Indo-American Board has been constituted. The Joint Indo-Soviet Board will consider operating programmes for translation, adaptation, publication and distribution in India of standard Russian educational books and similar programmes with regard to Indian books for use in the USSR.

The schemes of cheap republication of foreign textbooks has necessitated the introduction of suitable measures to promote the activities of and safeguard the interest of Indian authors. A scheme has accordingly been formulated to republish standard educational works of Indian authors in low-priced editions. For the present, books written or translated in English are eligible for suitable assistance under the scheme. The procedure for selection of titles is the same as in the case of American or British books. So far, 11 titles have been selected for republication under this scheme.

With a view to meeting the shortage of textbooks for students in agricultural and veterinary colleges in India, the Indian Council of Agricultural Research operates a scheme for the publication of textbooks. Financed on a 'no-profit-no-loss' basis, the cost of production is met from a revolving fund, sanctioned for publication of books by the I.C.A.R. One book is in press, while the manuscripts of three others are under consideration.

A Rewarding Challenge

One of the aims of university education is to provide society with good and competent men and women, trained in arts, science, technology, medicine, agriculture and other subjects. In spite of some dearth of competent personnel in certain specialised fields, it can be safely stated that the diversified needs of our developing economy for various types of experts and specialists are being met, by and large, by our universities and other institutions of higher studies and research. Higher education in India is gradually becoming an effective instrument in the social and economic transformation of the country.

Expenditure on education is the most productive investment that a country can make for developing and sustaining a self-generating economy. With limited resources, the universities and colleges in the country are engaged in a most challenging and at the same time a most rewarding task, and with faith, mutual understanding and the spirit of devotion today's aspirations are sure to become tomorrow's actualities.

CHAPTER FIVE

PHYSICAL EDUCATION AND YOUTH WELFARE

Education, to the Father of the Nation, was an all-round drawing out of the best in child *i.e.* body, mind and spirit. During the post-independence period, efforts were made to provide optimum conditions for the implementation of schemes of students well-being, physical education and youth programmes/movements and sports and games.

School Meals

The intake of protective foods in the case of a majority of the Indian families being below standard, children suffer from malnutrition and other preventable causes. The need for the development of a proper and extensive school meal programme particularly in the rural areas has, therefore, been found imperative. The programme assumes added importance, firstly because the pupils must be healthier to receive education better, and secondly because the expansion of education itself particularly in the backward areas and among the poorer sections depends to a great measure on its effective implementation. It was only in 1956 that Madras launched a school meal movement, initially on a voluntary basis, mobilising local community support and paved the way for the other States to follow. Next year the State Government stepped in to support and expand the programme to cover all schools in the State. At present about one-third of the school-going population in Madras is covered under the scheme.

Kerala has organised a programme with the assistance of CARE offering almost 100 per cent coverage at the elementary level. Andhra Pradesh, Mysore, Rajasthan and the Punjab have followed suit with large-scale coverage particularly with the assistance of CARE. Orissa is also operating a large-scale feeding programme with the milk powder provided by UNICEF. Maharashtra and Madhya Pradesh are operating not-so-extensive programmes. There are, however, a few States that are yet to undertake school meal programmes of recognisable coverage.

The Union Government formulated a scheme for supporting the programmes of mid-day meals for elementary school children on the recommendation of the School Health Committee set up in 1960 to assess the present standard of health and nutrition of school children and suggest ways and means of improving them. The scheme was taken up for implementation in 1962-63 with the assistance in the form of food commodities received free of cost from organisations like CARE and Catholic Relief Services. The scheme is at present under implementation in 12 States and 3 Union Territories. The coverage of children under it has increased from 4·2 million in 1962-63 to 8·7 million in 1965-66. The corresponding expenditure incurred by the Union Government has also gone up from Rs. 3·9 million in 1962-63 to Rs. 13·0 million (estimated) in 1965-66.

School Health Services

Medical inspection and treatment or school health services are still in its infancy in this country, although a few States have set up such services in the post-independence period; but they are largely confined to urban areas and are mostly designed to medical inspection rather than provision of adequate services. Rural or backward areas are obviously in greater need of health services in schools than the urban areas. But dearth of trained personnel and paucity of resources that necessarily have to be diverted to other more urgent programmes of economic and social development, are the two factors responsible for the little headway in this regard. The school health committee has recommended that for the present attention should be concentrated on the 6-11 age-group and that in the rural elementary schools health services should be built around the primary health centre of a community development block by suitably strengthening its staff and contingent grant. The envisaged outlay for the programme amounts to Rs. 40 million during the Third Plan period to cover about 44 per cent children of school-going age in rural areas and to Rs. 140 million during the Fourth Plan period to cover all children of 6-11 age-group in the community development blocks.

Health Education

In pursuance of the recommendations of the joint FAO-WHO Seminar on Health and Nutrition Education held at Beguio (Philippines) in 1955 the Union Government set up a committee to work out model syllabi of health education for primary and secondary schools and teacher training institutions. In the light of the comments offered by the concerned agencies the draft syllabi are being finalised. Before these are recommended to the States for adoption, the syllabi will be tried out experimentally in certain selected institutions, for which it is proposed to prepare suitable teaching-aid material.

Moral and Spiritual Instruction

In pursuance of the recommendations made by the Central Advisory Board of Education at its 26th session at Madras in July 1959, a committee under the chairmanship of Shri Sri Prakasa was set up to examine the desirability of making specific provision for moral and spiritual education in the educational institutions and defining broadly the contents of instruction at various stages of education. The committee made a number of recommendations in its report, to help inculcate proper moral values in the younger population. Following this, a committee was also set up to select suitable literature on moral and spiritual values at various stages of education. The recommendations were communicated to State Governments and universities who have by and large implemented them in one form or other.

Independence and Physical Education

Physical education is accepted as an essential and integral part of education all over the world. Although the importance of physical education had been accepted in India in the pre-independence era, little had been done to incorporate it as a part of general education. After the attainment of independence, it was natural that the Government of India should evince keen interest in the promotion of physical educa-

tion in the country. As a first step, the Government of India set up the Central Advisory Board of Physical Education and Recreation in 1950. The Union Government's programme for promotion of activities relating to physical education and recreation, including yoga, is generally based on the recommendations of the Board. The publication, entitled, 'A National Plan of Physical Education and Recreation', prepared by the Board and published in 1956, has been the sheet anchor of the Union Government's programme in this field. The National Plan included model syllabuses of physical education for all school stages. Besides, a number of similar programmes like Auxiliary Cadet Corps and National Discipline Scheme have been in vogue in various parts of the country.

The Union Government have recently taken an important step in this field by launching an integrated programme of physical education, named, 'National Fitness Corps', for all the middle, high and higher secondary schools from the academic session 1965-66 in replacement of the various existing programmes of physical education. The new programme combines in it the best features of the existing programmes and it will be one of the compulsory curricular activities for all school students from standard V/VI onwards with a weekly allotment of 3—5 periods per class.

Physical Education Teachers

With the introduction of compulsory physical education in all middle and secondary schools under the integrated programme, specially trained physical education teachers are now a must for all such schools. In 1949-50, the number of physical education training colleges offering diploma courses was 5 and that of training schools about 20. In 1958-59, these figures increased to 15 and 35 respectively. But the establishment of the Lakshmibai College of Physical Education at Gwalior in 1957 by the Union Government marks by far the most important step in this field. The college started offering for the first time a 3-year training programme at the undergraduate level leading to a degree in physical education. It started, in 1963, a 2-year postgraduate course leading to a master's degree. The college, a co-educational institution, has an annual intake capacity of 300 for the degree course and 50 for the master's degree course. For purposes of administration and control, it has been placed under an autonomous Board of Governors.

National Physical Efficiency Drive

To make the country fitness-conscious and to arouse in the people including the school population a desire to attain higher standards of physical efficiency and achievement the scheme of National Physical Efficiency Drive was launched by the Union Government in 1959-60. The 'Drive' is based on precise and carefully graded physical fitness tests which are carried out at the testing centres especially set up for the purpose all over the country. On the basis of the achievement, the winners are awarded 'One Star', 'Two Stars' and 'Three Stars' and certificates of merit. The scheme also provides for national awards which are given to persons who reveal proficiency of a very high order in the prescribed test items. The Drive has been becoming increasingly popular from year to year and during 1964-65, about 1 million persons participated in the Drive out of which over 300,000 were declared winners. Since their institution in 1962, 32 persons have won the national awards.

Labour and Social Service Camps

Formulated in April 1954, the scheme of Labour and Social Service Camps is intended to bring in the students an awareness of the problems of social and economic reconstruction, which exist in the countryside and to minimise the difference in the outlook of the urban and rural communities. It was to be worked, as far as possible, through the colleges and universities to keep the leadership movement in the hands of the teachers. During the last 11 years of its operation, more than 12,000 labour and social service camps of various sizes and durations have been held, and over 1 million students have participated in them. The main responsibility of organising these camps was undertaken by the Bharat Sevak Samaj, with the NCC Directorate a close second.

During this period, the scheme has been subjected to evaluation thrice. First, by the Committee on Plan Projects set up by the Planning Commission in 1959, then by the Kunzru Committee set up in 1959 and lastly, by the Evaluation Team under the chairmanship of Shri Asoka Mehta in 1962. The Kunzru Committee suggested in its report, submitted in December 1963, that the organisation and control of these camps should be vested in educational organisations and that outside agencies should have no hand in their management. The Asoka Mehta Committee did not suggest the exclusion of such voluntary organisations as had requisite competence and experience for managing these camps, but stressed the need for pre-planning, the provision of trained leadership and a follow-up programme. The Government have accepted the Kunzru Committee recommendations and the scheme will now be confined to educational institutions.

Campus Work Projects

The object of the scheme is to provide, with the aid of voluntary labour contributed by the students, the much needed facilities in educational institutions such as swimming pools, gymnasia, recreation hall-*cum*-auditoria, open-air theatres, stadia, pavilions, cinder tracks and rifle shooting ranges. Grants, in varying amounts, are admissible for such projects on an approved basis. From the inception of the scheme in 1953-54, 788 projects were approved involving a total grant of Rs. 17,012,825.

Youth Festivals

To promote emotional integration and to give the university students an opportunity for creative expression through discussions, debates and elocution competitions and also through dance, drama, music and painting, the Inter-University Youth Festival is organised annually. Nine such festivals have been held so far. The entire expenditure is met by the Union Government. Inter-collegiate youth festivals are also organised by the universities for selecting their contingents for participation in the Inter-University Youth Festival. Expenditure on approved items is shared by the Centre and the university on a matching basis.

Youth Leadership and Dramatic Training Camps

This programme is intended to give training to teachers in organising co-curricular activities and dramatics so that they may serve as efficient leaders for the student youths in the sphere of such activities. The target is to provide at least one trained teacher

in every educational institution at university and college level. The training is imparted through camps organised either by this Ministry or by the universities with 75 per cent aid from the Centre. So far, 385 teachers of various universities have been trained.

Student Tours

To enable students to undertake tours to places of historical, cultural, and national importance within the country, financial assistance is given to educational institutions to cover full rail/bus travel expenses of students at concessional rates subject to a ceiling of Rs. 60 per head. Two thousand tours have been undertaken since the inception of the scheme in which nearly 60,000 students have participated and an expenditure of Rs. 2,123,524 has been incurred. Since July 1959, the scheme has been decentralised and grants under the scheme are placed at the disposal of the State Governments for ultimate disbursement to the educational institutions in their territorial jurisdiction.

Youth Hostels

The movement for setting up youth hostels in India is comparatively of recent origin. These hostels aim at providing cheap board and lodging to youth while on the move. Grants have been given to the Youth Hostels Association of India, to the State Governments and voluntary organisations to meet 100 per cent cost of constructing hostels subject to a maximum of Rs. 40,000 per hostel. So far, the Union Government have assisted in the construction of 14 youth hostels.

Scouting and Guiding

The movement of scouting and guiding dates back to the pre-independence days. It was then looked after by a number of associations. The post-independence period happily saw the emergence of a single organisation, Bharat Scouts and Guides, to take charge and foster the movement in the entire country. The Government has given the organisation recognition due to it. The State Governments follow programmes of their own in supporting the development of scouting and guiding in their respective areas, particularly in schools and rural areas, by assisting the State Associations of Bharat Scouts and Guides. The Union Government, on the other hand, support the movement by extending financial assistance towards the administrative expenses of its National Headquarters, the deputation of scouts and guides abroad for participation in the international jamborees and conferences, and towards holding such jamborees/conferences in India.

National Cadet Corps

Since its institution by an Act of Parliament in 1948, the National Cadet Corps has been gaining increasing popularity from year to year as a national youth movement. The Corps, to begin with, consisted of a Senior Division comprising Army, Navy and Air Wings confined to universities and colleges, a Junior Division confined to schools and Girls' Division comprising both Senior and Junior Divisions. In 1953, Auxiliary Cadet Corps was set up within the NCC as an inexpensive complement of the Junior Division NCC and in 1960 NCC Rifles was formed to offer NCC training to a

a larger number of college students. The complement of officers for the corps is from the teaching staff of the institutions in which the units are raised. Training is carried out only during term period, but outside the academic curriculum. Four hours in a week are devoted for training. Besides, the officers and cadets are required to attend 10-14 day camps, annual training camps, combined cadre and social service camps and also all-India camps. Fulfilling the initial expectation, the NCC recorded unprecedented expansion particularly following the emergency created by the foreign aggression on the country's soil in 1962. Today the total strength of the NCC is 1·3 million, Senior Division comprising 400,000 and Junior Division 900,000.

All India Council of Sports

No organised effort at Government level was made in the pre-independence period for improving the facilities necessary for raising the standard of sports in the country. The patronage extended by the ruling princes and others also ended with the dissolution of the Princely order. The Union Government established the All India Council of Sports in 1954. The Council has provided leadership in the field by suggesting model constitution for national sports federations and State sports councils and by giving them guidance on various matters from time to time. Considerable improvements have been effected in the sports organisational set-up. Many of the sports organisations are now registered under the Societies Registration Act of 1860 and most of the office-bearers do not hold multiple offices. The Council has granted recognition to 28 national sports organisations apart from the Indian Olympic Association, the Services Sports Control Board, the Railway Sports Control Board, the Post and Telegraphs Sports Control Board, the All India Deaf and Dumb Sports Association, the School Games Federation of India, the Inter-University Board of India and the All-India Police Sports Control Board.

National Institute of Sports

The establishment of the National Institute of Sports by the Union Government at Patiala in 1961 for producing and training high calibre coaches in all sports and games, marks a landmark in the field. Foreign as well as Indian coaches are employed by the Institute for various games and sports. 548 trainees have so far been qualified in various courses conducted by the Institute. The Institute is also responsible for the running of the National Coaching Scheme aimed at making the States and Union Territories interested in the need for coaching promising teachers and students. The Institute ordinarily guarantees the salary of half the number of coaches employed at each of these centres and the rest of the expenditure is required to be met by the State Government concerned.

Abul Kalam Azad Trophy

Sports and games in the universities have been receiving great impetus from the inter-university tournaments and meets organised annually by the Inter-University Board of India. To give further incentive to university students, a trophy known as the Abul Kalam Azad Trophy was instituted by the Union Government in 1956. It is awarded

annually to the university which sends the largest number of students for participation in national and international sports competitions in an academic year.

Playfields and Sports Equipment

During the Second Plan, funds were placed at the disposal of the State Governments for giving financial assistance to educational institutions for the acquisition of playing fields and for the purchase of sports equipment. During the Third Plan the States were requested to include provision for the purpose in their own plans. The Union Education Minister has recently addressed all the Chief Ministers of States about the imperative need for more and more playgrounds and for the preservation of existing playgrounds so that they are not converted into residential colonies.

Construction of Stadia

Under this scheme, financial assistance was extended to State Governments, State sports councils, municipalities, district boards, etc., for the construction of stadia on a matching basis. To get a larger number of stadia constructed within the limited resources available, the scheme was revised to assist the construction of utility stadia only, costing not more than Rs. 100,000 each. The maximum Central assistance available for each such stadia is Rs. 25,000 and quite a number of them have come into existence under the scheme.

Mountaineering

Mountaineering as a sport of adventure has been gaining much popularity and it deserves a special mention, particularly after the outstanding success recorded recently by Indian teams in conquering the summit of the world. The Himalayan Mountaineering Institute set up at Darjeeling has been doing much useful work. The Union Government recently set up a committee to make recommendations about the development of the Western Himalayan Mountaineering Institute at Manali. The report of the Committee is under consideration. Grants are also given to universities for organising coaching camps in mountaineering for university students.

Arjuna Awards

The Union Government have instituted 'Arjuna Awards' to honour sportsmen of the year in recognition of their outstanding contribution to different games and sports. These awards were instituted in 1961, and 20 sportsmen in different games were honoured. Nine sportsmen in 1962, 7 in 1963 and 7 in 1964 have received these awards. The awards are given by the President of India at a special function held at Rashtrapati Bhavan, New Delhi.

CHAPTER SIX

EDUCATION AND WELFARE OF THE HANDICAPPED

Until about 1947, the then Provincial Governments had taken a sporadic interest in the education and training of the handicapped, usually by giving *ad hoc* grants to schools and other institutions for the handicapped. In 1943, the Central Advisory Board of Education and Health appointed a joint committee to investigate into the causes of blindness and to recommend measures for the welfare of the blind. The report of this committee, submitted in 1944, was the basis of the participation of the then Central Government, and later of the Union Government of Independent India, in the development of services not only for the blind but also for other groups of handicapped persons. In pursuance of one of the recommendations of this report a small unit was created in the Central Government, in April, 1947 to deal with the problems of the handicapped. In June, 1964, work concerning the education, training and rehabilitation of the handicapped was transferred from the Ministry of Education to the newly created Department of Social Security.

According to recent estimates, India has about 4·39 million blind persons. The number of deaf persons in the country is believed to be between 1 and 1·5 million. No reliable estimate of the orthopaedically handicapped is available. Since mental retardation is an extremely complex and elusive concept, even the most advanced countries are finding it very difficult to arrive at some reasonable estimates of their mentally retarded population. Moreover, mental retardation is basically an educational concept. In view of this, most of the estimates are in terms of children. It is believed that India may have between 1·5 and 1·8 million mentally retarded children of school-going age.

The Blind

The most outstanding achievement in the education of the blind since independence has been the evolution of the Bharati Braille, a common Braille code for all Indian languages. This code has been framed in the light of the recommendations of three international conferences convened by Unesco at India's suggestion. Its chief characteristic is that it maintains a substantial measure of uniformity with the Braille codes of many other countries, particularly those of our neighbouring countries like Burma and Ceylon. All schools for the blind in India are now using a common code. Before independence 8 different codes were in use. In 1947, India had about 50 schools and other establishments for the blind. During the last eighteen years, this number has risen to 110. It is estimated that there are about 450,000 blind children of school-going age in the country. The number of blind children enrolled in schools is at present about 5,000. The largest project undertaken by the Union Government in the field is the establishment of a National Centre for the Blind at Dehra Dun. All the units of the National Centre have now been established, and they will be further developed in the Fourth Plan.

In 1943 a training centre by the name of St. Dunstan's Hostel for the Indian War-Blinded was established at Dehra Dun. This institution was intended for the training of ex-servicemen blinded in World War II, and functioned as a branch of St. Dunstan's in England. By 1949, the training of the war-blinded was practically completed. With effect from 1st January, 1950, therefore, the administration of this institution was taken over by the Union Ministry of Education and the institution was renamed the Training Centre for the Adult Blind. Its doors were thrown open to both the war-blinded and the civilian blind. The Centre is the largest institution in the country for the training of blind adults. It has accommodation for 150 men and 35 women trainees. Training is given in Braille, typewriting, music and a variety of engineering and non-engineering crafts like weaving, chair-caning, basket-making, knitting, assembling, operation of machines like lathes, milling machines, etc. The training programme at the Centre is at present being re-organised with the assistance of an expert loaned by the United Nations.

Attached to the Centre is a small sheltered workshop employing ten workers. They are paid on a piece-rate basis. The products of this workshop are sold at competitive prices in the open market. Attached to this Centre is also a small workshop for the manufacture of Braille appliances. Until about 1954, when this workshop was established, all educational appliances for the blind had to be imported. Today, this workshop is producing all the basic appliances needed for the education of the blind. Some of its appliances are also exported to other countries in Asia and Africa. With the assistance of a United Nations expert, this workshop is also trying to undertake the manufacture of more complicated appliances like Braille writers and mathematical appliances.

In 1951 the Union Ministry of Education established a Central Braille Press at Dehra Dun to undertake the publication of Braille literature in Indian languages. Since that time the Press has published about 150 titles in Braille. In addition, it produces a quarterly journal in Hindi entitled 'Alok'. At present the Central Braille Press is able to meet only a fraction of the demand for Braille literature in the country. Consequently with the assistance of UNICEF an attempt is being made to establish regional Braille presses at Bombay through the National Association for the Blind, at Madras through the State Government, and at Calcutta through the Ramakrishna Mission. Equipment for the regional presses has already arrived.

In January 1959, a Model School for Blind Children was established. Admission to this school is open to blind boys and girls between six and thirteen years. The school provides education up to the 9th class; there are plans to develop it into a higher secondary institution.

About two years ago the National library for the Blind was added to the complex of institutions for the blind at Dehra Dun. This library has over ten thousand Braille volumes which are circulated to blind readers throughout the country free of cost. No postage is charged on Braille literature carried through the Indian postal services.

The Deaf

By 1947, the country had about 35 schools for the deaf. During the past eighteen years, the number has risen to 68. It is estimated that the country has over 200,000 deaf children. Only about 4,000 deaf children are at present attending school. As a

first step towards the establishment of a comprehensive centre for the deaf, the Union Government have set up a Training Centre for the Adult Deaf at Hyderabad. Admission to this Centre is open to deaf boys between 16 and 25 years. Training is at present imparted in engineering and non-engineering occupations like sheet metal work, wire-manship, tailoring, carpentry, etc. Those trainees whose parents earn less than Rs. 500 per month are provided free board, lodging, clothes and tuition. The normal duration of training is two years. The Centre has accommodation for 60 trainees.

The Orthopaedically Handicapped

In 1947 the country had no special institutions intended for the orthopaedically handicapped. Today, there are 23 such institutions. Majority of the orthopaedically handicapped children are able to go to normal schools. Many orthopaedically handicapped adults are also admitted to the Industrial Training Institutes run by the Union Ministry of Labour and Employment.

The Mentally Retarded

The problem of mental retardation is very complex. In 1947, the country had only one school for mentally retarded children. The number has now risen to over 20. The total enrolment in schools for the mentally retarded is about 2,000. Last year the Government of India established a Model School for Mentally Deficient Children in New Delhi. At present the school has 60 children, 40 of whom are resident pupils. The main task of this school is to provide education according to the aptitudes, abilities and interests of the children. Instruction is usually highly individualised. Considerable stress is laid on training in activities of daily living and on manual training. Admission is open to children between 6 and 12 years of age provided their I.Q. is between 50 and 75. They are provided free board, lodging, tuition and clothes.

Scholarships for the Handicapped

Towards the end of the First Plan, the Union Government initiated schemes of scholarships for the blind, the deaf and the orthopaedically handicapped. Under these schemes, blind and deaf scholars over 16 years of age are awarded scholarships for higher education or for technical or professional training, usually in ordinary institutions. Deaf students are also given scholarships for education beyond the middle standard. Orthopaedically handicapped students between 13 and 30 years of age are eligible for scholarships for education beyond the eighth class and for technical or professional training. Blind students are given a special allowance to cover the cost of readers. Similarly, orthopaedically handicapped students are given a special allowance to cover the cost of transport charges, maintenance of prosthetic aids, etc. During the First Plan about 100 blind and 42 deaf students were awarded scholarships. During the Second Plan 659 scholarships were awarded—blind 185, deaf 246, and orthopaedically handicapped 228. The scholarships have been continuously on the increase and during the first 4 years of the Third Plan 1,933 scholarships have been awarded—blind 536, deaf 516, and orthopaedically handicapped 881.

Assistance to Voluntary Organisations

Since the commencement of the Second Plan, the Union Government have been giving assistance to voluntary organisations for the handicapped to help them to undertake developmental activities. During the Second Plan, the Union Government's contribution was limited to 60 per cent of the approved expenditure. During the Third Plan this has been raised up to 75 per cent of the approved expenditure. During the Second Plan a sum of Rs. 948,564 was given to 36 organisations. During the first four and a half years of the Third Plan, a sum of Rs. 1,667,159 has been released to about 45 organisations.

Employment of the Handicapped

One of the important steps taken during the Second Plan was to obtain in 1958 from the International Labour Organisation the services of an expert to assist in the preparation of a plan for establishing an employment organisation for the handicapped. In pursuance of one of his recommendations, a special employment exchange for the physically handicapped was set up at Bombay in March 1959. Since then 8 more special employment exchanges for the physically handicapped have been established at Delhi, Bangalore, Ahmedabad, Chandigarh, Calcutta, Hyderabad, Madras and Kanpur. These exchanges have placed about 3,000 physically handicapped persons in suitable employment.

Training of Personnel

Three centres for the training of teachers for the blind have been established at Bombay, Delhi and Narendrapur (West Bengal). These centres can train about 30 teachers for the blind annually. About 40 teachers have so far been trained. In 1963-64 the Government of India awarded four fellowships to teachers and workers for the blind and the deaf to visit other institutions for the blind and the deaf in the country with a view to enriching their professional experience. During the past few years, a small number of craft instructors from institutions for the blind and the deaf are annually sent for training in the regional institutions for the training of craft instructors run by the All India Handicrafts Board. About 20 craft instructors have so far been trained under this scheme. This year the Royal Commonwealth Society for the Blind, London, sponsored by the British Commonwealth Relations and Colonial Office, offered a few scholarships for the training of teachers and administrators of work for the blind. The Superintendent, Training Centre for the Adult Blind, Dehra Dun, was trained in England during the current year under the scheme. A teacher from the Government School for the Blind, Poonamalle, Madras, has recently left for the United Kingdom for training. The Royal Commonwealth Society for the Blind has also offered three scholarships this year for the training of medical persons in ophthalmology. It is hoped that under this scheme three doctors will be sent to the United Kingdom early next year.

Perhaps the most important trend in the education and training of the handicapped at the present time is to integrate the handicapped, wherever possible, into the normal community. In pursuance of this it has been decided to undertake a project to place a substantial number of blind children in ordinary schools. The project is expected to

be implemented with the assistance of some foreign agencies like the American Foundation for Overseas Blind, the Royal Commonwealth Society for the Blind, UNESCO and possibly UNICEF.

India is at present in the process of developing initial services for all major categories of handicapped persons. The paucity of human and material resources is the major retarding factor. Despite this limitation, it is hoped that during the next decade or so a firm foundation for a sound system of services for the handicapped will have been laid.

CHAPTER SEVEN

SOCIAL EDUCATION

The Central Advisory Board of Education at its meeting in 1948 expressed the view that organisation of adult education in India had become imperative as a result of the attainment of freedom. A committee was appointed to go into the question. Consequently, in 1949 a new and comprehensive concept of adult education known as Social Education emerged. This concept included elements of education for democracy, citizenship and health and education for desirable social change. The contents of social education were broadened with a view to build up a comprehensive programme of education for life covering numerous helpful activities around the core activity of literacy.

An international seminar of South-East Asian countries was organised jointly by the Government of India and the Unesco at Mysore in November-December 1949. The subject for discussion was: Adult Education for Community Action. The discussions proved helpful in formulating the programmes of social education in India. In the period from 1948 to 1951, several experiments in social education were tried. An Adult Education Caravan was formed in the Union Territory of Delhi. This caravan went from one group of villages to the other, for carrying out initial literacy and social education work. It was the primary school teacher in the village who continued the initial work, after the caravan completed its visit. A massive programme of social education was launched in the then State of Madhya Pradesh. The spearhead of that programme was the organisation of summer camps for social education every year with the help of teachers and student volunteers in about 500 villages. The Government of Bombay established regional committees for carrying out the programme of social education.

The results of these pioneering activities were so encouraging that when the First Plan was formulated and the new programme of Community Development was introduced, social education came to be regarded as a recognised method of community development. The major responsibility of carrying out the field work of social education in the development blocks went over to the community development programme. Each block had a man and a woman social education organiser. They were to be in charge of implementing the social education programme for the success of community development programme as a whole. Training centres were established for the training of social education organisers. This pattern of work has continued in the Second and Third Plans.

The Union Ministry of Education has an over-all responsibility for planning and coordinating the programmes of social education. Coordination is achieved through the Central Advisory Board of Education on which each State and Union Territory is represented. This Board has a Standing Committee on Social Education. The Union Ministry of Education provides supporting services like the training of the key personnel employed by the State Governments for literacy and social education work. It also

operates schemes like production of literature for neo-literates. The responsibility for making State plans on the pattern of the Central plans for literacy and social education and their execution is that of the State Governments.

In the period from 1948 to 1951, the State Governments had been given substantial aid by the Union Government to build up programmes of social education. A Janata College was established at Alipur in the Union Territory of Delhi. Steps were taken to meet the demand for suitable social education literature. A generous grant was given to the Jamia Millia, New Delhi, to bring out adult education pamphlets and posters in Hindi. They brought out 160 pamphlets. Ten thousand copies of each pamphlet were printed and distributed free to State Governments. A scheme of awarding prizes to best books for neo-literates was introduced. It was further supported by the scheme of purchasing at least 1,000 copies of each approved book. Realising the utility of audio-visual aids in social education, a conference of experts was held in 1951-52. Training courses in audio-visual education were also conducted at Delhi and Mysore in cooperation with Unesco experts.

In the First Plan, the Union Ministry of Education, provided supporting services to the programme of social education by giving financial assistance to various schemes. Opening model community centres and developing selected primary schools into school-*cum*-community centres was one of such schemes. One hundred sixteen model community centres and 454 school-*cum*-community centres were established under this scheme. The other scheme related to the development of integrated library service and the improvement of rural library services. There were also schemes for starting Janata Colleges and for assisting the training of teachers and social education workers. At the end of the First Plan, a scheme for the appointment of district social education officers to provide a link between the social education organisers in the development blocks and the Departments of Education of the State Governments and Union Territory Administrations was also introduced. The Departments of Education continued social education and literacy work in such areas as were not covered by the community development programme.

In the Second Plan the Union Ministry of Education established the National Fundamental Education Centre, with assistance from Unesco and the Technical Cooperation Mission of the USA. The objectives of the National Fundamental Education Centre are: to train key personnel of social education, such as the district social education organisers; to carry out research; to produce prototypes of audio-visual aids and teaching material for social education and to act as a clearing house of information. The Union Ministry of Education introduced an additional scheme of workers' social education. A Workers' Social Education Institute was started at Indore. The other Central schemes taken up in the Second Plan period were the scheme for the production of literature for neo-literates, organisation of sahitya shivirs (literary workshops) for training authors in the techniques of writing for neo-literates, the establishing of the National Book Trust and the Institute of Library Science in the University of Delhi for providing facilities for training in public librarianship. Financial assistance was also extended to voluntary organisations in the field of social education.

In the Third Plan, the schemes started in the Second Plan were continued. It, however, came to light, specially after the 1961 census, that the adult literacy work had

not made sufficient impact. Although there had been a rise in the percentage of literacy—from 16·6 per cent in 1951 to 24·0 per cent in 1961—it became evident that the number of adult illiterates had increased due to the growth of population. This made it necessary to plan for a massive programme for the eradication of illiteracy.

The problem of mass illiteracy in India is of great magnitude. The population of adult illiterates in the age-group 14-45 is estimated to be of the order of 150 million. This huge mass of illiterate population acts as a hindrance in the progress of the plans for agricultural development, improvement of health and sanitation and growth of cooperative institutions. Even for the success of democratic decentralisation through the Panchayati Raj system, it is necessary that greater effort be made for the liquidation of illiteracy. The coming Fourth Plan is, therefore, proposed to be geared to make a sizable dent on the problem of liquidation of illiteracy.

In recent years a new experiment of organising a campaign for the removal of illiteracy has been attracting great interest in this country. This movement is known as the Gram Shikshan Mohim introduced in the State of Maharashtra. Aimed at making the whole village literate, it is conducted with the cooperation of the community. The expenditure is not much as the village panchayat bears the expenditure for the initial work, and the teachers, students and other educated persons in the village offer their services on voluntary basis in teaching the illiterate adults. This pattern of literacy work has been recommended to other State Governments. The Union Ministry of Education has given financial assistance to the State Governments for starting pilot projects on the pattern of the Gram Shikshan Mohim. On the basis of experience gained, a crash programme for the liquidation of adult illiteracy will be taken up in the years to come.

Continuing Education

With a view to making social education purposeful, it is necessary to provide facilities for continuing adult education. The Janata Colleges were started with that end in view. Six vidyapeeths were organised in the Mysore State. They are now developing into centres of education in better methods of agriculture and other subsidiary farm industries. During the Fourth Plan, there will be further efforts at spreading such continuing education facilities. A beginning in this direction has been made by the Rajasthan University at Jaipur, by starting an University Adult Education Department to provide facilities for higher learning for adults.

Libraries

The success of social education work depends to a large extent on the activities undertaken to prevent the neo-literates from relapsing into illiteracy and to create in them an urge for further learning. Libraries have thus an important role to play in the social education programme. It has already been mentioned that a scheme of integrated library service was introduced under the First Plan. There are 29 such integrated library centres, the foremost among them being the Delhi Public Library which was started in 1952 with initial help from the Unesco to serve as a model not only for India but for the whole of South Asia. This library is an outstanding success. To effect improvement of the general library services, the State Governments were given assistance to start district libraries and circulating book services for the rural areas.

There is also a scheme to give financial assistance for starting State libraries and regional libraries. There are now 13 State libraries and 205 district libraries.

Literature

The Union Ministry organised in cooperation with Unesco, a prize scheme for literature for the new reading public. Eleven competitions have been held so far, for encouraging the production of literature for neo-literates, and four under the Unesco-supported scheme of literature for the new reading public. As a result, 419 books that have won awards in different Indian languages, are now available for neo-literates and about 20 good books for the new reading public. Besides, the Union Ministry of Education has undertaken a scheme of bringing out a popular encyclopaedia for the new reading public. It is known as 'Gyan Sarovar'. Three volumes have so far been published. Two more volumes will be published in the course of the next couple of years. Assistance was also given to a private publisher for bringing out an encyclopaedia in Hindi known as 'Hindi Vishwa-Bharati' in 10 volumes. All the 10 volumes have been published. Under the scheme of organising sahitya shivirs (literary workshops) for training authors to write books for neo-literates and the new reading public, twenty-two such workshops were organised and 350 authors trained.

Non-Governmental Organisations

This account will remain incomplete without a mention of the non-governmental organisations who played no less a significant role in helping the spread of social education. The Indian Adult Education Association, New Delhi, organised, since 1950, annual national seminars on subjects relating to social education. The Bombay City Social Education Committee has been doing significant work for adults in the metropolitan area of Bombay. The Mysore State Adult Education Council has been in the field for many years. It has been regularly carrying out literacy work and has also taken a lead in establishing vidyapeeths. There are other voluntary organisations also who are contributing their share in the cause of social education.

CHAPTER EIGHT

RESEARCH

As in other spheres of socio-economic endeavours, independence provided an unfettered scope for research development. There is at present hardly any discipline in which India is not engaged in the pursuit and acquisition of knowledge considered vital for her multilateral development. A glimpse into the growth of research facilities in the universities and other specialised institutions of advanced studies has been provided in the chapter on higher education. Here an attempt has been made to present a picture of the research activities particularly of the three main organisations, namely, the National Council for Educational Research and Training, the Council of Scientific and Industrial Research, and the Atomic Energy Department.

Educational Research

In 1961 the National Council of Educational Research and Training was set up as an autonomous organisation with the responsibility of providing national leadership in educational research and training. Educational research in India had till recently been a neglected area. A vast amount required to be done to make up the leeway. No single organisation could hope to do this effectively. The Council has, therefore, sought to emphasise the cooperative aspect of research work by involving a number of institutions and organisations in its programmes.

In the choice of problems and projects, the need to make research functional and to relate its findings to the needs of the educational system is a top priority. Research problems of national importance in various fields, are located and arranged in order of priority relative to the requirements of State departments of education, training colleges, universities and other educational institutions. The Council also organises research evaluation studies, utilising the available resources. It is preparing a carefully designed blue-print of important educational problems facing the country today and in the immediate future at all levels of the educational system. To achieve a high standard of research work, the Council maintains close touch with research developments in other countries, and in other parallel fields within the country.

In research, besides the programmes of the departments, the Council has grant-in-aid schemes, under which financial assistance is given to outside agencies such as colleges, university education departments and research institutions to enable them to undertake research into educational problems and also to publish outstanding educational research. The problems under these schemes cover a wide range from p e-primary to university education and special problems in educational planning, financing administration, women's education and the educational problems of scheduled castes and tribes. Moreover, educational problems can no longer be studied in isolation, but have to be considered in relation to the present socio-economic growth of the country. This means an inter-disciplinary approach to the analysis, direct and indirect, of other disciplines in education. With a view to securing this, the Council is proposing to organise

an inter-disciplinary symposia that will help to ascertain how other disciplines can contribute to the educational reconstruction that is taking place today.

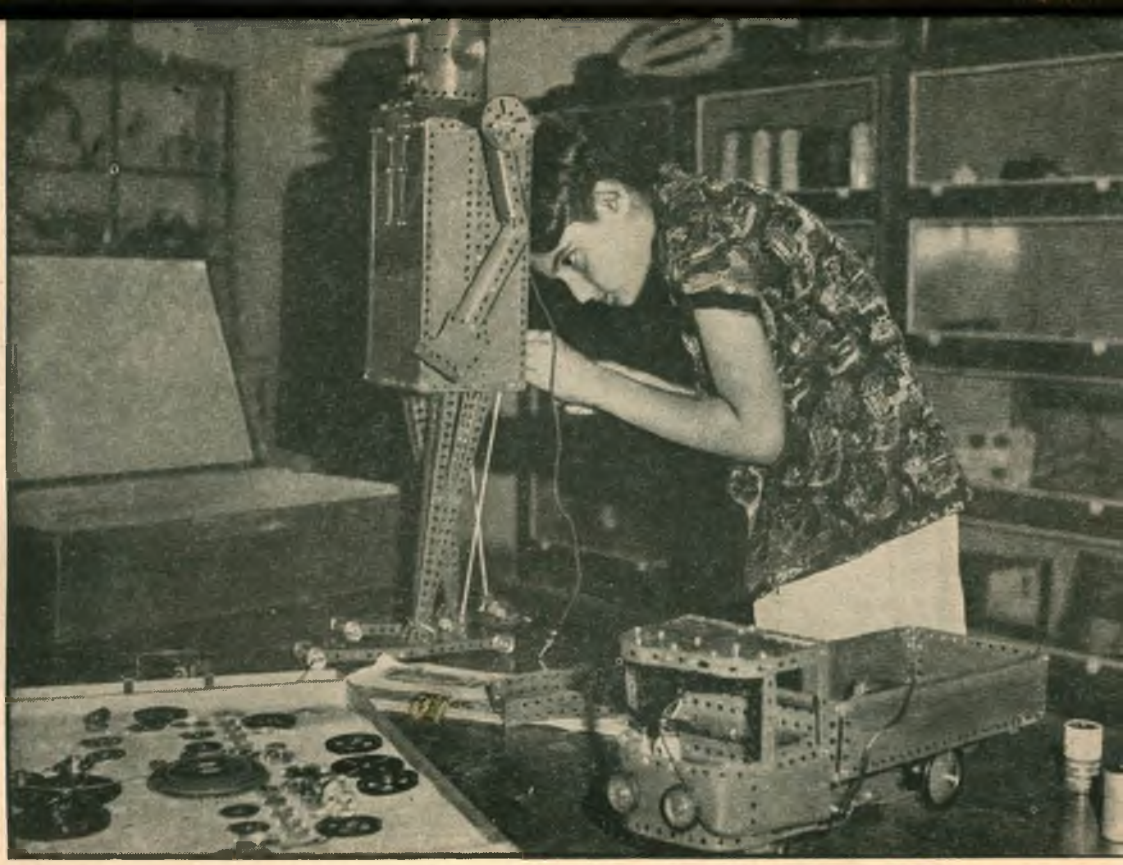
Efforts are being made to establish liaison with foreign institutions for educational research. Under the International Cooperative Research Programmes of the US State Departments of Health, Education and Welfare, the National Council has undertaken on behalf of the Ministry of Education, to carry out nine research projects in important educational areas. The purpose of this programme is to develop new knowledge about major problems in education, in order to devise new applications of existing knowledge in solving such problems.

Scientific and Industrial Research

The Council of Scientific and Industrial Research was set up in 1942, but it was only after the attainment of independence that it emerged as a national body for promoting scientific research in the country. Because of its activity in different scientific fields through its laboratories and institutes, it is considered as the largest organisation of civilian research in India.

The Council is responsible for the planning, establishment and management of its laboratories and institutes which symbolise its major effort in application of science and technology for national development. Six of the laboratories were started in 1950. The number of research laboratories rose from 14 in 1954-55 to 22 in 1959-60. At present there are 29 National Laboratories/Institutes with 56 associated experimental extension, survey stations and field centres. Some of the laboratories cover distinct scientific disciplines like physics, chemistry, electrochemistry, electronics, etc. while others deal with a specific commodity or a sector of industry such as glass and ceramics, fuels, food, drugs and leather. There are institutes connected with branches of public utilities such as public health, buildings and roads. In addition, there are three regional research laboratories with greater emphasis on the utilisation of raw materials and assistance to existing industries and formulating plans for new industries in the region.

The National Laboratories carry out research directed towards advancement of scientific knowledge in their respective fields and application of the knowledge to achieving fullest and most efficient utilisation of natural resources for the economic development of the country. The laboratories have evolved a large number of products and processes which have found direct utilisation by industrial firms. A few of the more important ones are the development of fine chemicals, ion-exchange resins, insecticides and fertilisers from indigenous raw materials by the National Chemical Laboratory; silver mica, ceramic capacitors, carbon rods and brushes, cinema arc carbons and soft and hard ferrites by the National Physical Laboratory; upgrading of substandard ores for production of ferro-manganese, economic production of ferro-alloys and aluminising of steel products by the National Metallurgical Laboratory; design and fabrication of signal generators and television receivers by the Central Electronics Engineering Research Institute; manufacture of optical and foam glasses by the Central Glass and Ceramic Research Institute; production of protein fortified infant food by the Central Food Technological Research Institute; and development of activated carbon, active earths, and silicon carbide by the Regional Research Laboratory, Hyderabad. The improved processes of coal washing, coal blending, coal carbonisation, utilisation of inferior fuels by the Central Fuel Research Institute have



Architect of Modern India in the Making

HARBINGERS OF INDIA'S PROGRESS AND CULTURE

Scholars from Abroad at Study in Visva-Bharati

Model Farm of Indian Agricultural Research Institute, New Delhi

HARNESSING NATURE FOR PROSPERITY

Tungabhadra Dam—Typical of the 'Temples of Modern India'

contributed towards better utilisation of coal resources and have assisted the production of iron and steel in the country. The development of test facilities for flame-proof equipment and explosives by the Central Mining Research Station have resulted in substantial foreign exchange savings. The new techniques of road construction and building by using local materials by the Central Road Research Institute have added towards lowering their cost. The progress of the tanning and new products from leather has been greatly helped by the work of the Central Leather Research Institute. The improved process of parboiling paddy and utilisation of oilseed meals for protein-rich food have added to our food resources.

The laboratories of the Council provide facilities for training of young research workers for award of higher degrees. Many of the laboratories and institutes are recognised by the universities as centres for advanced research leading to Ph.D. degree. Some of the laboratories also organise short-and long-term training courses periodically for communication of recent advances in specific branches of industrial technologies. Higher training courses and summer schools are also held from time to time.

The Council awards a large number of senior and junior research fellowships tenable at the universities and other research institutes to brilliant younger scientists to encourage them to adopt research as a career. Besides, the Council supports a number of research schemes in different fields of research under investigation in universities, teaching and research institutions giving direct encouragement to promising research projects. The Council also supports centres for advanced research in the University of Roorkee and the Department of Chemical Technology, Bombay University.

In addition to their own research programmes, the National Laboratories undertake research projects sponsored by the industry and other users' organisations. During 1964, 180 research schemes were taken up at 18 laboratories. Work on 57 schemes was completed and results made available to the concerned parties.

Another vital step for stimulating users' participation in scientific research has been the organisation of Industrial Research Associations. The first association of the kind was established in 1947 dealing with textile industry. At present, there are 8 such associations, 3 in the textile industry and one each in the silk, plywood, paint, tea and wood industries. The associations for rubber, cement, automobile, cables, bricks and tiles, jute, and radio and electronics are in the formation stage. In this connection, mention may be made of the activities of the National Research Development Corporation that was set up in December, 1953 on the pattern of similar organisations in the USA, the UK and Canada on the recommendation of the Governing Body of the Council of Scientific and Industrial Research. During the eleven years of its working, the Corporation has been assigned 708 inventions, out of which 118 have been released free to the industry as technical aid, since they were of such a nature as would assist industries in minor technological improvement, and for 149 inventions licensing arrangements have been negotiated for commercialisation.

Many of the processes and products evolved at the National Laboratories have been taken up by the industry. Besides 200 processes made available to the industry free of cost, 154 processes have been released either on definite terms of royalty and premium or given as technical aid against payment. Sixty-four processes have already gone into production while others are in the process of implementation.

Some of the laboratories also act as technical consultants to industries supplying them with design data, project report, blue-prints, etc. which they would otherwise obtain from foreign consultants. This has resulted in saving foreign exchange and indirectly has been instrumental in creating the desired self-confidence both in the scientists and industries of the country. The setting up of a Central Design and Engineering Unit in 1963, is another step in bridging the gap between the laboratory research and its adoption for use at an industrial level.

With increasing activities in scientific field of other organisations in spheres like agriculture, medicine, atomic energy, defence research etc., there is an imperative need for an over-all planning and coordination. Effective steps have been taken for achieving the desired cooperation and coordination of CSIR with other organisations like the Ministry of Industry, Ministry of Health, Planning Commission, Ministry of Railways and Ministry of Agriculture. This will result in attaining fuller and better utilisation of the results of research carried out in the National Laboratories.

Atomic Energy Research

In its programme for the planned economic development and improvement of the standard of living of its people, India has given attention, among other resources, to harnessing energy from the atom—the newest and potentially the most revolutionary source of energy in modern times. A beginning was made in 1948 when an Atomic Energy Act was enacted with the object of developing atomic energy for peaceful purposes. An Atomic Energy Commission was set up for the promotion of nuclear research, the surveying, prospecting and processing of raw materials, training scientific and technical personnel and fostering fundamental research in nuclear sciences. The excellent progress made in this field encouraged the Union Government to embark upon a full-scale programme for the development of atomic energy, and to formulate and implement this programme the Department of Atomic Energy was established at the Union Government level in 1954 under the charge of the Prime Minister.

The Atomic Energy Commission was reconstituted in 1958 with enhanced executive and financial powers to enable it to plan and implement better an expanded programme in this field. The Atomic Energy Act of 1948 was replaced by a more comprehensive legislation in 1962. One of the first acts of the Atomic Energy Commission was to set up an Atomic Minerals Division. It was charged with the task of conducting comprehensive geological surveys for the location of atomic minerals, the development of mineral technology, drilling, mining, stock-piling and conservation of atomic minerals. The most important achievement of this Division has been the discovery of large uranium deposits in Bihar State and the location of extensive thorium-rich minerals on the Ranchi Plateau, also in Bihar. Deposits of beryl and lithium ores have also been discovered.

The national centre for research in and development of atomic energy is the Atomic Energy Establishment at Trombay, located about 15 miles from Bombay City. Today, employing a staff of nearly 8,000, the Establishment is by far the largest scientific centre in India. There are three research reactors at this Establishment. Apsara, India's first reactor, is of the pool type and became critical on August 4, 1956. It was designed, engineered and built entirely by Indian scientists and engineers, and only the fuel elements of enriched uranium were obtained from the United Kingdom Atomic Energy Authority.

This reactor has given trouble-free service. Since 1961-62 the reactor has been operated round the clock. Zerlina, a zero energy reactor for lattice investigations and new assemblies, was also designed, engineered and built by Indian personnel. This reactor has been in operation since January 1961 and has provided a flexible facility for the study of characteristics of heavy water moderated and natural uranium fuelled reactor cores. India's biggest research reactor is the Canada-India Reactor, a high flux 40 MW engineering test reactor, that was built in cooperation with Canada under the Colombo Plan, and became critical for the first time in July, 1960. The reactor is now operating at full power. C.I.R. is one of the most powerful research reactors in the world as well as potentially one of the largest radioisotope producers.

Indian scientists and engineers have also designed and built a number of complex production plants without any foreign technical assistance. These include a Thorium Plant and a Uranium Metal Plant, producing the thorium and uranium of high nuclear purity—the impurities being less than few parts per million. A Fuel Element Fabrication Plant, also designed and built by Indian scientists and engineers, fabricates the uranium into fuel elements for C.I.R. and Zerlina. These fuel elements are of a very high quality and have proved to be as good as any produced elsewhere in the world. These achievements have placed India among the select group of about half a dozen countries producing their own fuel elements. The plant is also used for research and development work on new fuels and materials. In order to treat the uranium ore from Jaduguda, a Uranium Mill is being set up near the mine. This mill has also been designed by Indian scientists and is being built by Indian engineers. When completed in 1966, it will treat 1,000 tonnes of ore per day.

Considerable work has been done at the Trombay Establishment in studying the structure of solids and liquids, as well as certain aspects of nuclear structures, by using neutron beams from the reactors. Early in 1962 a 5·5 MeV (million electron volt) Van De Graaff Accelerator was installed for the study of nuclear reactions. Trombay scientists have designed, built and put into operation a multiarm neutron sepctrometer—the first of its kind to be in operation in the world.

The commissioning of Apsara in 1956 made possible for the first time in India the production of radioisotopes in substantial quantities as well as the providing of irradiation facilites. C.I.R. has made possible the production of high intensity radiation sources which cannot be produced in Apsara, such as cobalt-60. The Trombay Establishment is now in a position to meet the entire national requirements for most types of radioisotopes in spite of the fact that the number of users has increased very rapidly. Radioisotopes and radiation sources have also been exported to countries of Africa, Asia and Europe. Nearly 300 different types of radioactive products, including many special preparations required for diagnostic and therapeutic purposes, are readily available for users. Considerable progress has also been made in the production of labelled compounds which are so necessary for research purposes.

Trombay scientists and engineers have also designed and built, without any foreign collaboration, a plant for the extraction of plutonium. The purpose of the Plutonium Plant is to treat the waste fuel elements from the atomic reactors to separate the highly radioactive fission products and to extract plutonium, an extremely valuab le fissionable material and fuel for India's future reactors.

Electronics instrumentation plays a vital role in the field of nuclear energy. Facilities have, therefore, been developed for fabricating sophisticated supersensitive electronic instruments at Trombay. Today, Trombay produces most of the instruments and radiation detectors needed not only for its own work, but also for other institutions and industries engaged in nuclear research and work with radiation sources. Electronic computers and test instruments are also being developed and produced.

The design and development capabilities of the electronics engineers at Trombay are now comparable to those available in other developed countries and they are in a position to tackle practically all of the intricate electronics problems in the world.

The Trombay Establishment has also developed and fabricated a number of high vacuum instruments not only for its own use but also to meet the needs of others, thereby saving a considerable amount of foreign exchange. Techniques developed here have also been employed for uses other than in the field of atomic energy. For instance, at the time of the Chinese invasion in October 1962, there was a sudden increase in the demand for blood plasma. The only two existing plants in the country for freeze-drying this life-saver were not adequate to meet the demands. The Trombay Establishment designed and fabricated a plant for this purpose, capable of freeze-drying 600 bottles or 180 litres of plasma per month. This was the first unit of its kind to be built in India and it has been installed in the Haffikine Institute in Bombay Trombay is now developing mobile freeze-dryer units.

The Establishment has also successfully developed an induction plasma torch, a source of high temperature. Even in the highly industrialised countries this is a recent addition to the family of high temperature generators.

In the field of agriculture, considerable work has been done to study the fundamental aspects of biological actions of ionising radiations, the induction of mutations in plants of economic importance such as rice, groundnut, etc. and to develop methods of preservation of food by irradiation. Several mutations of scientific and economic value have already been isolated. It has been found that irradiation of fruits such as mango, apple, guava, banana and sapota, with suitable doses of gamma radiation, appreciably extends their life at room temperature. Likewise small doses of gamma radiation have been found to be of use in the extension of the shell life of fresh fish and in processing dried fish products. An Irradiation Service has been in operation since 1957 to help research institutions and universities in the irradiation of biological and chemical materials. Significant advances have been made in the study of control of insect pests in stored grain by radiation which have shown that radiation disinfestation can be integrated with the existing storage facilities available in India.

In the medical field, extensive studies have been made, among other things, to gain an insight into the causation of oral cancer in experimental animals. It has been shown that specific nutritional deficiencies play an important role in its causation. A Radiation Medicine Centre was set up in 1963 to use radioisotopes in the diagnosis and treatment of diseases. Good progress has been made in investigations related to thyroid disorders including thyroid cancer, study of the problem of sporadic goitres and the establishment of methods for radioisotopic applications. Since such a centre can function effectively only if it is based on a well-established and well-equipped hospital, the Government decided to transfer, on February 1, 1962, the Tata Memorial Hos-

pital and the Indian Cancer Research Centre, Bombay to the administrative responsibility of the Department.

A Training School was started in 1957 with the object of meeting the growing requirements for suitable scientific personnel for India's atomic energy programme. University graduates in science and engineering are selected annually on an all-India basis and given specialised training in the various disciplines of nuclear science for one year. Upon successful completion of their training, they are appointed to suitable positions in the Establishment and other laboratories for which the Department is administratively responsible.

The national centre of the Government of India for advanced study and fundamental research in nuclear science and mathematics is the Tata Institute of Fundamental Research, Bombay. Founded in 1945, the Institute has done outstanding original work in theoretical and experimental physics in the elementary particle field, including the discovery of the K-Meson and processes involving strange particles. The Nuclear Emulsion Group of the Institute is one of the largest in the world and the Institute has a big and broad-based plan in the cosmic ray research. Important work has been done in geophysics including the discovery and use of cosmic ray produced radioactive tracers. Other fields of work include digital computers, nuclear magnetic resonance and nuclear reactions and energy levels. The Institute rendered valuable service to the Atomic Energy Commission in the early days of its activities. The School of Mathematics at the Institute, largest and most active in India, has an international reputation.

Among the other institutions under the administrative responsibility of the Department of Atomic Energy are the Saha Institute of Nuclear Physics, Calcutta and the Physical Research Laboratory, Ahmedabad, which have made important contributions to nuclear research in the country.

The Department of Atomic Energy is also responsible for research into and exploration of outer space for peaceful purposes. An Equatorial Rocket Launching Station has been established at Thumba in Kerala near the magnetic equator. A number of scientific experiments have already been completed successfully by means of rocket-borne payloads in cooperation with France and the United States of America.

CHAPTER NINE

DEMOCRATISATION OF EDUCATIONAL OPPORTUNITIES

A democratic system of education offering equal educational opportunity to all irrespective of caste, creed or sex, that India has given unto herself must have an integrated scheme of scholarships to enable the deserving and promising students to go higher up the educational ladder unhampered merely for economic reasons. A number of schemes of scholarships are under operation at various stages of education both for studies in the country and abroad. On the one hand, the deserving students are awarded scholarships irrespective of class or community, so as to maintain standards of excellence. On the other, extensive scholarships are made available to those classes or communities who, for historic reasons, have been denied the opportunity of education. After independence, many foreign countries started offering scholarships/fellowships to Indian nationals for study/training in their countries as a gesture of goodwill towards India; the Government of India too, as a measure of reciprocity, instituted schemes for the nationals of foreign countries for studies/training in India.

Scholarships for Indian Nationals for Study in India

Instituted in 1953, the scheme of Merit Scholarships in Residential Schools is intended to make available the benefits of public school education to poor but talented students who otherwise are unable to afford it. Children of the age-group 9-12 are eligible for these scholarships which continue till the completion of the school stage, provided the progress in study is satisfactory. About 60-70 fresh awards were given each year. From 1962-63 the number has been increased to 200 scholarships per year.

A scheme of Merit Scholarships for Children of School Teachers was instituted in 1961-62. It provides for the award of 500 scholarships each year, to meritorious wards of primary and secondary school teachers for post-matric studies. A scholarship once awarded is renewed on year-to-year basis, subject to satisfactory progress in studies up to the completion of the educational career.

The Third Plan also saw the initiation of two extensive schemes, namely, National (Grant) Scholarships Scheme and National Loan Scholarships Scheme. Started in 1961-62, the first provided for the award of 2,400 scholarships per year. From 1963-64 the number was raised to 2,650 each year. A scholarship once given under this scheme also is renewed from year to year subject to the awardee's satisfactory progress in studies.

The scheme of National Loan Scholarships was instituted in 1963-64 with the main object of providing financial assistance in the form of interest-free loans to needy and meritorious students. It provides an incentive to bright students to take up teaching as a profession. In their case, one-tenth of the loan is written off for every year of service put in as a teacher. The provision during the Third Plan for the scheme extends to nearly 70,000 (18,000 in 1963-64, 22,300 in 1964-65 and 26,500 in 1965-66) scholarships. Facilities of financial assistance under the National (Grant) and the National Loan

Scholarships are available in any subject of higher education and for study in any part of the country.

But by far the most extensive scheme, both in financial outlay and coverage, relates to the award of scholarships for post-secondary students to scheduled castes, scheduled tribes, denotified, nomadic and semi-nomadic tribes and other economically backward class students. Instituted before independence in 1944-45 with an annual grant of only Rs. 300,000, the scholarships under the scheme were confined to scheduled castes only. In 1948-49, an additional grant of Rs. 50,000 was sanctioned for scholarships to scheduled tribe students also. Revised in 1949-50, the benefit under the scheme was extended to educationally backward classes, raising the total grant to Rs. 1 million. Since then the grant was raised progressively in subsequent years and was stabilised at Rs. 22·2 million a year from 1958-59. And from 1959-60 onwards the implementation of the scheme has been entrusted to the State Governments/Union Administrations. The Union Government lays down the policy for the award of the scholarships and gives grants to the States/Administrations for the implementation of the scheme. According to available information, nearly 103,000 scholarships were awarded during 1964-65.

Relating particularly to the field of technical and engineering education, three significant schemes have been in vogue. They are: (1) Practical Training Stipends Scheme, (2) Merit-*cum*-Means Scholarships for undergraduate studies, and (3) Technical Teachers Training Programme. Under the first, stipends are awarded to selected graduates and diploma-holders in engineering and technology to enable them to undergo practical training in approved organisations. The stipends are allocated to the various institutions on the basis of the total number of graduates/diploma-holders passing therefrom and are awarded to students on the basis of merit. The period of training varies from one to two years, depending upon the field and the facilities available in the particular industry. The scheme of Merit-*cum*-Means Scholarships for undergraduate studies has been instituted with a view to helping deserving students to prosecute studies in engineering and technological institutions both for degree and diploma courses. The scholarships are allotted to each institution in proportion to its sanctioned admission capacity and candidates are selected from among students admitted to that institution. A scholarship once awarded is continued till the completion of the course subject to satisfactory progress. The programme of Technical Teachers Training has been formulated with the main object of conditioning young brilliant graduates for teaching profession at selected centres. The duration of a fellowship is normally three years.

Covering the field of scientific and industrial research, two schemes have been initiated. They are: (1) Research Fellowships in Science, and (2) Research Training Scholarships Scheme. Research Fellowships in Science have been instituted to encourage brilliant young scholars of highest possible standard and promise to do research at any recognised university or research institute. The tenure of the award is three years extendable up to five years in special cases. The awards whose number is not fixed, represent the best form of recognition which is available to scholars of merit and offer them opportunities for making significant contribution to scientific knowledge. The object of the Research Training Scholarships Scheme is to enable deserving talented students to engage in scientific and industrial research and thus acquire the necessary knowledge and experience for holding research positions later and to give impetus to

the development of research in universities and other educational centres. Each scholarship is tenable for a period of three years.

For the promotion of Hindi, the official language of the Union as envisaged under the Constitution, scholarships are given to students from non-Hindi speaking States to study Hindi as one of the subjects at any of the post-school stages. The scheme was instituted in 1955-56. The number of awards was raised during the years and in 1964-65, 1,500 scholarships were awarded.

For the promotion of research in Sanskrit, a scheme is being implemented with effect from 1961-62. It provides for the award of scholarships to the products of the traditional system of Sanskrit education for research in Sanskrit language and literature. Between 20 to 40 scholarships, each of two years' duration, are given every year.

Instituted in 1954-55, the scheme of Scholarships to Young Workers in Different Cultural Fields seeks to give financial assistance to young artists of outstanding promise for advanced training in the various fields of arts, and aims to absorb the young talent into the professions of music, dance, drama and fine arts. Fifty scholarships are available for award every year.

A scheme of Scholarships and Other Educational Facilities to the Children of Political Sufferers was instituted in 1959-60. The scheme provides, *inter alia*, the following concessions: (a) special consideration in the matter of admission and award of freeships and half-freeships in all the recognised primary, Basic, middle and high/higher secondary schools; (b) free seats in hostels attached to the recognised schools and colleges, and (c) a limited number of stipends and book grants to scholars from the primary to the postgraduate level. It is administered through the State Governments/Union Administrations. The Union Government give grants to the State Governments on a 50 : 50 basis, while in the case of Union Territories, the entire expenditure is met by the Centre.

In addition to the schemes outlined above, the University Grants Commission, the National Council of Educational Research and Training and the Council of Scientific and Industrial Research are implementing various schemes of scholarships. Some of the Union Ministries and other organisations have also programmes for the award of scholarships. Mention in this connection may be made of the schemes of fellowships instituted by the Council of Scientific and Industrial Research in 1958. The fellowships, both senior and junior, are tenable in the National Laboratories of the Council, universities and other academic institutions. In 1964-65, the number of such fellowships was 388 senior and 1261 junior.

Scholarships for Study Abroad

The Foreign Languages Scholarships Scheme was initiated in 1954-55. It envisaged the award of 30 scholarships every year for specialisation abroad in selected languages like Arabic, Chinese, French, German, Italian, Japanese, Persian, Spanish, Turkish, Russian, Burmese, Indonesian and Pushto. Awards under the Union Territories Overseas Scholarships Scheme are meant for persons who are residents of any of the Union Territories. Started initially with the provision of one scholarship every year, the number has been raised to five from 1964-65. A scheme of awarding overseas scholarships and passage grants for scheduled castes, scheduled tribes, denotified, nomadic

and semi-nomadic tribes and other economically backward classes students for post-graduate studies abroad, has been in operation since 1954-55. Initiated with 6 scholarships per year, the number was raised to 12 from 1955-56. Under the scheme of Partial Financial Assistance, interest-bearing refundable loans are granted to students going abroad for higher studies in various subjects.

Mention in this connection should be made of the programmes of scholarships which have been developed since independence and under which India has been inviting scholars from various countries to study in Indian institutions and sending selected Indian scholars for study abroad. The maintenance and other expenses of the scholars under these schemes are generally paid by the concerned host country.

Under the scheme of General Cultural Scholarships, India has been offering scholarships to students of different countries of Asia and Africa including persons of Indian origin but domiciled in those countries. These scholarships are available for post-matriculation studies in India in any subject of the scholar's choice. During 1964-65, 220 scholarships were awarded. At present, 580 students under this scheme are studying in India and they are nationals of Aden, Afghanistan, British Guiana, British West Indies, Burma, Cambodia, Ceylon, Congo, Ethiopia, Fiji, Ghana, Indonesia, Iran, Iraq, Japan, Jordan, Cameroon, Laos, Maladiva Islands, Mauritius, Nepal, Nigeria, Malawi, Mozambique, Liberia, Persia, Sierra Leone, South Africa, South Rhodesia, South Vietnam, Swaziland, Sudan, Surinam, Somalia, Syria, Tanzania, Thailand, Tibet, Trinidad, Turkey, Uganda, Yeman and Zambia. Many students from these and other countries have come to study in Indian institutions on their own as well.

As an essential part of India's efforts to promote cultural relations with other countries, the Government of India have entered into bilateral or multilateral programmes of exchange of scholars for study or training in the respective countries. Such bilateral programmes are at present in operation with Bulgaria, Czechoslovakia, Greece, Hungary, Poland, Rumania, the UAR, the USSR and Yugoslavia. During 1965-66 these countries offered to India 180 scholarships which included 90 from the USSR. During the same year India has offered to them 49 scholarships which included 15 to the USSR. Similarly, India has entered into reciprocal or *ad hoc* arrangements for the exchange of scholars. The countries covered in this programme are Argentina, Austria, Belgium, Brazil, Chile, Denmark, Federal Republic of Germany, France, German Democratic Republic, Italy, Japan, Netherlands, Norway, Paraguay, Spain, Sweden, Switzerland and Uruguay. During 1965-66, these countries together offered 191 scholarships to India and received from India 28 scholarships.

Among the multilateral programmes, mention should be made of the International Association for the Exchange of Students for Technical Experience. As the name suggests, offers for technical experience are exchanged between different member-countries of the Association every year. During 1965-66 India received 19 such offers from Argentina, Federal Republic of Germany, Japan, Spain, the UAR and Yugoslovia. In return, India offered 35 places to various members of the Association.

Following the recommendations of the Commonwealth Education Conference held in 1959 there has been an exchange of bursaries, scholarships and fellowships among the various Commonwealth countries. During 1965-66 India received 106 offers from the various members of the Commonwealth. These included 67 from the United

Kingdom. On its part, India made 63 offers to the other countries in the Commonwealth during the same year. India is also participating in several other multilateral programmes like the Colombo Plan and the Special Commonwealth African Assistance, which provide facilities of education and specialised training to selected scholars of the countries concerned.

This account will not be complete without stating that there are several national and international organisations which are also offering to Indian students scholarships for higher education, specialised studies or practical training in various countries abroad. Mention in this connection may be made of the United Nations Educational Scientific and Cultural Organisation, British Council, Confederation of British Industry, M/s Rolls Royce Ltd., London, Royal Commission, London, German Academic Exchange Service and United States Educational Foundation.

CHAPTER TEN

LANGUAGES AND LITERATURE

The Eighth Schedule of the Constitution of India includes fourteen distinct Indian languages including Hindi and Sanskrit. As one of the Fundamental Rights, the Constitution lays down that "Any section of the citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own shall have the right to conserve the same" [Article 29(i)]. Again in regard to official languages, Article 351 of the Constitution states: "It shall be the duty of the Union to promote the spread of the Hindi language, to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India and to secure its enrichment by assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule, and by drawing, wherever necessary or desirable, for its vocabulary, primarily on Sanskrit and secondarily on other languages".

Flowing out of these constitutional provisions, responsibility devolves upon the Government to help develop all Indian languages on the one hand and on the other to promote, develop and enrich Hindi so that it becomes the effective common medium of expression for all Indian people—and thus realise the status of the official language of the Indian Union. In the matter of languages and literature, the guiding principle has been the national cohesion and the furthering of the composite culture which is uniquely Indian. Considerable progress has been made in this area during the years of independence.

LANGUAGES

Enrichment of Hindi

The three main complementary aspects of enriching, developing and promoting the spread of Hindi in fulfilling the constitutional obligations, were attempted simultaneously and from a small beginning in 1950, the programme has multiplied many-fold. With a meagre amount of Rs. 300,000 in the First Plan, the provision for the programmes was raised to Rs. 5 million in the Second Plan and to Rs. 23·5 million in the Third Plan.

In the first phase of the programme relating to the enrichment of Hindi, the Union Ministry of Education set up a Board of Scientific and Technical Terminology for the purpose of compiling dictionaries of scientific terms and preparing textbooks in Hindi. Under the Board, 20 expert committees were set up on various sciences, and a Committee of Philologists to lay down the principles of the preparation of the terminology. The Hindi Unit of the Ministry set up in the same year with a nucleus staff which was augmented from time to time, supported the work of evolving standard and uniform scientific and technical terminology.

The main part of the work on the propagation and development of Hindi including evolution of scientific and technical terminology devolved later upon the Central Hindi Directorate set up in 1960 as a subordinate office of the Ministry. Next year, in pursuance of the Presidential Directive of 27th April, 1960, a Commission for Scientific and Technical Terminology was set up to evolve, review and coordinate the work on Hindi terminology, to formulate the principles of coordination and evolution of such terminology in Hindi and other Indian languages and to coordinate the work done in the field by different agencies in the States. This Commission was also entrusted with the work of the preparation of standard scientific and technical textbooks using the new terminology approved by it, the preparation of scientific and technical dictionaries and translation into Indian languages of scientific books in foreign languages.

By the time the Directorate and the Commission came into being, the Hindi Unit of the Ministry had evolved 290,000 terms in different subjects of which 40,898 were finally approved by the Government. Since its inception, the Commission has finalised terminology pertaining to seven basic sciences, namely, physics, chemistry, mathematics, botany, zoology, geology and geography, up to the first degree standard and a science glossary containing 40,000 terms has been published. The Commission has now turned its attention to applied sciences and postgraduate terminology. 15,000 terms in medicine and 2,350 terms in agriculture have been finalised. 5,161 terms in agriculture, 2,195 in pharmacy and 1,916 terms in anthropology have been approved by the Expert Advisory Committees of the Commission. At postgraduate levels, 2,500 terms in physics and 2,500 terms in mathematics have been finalised at a seminar recently held at Mussoorie in May-June, 1965.

With the appointment of members in the humanities, work in regard to the finalisation of terms in the humanities and social sciences was taken up. 4,638 terms relating to philosophy, psychology and education, 3,801 terms in history and 4,730 terms in political science have also been finalised in the Mussoorie Seminar. 30,742 terms relating to economics, psychology, philosophy, literary criticism and library science were evolved and reviewed by the Expert Advisory Committees. Besides, 17,037 terms of defence and 28,278 terms relating to various departments have been approved, by the Expert Advisory Committees. A glossary of designational terms and an Administrative Glossary have also been published. Work relating to engineering terminology has been entrusted to the Roorkee University.

Development of Hindi

To advise the Government of India in all matters relating to the development and propagation of Hindi, a central body known as Hindi Shiksha Samiti was set up in 1951. Prior to the setting up of the Central Hindi Directorate, a good number of significant measures were adopted by the Ministry of Education for the development of Hindi. They included publication, in cheap editions, of classics, translations from non-Indian as well as other Indian languages and of new creative literature in the language, preparation of standard grammars, bilingual and multilingual dictionaries, bilingual glossaries and Hindi encyclopaedias, and preparation of vocabularies of basic Hindi words.

A few of the more significant schemes at present followed for the development of Hindi deserve special mention. One relates to the preparation and translation of

standard works of university level. This has been launched to facilitate a smooth change-over from English into Hindi and other Indian languages and for the popularisation of the scientific and technical terminology evolved by the Government. 1,348 books have so far been approved for translation and translation rights for 321 books have been obtained. Implemented through universities, academic bodies of State Governments and literary societies of all-India status, engaged in a similar job, the scheme carries 100 per cent assistance. Whole-time translation cells have been established at Delhi, Banaras, Ranchi and Rajasthan Universities and at Bhopal by the Madhya Pradesh Government. It is proposed to set up similar cells at other universities also. A small translation bureau has been set up in the Central Hindi Directorate as well. The Gujarat and Punjabi Universities are also taking advantage of the scheme for translating standard works into Gujarati and Punjabi respectively. To accelerate the pace of work, it has been decided to entrust publication of standard Hindi textbooks to private publishers also. As an incentive, the Government have offered the outright purchase of one-third of the copies thus brought out that will go to cover almost the full cost of production.

Another scheme relates to the preparation, translation and publication of books in collaboration with the publishers. It aims to bring scientific and worthwhile knowledge within the easy reach of common readers in Hindi. Its scope has since been extended to include standard works and books for children. So far, 194 titles have been approved for translation into Hindi, 9 have been published, and manuscripts for 22 are ready. The Nagari Prachar Sabha, Banaras, was entrusted with the work of compilation of Hindi encyclopaedia in 10 volumes. So far, 5 volumes have been brought out. A Committee of Linguists was set up in 1960 to consider the peculiar signs of the other Indian languages which could not be expressed by the existing symbols and letters in Devanagari script. The Committee has since submitted its recommendations which have been circulated for inviting public opinion.

A standard key-board in Devanagari script for typewriters has been finalised and the typewriters with these key-boards are being manufactured. A standard key-board for Hindi teleprinters is being prepared. To evolve a standard system of shorthand suitable to the genius of Hindi and other languages, it was decided in 1957 to carry out morphophonemic analysis in Hindi and ten other languages. Steps are now being taken to evolve a standard system of shorthand for Hindi on the basis of the results of this analyses and taking into account the existing system of Hindi shorthand. An Expert Committee has been set up for this purpose.

The Central Hindi Directorate has launched several other schemes for the development of Hindi such as preparation of bilingual dictionaries, Hindi encylopaedias, basic Hindi grammars, bilingual primers, self-taught books etc.

Propagation of Hindi

The schemes for promoting the spread of Hindi have, through their operation during all these years, grown both in extent and coverage. The Union Government have been assisting the State Governments on 100 per cent basis for appointment of Hindi teachers in schools. Prior to 1962-63, it was in regard to the appointment of one Hindi teacher in each high/higher secondary school. From 1962-63 the scheme

has been extended to cover primary and middle schools as well. Expenditure on the scheme during the Third Plan is of the order of Rs. 32·05 million.

The expansion of facilities for the teaching of Hindi in non-Hindi speaking States required adequate increase in the supply of trained Hindi teachers. To meet this, the Union Government give financial assistance on 100 per cent basis to non-Hindi speaking States towards starting Hindi teachers training colleges. Training colleges so far opened, under this scheme, are : Andhra Pradesh—two, Gujarat—one, Kerala—one, Madras—one, Mysore—three, and West Bengal—one. Besides, ten teachers training centres have been opened in Maharashtra. The State Governments of Assam, Orissa and Jammu and Kashmir have also decided to open such colleges.

The setting up of a teachers training institution at Agra known as the Kendriya Hindi Sansthan by the Union Ministry of Education marks an important step. Besides facilities for the training of Hindi teachers, particularly for the non-Hindi speaking States, it provides facilities for research. Managed by an autonomous body known as the Kendriya Hindi Shikshana Mandal, it conducts three courses, *viz.*, Hindi Shiksha Praveen, Hindi Shikshan Parangat and Hindi Shikshan Nishnat respectively equivalent to teachers training certificate, B.Ed. and M.Ed.

To further create interest in the study of Hindi among school and college students in non-Hindi speaking States, suitable Hindi books are supplied, under another scheme, free to school, college and public libraries in the non-Hindi speaking regions. Books valued at more than Rs. 200,000 are supplied every year.

Voluntary Hindi organisations have been doing very useful work in the field of propagation and development of Hindi, particularly in the non-Hindi speaking regions. To encourage such organisations to develop their activities further in this behalf, the quantum of government assistance has been raised from 60 to 75 per cent of the expenditure on approved schemes.

With a view to securing greater coordination between the Union Government and the voluntary Hindi organisations and for liaison with the State Governments in regard to the implementation of the Centrally sponsored schemes relating to the propagation and development of Hindi, two Regional Offices have been set up, one at Calcutta and the other at Madras.

Development of Sanskrit

The Government of India appointed the Sanskrit Commission under the chairmanship of Dr. Suniti Kumar Chatterji in October 1956 with a view to considering the question of the present state of Sanskrit education in all its aspects. The Commission submitted its report in 1957. In pursuance of the recommendations of the Commission, a Central Sanskrit Board has been established to advise the Government of India on matters relating to the propagation and development of Sanskrit. It was the Commission's definite recommendation that the pathasala system of Sanskrit education needs retention. The Union Government have since launched several schemes for the development of Sanskrit education, specially the traditional system.

Grants-in-aid are being paid to voluntary Sanskrit organisations for various developmental projects of theirs. Research scholarships are given to products of traditional Sanskrit pathasalas ; thereby the depth of traditional scholarship is channelised towards modern indological research. Financial assistance is given towards the

publication of valuable Sanskrit books and improvement in content and quality of Sanskrit journals. An all-India Sanskrit elocution contest is held annually to encourage the traditional conversational style of Sanskrit expositions. Besides, a comprehensive scheme of reprinting all the important out-of-print Sanskrit books has been formulated under which eight works have already come out.

The major step in this field is the establishment of a Central Sanskrit Institute (the Kendriya Sanskrita Vidyapeetha) at Tirupati, Andhra Pradesh with a view to providing facilities for training in the improved method of teaching Sanskrit and conducting research in some of the specialised branches of Sanskrit learning. The Institute *inter alia* comprises the following wings : (a) Pedagogy and Training, where scholars trained on traditional lines undergo training in the modern methods of teaching Sanskrit; (b) Research and Publication, responsible for research in various branches of Sanskrit learning and for publication and translation of original works in Sanskrit; (c) Library and Museum, with a collection of valuable Sanskrit manuscripts etc.; (d) Instruction, where Sanskrit learning for the postgraduate stages for *Mahacarya* and *Vacaspati* will be provided and arrangements will be made for instruction in those special branches of *Sastric* studies for which no adequate facilities exist elsewhere ; and (e) Comparative and Allied Studies, under which provision will be made for the study of the corresponding branches of modern knowledge for the respective subjects specified under the Instruction Wing, and for the study of Tibetan, Chinese and other Asian languages having a bearing on or are allied to Sanskrit studies. The entire cost on the maintenance of the Vidyapeetha is borne by the Union Government.

Development of Other Indian Languages

With a view to achieving emotional integration and augmenting the cultural unity among different linguistic groups of the country, the scheme for the Development of Modern Indian Languages was formulated for implementation during the Second Five-Year Plan. The scheme provides for financial assistance to State Governments and literary institutions towards bringing out suitable publications like encylopaedias, bilingual dictionaries, books highlighting similarities among different Indian languages on points of grammar, syntax etc., books on science and culture, and on knowledge. Normally the quantum of financial assistance under the scheme is limited to 50 per cent of the cost of publication, but in special circumstances, the question of sanctioning hundred per cent assistance is not ruled out. The Union Government's expenditure on this during the Second Plan was Rs. 1·4 million and the likely expenditure for the Third Plan is Rs. 3·9 million.

LITERATURE

There is no gainsaying the fact that languages and literature are complementary to one another. And in India after independence the Government felt it essential to step in to look after certain significant aspects of the promotion of Indian literature, apart from its endeavours to develop the various languages.

National Book Trust

The need for an organisation which could undertake production of good literature in Indian languages and make it available at moderate price was keenly felt after inde-

pendence. Thus the National Book Trust came into being as an autonomous body in 1957. Its another aim was to create a climate for book reading and book buying among the vast number of people in the country. The Trust has planned out the publication of a number of series of books in various areas like 'India—the Land and People', 'National Biography', 'Outstanding Books of the World' which are being or will be published in English, Hindi and other Indian languages. The main feature of these books is that they will be written in a language and a style which will be understood by the average educated man. Even books on technical subjects will present authentic factual information in as non-technical a manner as can be easily understood by the general reader. The idea is to provide to the common man in course of time a complete library of books at a price which will be within his reach.

Sahitya Akademi

Although written in more than fourteen major languages the Indian literature is basically one. Verily India has been a home and shelter for people of various races and religions. This constant mingling and absorption has given its thinkers and seers a broad vision of life and they have, therefore, always emphasised the lasting values of life and ideals of peaceful and harmonious living. Indian literature has always given expression to the desire for peace and perfection of the man, shedding all class barriers and the narrow sectarian outlook.

The modern period of Indian literature began with the impact of the West when the introduction of western liberal educational system in India inculcated in her elite the feelings of national patriotism and tempered their minds for a rational and scientific attitude to life. The national upsurge with its myriad manifestations in the various Indian languages generated by the writings of Tagore, Bharati, Vallathol, Maithili-sharan Gupta and Pooran Singh, gave our literature a unity of approach which was truly national.

After the advent of freedom in 1947, Indian literature has been moving more and more towards a healthy social outlook and has been portraying the onward march of the common man to enlightenment and progress. The post-independence Indian literature is a true mirror of a people struggling with vigour and zeal towards many-sided development of the individual personality.

Being, however, a multilingual nation, free India was faced with a peculiar anomaly in that while Indian literature is one, writers and readers in one language hardly knew anything of what was being written in a neighbouring language of the same country. Barring a few exceptions, the literature produced in various regions was not known to people of other regions. To meet the challenge posed by this situation, the Government of India set up in 1954 the Sahitya Akademi or the National Academy of Letters to work actively for the development of Indian letters and to set high literary standards, to foster and coordinate literary activities in all the Indian languages and to promote through them all the cultural unity of the country. Through its Annual Awards for the best publication of creative merit in each of the various languages the Akademi has helped creative writers. A vivid and fuller view of Indian literature as a whole has been projected to the common Indian reader through its publication of translations of great classics, ancient as well as modern, from every regional language into all others. It has also served the cause of literature by compiling a comprehensive

Bibliography of Indian Literature (1900-1953), by bringing out histories of literature in various Indian languages in uniform standard editions, and by publishing a periodical anthology of Indian poetry, named Bharatiya Kavita, which brings into one volume select poems written in various Indian languages during a particular period, in Devanagari transliteration as well as its Hindi rendering on the facing page. The Akademi also brings out a six-monthly journal, 'Indian Literature' which is devoted to discussing literary subjects of common interest to all languages. These efforts have gone a long way to create wider national literary consciousness among the people of India, and they are today much better acquainted with the literary heritage and achievements of their nation than their fellow readers in the past.

Other Literature

It will not be out of place to mention here about two major projects relating to literature about freedom movement. In 1952, the Union Government decided to publish a History of Freedom Movement in India. A Board of Editors, set up for this purpose, collected and compiled some material. In 1957 a History of Freedom Movement Unit was set up to complete the work. In January, 1961, the first volume of the History of Freedom Movement covering the period 1750-1856 was published. The second volume covering the period 1857-1905 is in press. It deals with the national awakening in its multifarious forms, like the rise of middle classes, growth of education, press and pubic opinion, Hindu-Muslim relations and the changing Indian economy. The third volume covering the period 1906 to 1947 will deal mainly with the struggle waged by the Indian people under the leadership of Mahatma Gandhi that culminated in winning freedom. It has also been decided to bring out language editions of History of Freedom Movement. The Hindi edition is being looked after by the Publications Division of the Ministry of Information and Broadcasting. The Punjab Government has brought out the Punjabi version of the first volume, while some other States have undertaken the translation of the first volume and are bringing it out in the languages concerned.

It has been decided to bring out a 'Who's Who' of all persons who participated in national struggle as a supplement to this History. Since most of the records about this work were located in State archives, local courts, regional newspapers etc., the State Governments and Union Administrations were requested to undertake the preparation of this publication on State basis with partial financial assistance from the Centre. The period being covered is from 1818 to 1947. The 'Who's Who' is designed to include not only political workers but also social workers and educationists, whose work contributed to the ultimate freedom of the country. Delhi and Tripura Administrations have already brought out this publication. In other States and Union Territories the work of collection and compilation of the life sketches of freedom fighters is in progress.

It should be added that the various State Governments have their own programmes to produce various types of literature in the languages with which they are concerned.

CHAPTER ELEVEN

FINE ARTS AND OTHER CULTURAL ACTIVITIES

National Gallery of Modern Art

The establishment in 1954 of the National Gallery of Modern Art, New Delhi was a recognition of the artistic urges and emotional and instinctive aspirations of a free people wanting to express and expand. Representing a gradual evolution and growth of the various art trends in the country during a brief span of a century, the Gallery, through a process of annual art purchases, has at present a rich and representative art collection of about two thousand paintings, sculptures and graphics. The collection comprises the works of more than three hundred artists covering a wide variety and styles which include names like Rabindranath Tagore, Jamini Roy, Nandlal Bose, Raja Ravi Varma and Amrita Shergil. To this has been added a western section where a beginning has been made with the works of Jacob Epstein, Boris Georgieve, Peter Luberda and Mc. M. Greene.

The Gallery is still in its developmental stage and has an extensive programme of publications consisting, among others, of monographs of important artists and a catalogue of its art collections. It has an Art Reference Library catering both to general readers and research scholars.

Sangeet Natak Akademi

In spite of centuries of foreign domination and consequent turmoil, both political and social, and lack of encouragement from outside, the rich variety of music, dance and drama remained alive and pulsating in the various regions of the country. With the national awakening after the Freedom Struggle of 1857 and especially after the beginning of the present century, sporadic efforts were made by individuals and groups to promote arts. Gurudev Tagore, Bhatkhande, Paluskar, Poet Vallathol, Rukmini Devi, and Uday Shankar—these stalwarts who spearheaded the revival of dance and music—did not get any state patronage in their efforts.

With independence, a new resurgence has set in in the field of culture. Free India has been aware that the State, as the organised manifestation of the people's will, should undertake the maintenance and development of arts as one of its many responsibilities. This awareness led to the establishment of the Sangeet Natak Akademi in 1953. By honouring the distinguished artists, by helping to maintain and promote their art traditions, by encouraging and helping creative talent in the field, by instituting scholarships for new aspirants, and by sending artists as cultural ambassadors from one region to another within the country and to various countries outside, free India has not only helped the blossoming of the nation's cultural heritage but also the spread of its fragrance the world over. The Akademi runs the National School of Drama and Asian Theatre Institute, New Delhi, the Manipuri Dance College, Imphal, and the Kathak Kendra, New Delhi. A number of institutions in the fields of dance, drama and music receive financial assistance from the Akademi for their activities. The Akademi's

other significant programmes include research, filming and record ng of great living masters for future research and reference, building up of a library of music and a museum. There are faculties of music, dance and drama in quite a few universities and these subjects are also taught in a large number of schools.

Lalit Kala Akademi

The Lalit Kala Akademi set up in 1954 has, over the years, been a major factor in building up a suitable climate for the understanding and creation of art. Its activities are two-fold. Firstly, it helps and guides other organisations to produce their own programmes; and secondly, it undertakes specific programmes itself. The two principal activities are the arranging of large-scale exhibitions and the publishing of art books and journals. The former includes, besides the National Exhibition of Art arranged annually and National Awards given for best entries, exhibitions of art brought to India from other countries (such as the exhibition of French Decorative Art, Mexican Art etc.) and the exhibitions of Indian art sent abroad (such as the consignments to Sao Paulo, Brazil, Venice Biennale, and Commonwealth Art Festival). The other major programmes are copying frescoes, holding painters' and sculptors' camps.

Dance, Drama and Music

For the encouragement of theatre movement, a scheme was introduced in 1960-61 for assistance to theatre groups in the country for the production of new plays. During four years of its operation, 66 theatre groups have been assisted to stage new productions. A scheme of study travel grants was introduced in 1961-62 under which financial assistance has been given to the theatre groups for enabling them to visit other theatre centres to study theatre techniques. Yet another scheme of maintenance grants to theatre groups was introduced in 1961-62 with a view to developing at least one theatre in each State to put up stage performances during the major part of the year and also to take theatre to rural areas. Under another scheme introduced n 1960-61, building grants are given to institutions working in the fields of dance, drama, music and fine arts. The purpose of the scheme is to provide permanent accommodation to voluntary societies to help them develop their activities on a sound footing. A scheme of inter-State exchange of cultural troupes was introduced during 1959-60 to create opportunities by which people in different parts of India could get acquainted with one another's culture and to promote emotional and cultural integration. Under it, a group or groups of selected musicians, dancers, folk artists, theatre groups, are sponsored by each State and the party visits two other States per year. Under another scheme of exchange of outstanding artists amongst the various zones of India, introduced in 1960-61, top-ranking musicians and dancers from one zone are sponsored to stage their performances in another. Since 1963-64 cultural troupes from various parts of the country have also been commissioned to visit border areas to provide entertainment to the defence forces.

Cultural and Library Institutions

Grants are paid by the Union Government to various literary and cultural institutions of all-India importance towards their general maintenance, publication and research work, construction of building, etc. Such organisations, as have been receiving

grants-in-aid from time to time, included the Asiatic Society, Calcutta, Numismatic Society of India, Varanasi, Indian Academy of Philosophy, Calcutta, Institute of Traditional Culture, Madras, Gokhale Institute of Politics and Economics, Poona.

National Archives, New Delhi

Independence ushered in a new era for this central record repository, immediately reflected in the change of its name from Imperial Records to the National Archives of India. Public awareness of the changed role first became evident in an increased demand for unrestricted quarrying among the original sources available in the Department. The total number of official documents consulted in the Department in 1946 was 26,000. The same figure for 1964 was 88,417. The rules governing admittance to the Archives and consulting the records were liberalised in 1956. The changed outlook was equally reflected in the expanded accession programme of the Archives. Among the fresh acquisitions, mention should be made of records of the late Foreign and Political Department beyond 1880 and those of its numerous agencies scattered all over India; the records of the Survey of India 1777-1898, as also its rich collection of manuscript maps; the papers of the Constituent Assembly and the Reforms Office embodying a detailed history of the constitutional development of the country, the papers of the old Calcutta and Bengal Banks, throwing light on India's economic history.

The Department also undertook the task of building up a collection of private and unofficial records both in original and facsimile copies. 'Among those acquired in original, figure prominently the papers of Dadabhai Naoroji, Badruddin Tyabji, Gokhale, Srinivas Shastri, V. Krishnaswami Aiyar, Lala Lajpat Rai, Jayakar, P. D. Tandon, Sarojini Naidu, Mahatma Gandhi, Nehru, Amrit Kaur, N. B. Khare and other distinguished leaders; the Inayat Jang Collection embodying 135,000 documents of the Mughal Administration in the Deccan from Aurangzeb to Shah Alam II, and the Vaidya family papers relating to the administration of Nana Phadnavish. The microfilm collection, covering about 2,867,000 pages of manuscripts, includes, among others, the papers of Warren Hastings, Wellesley, Pitt, Dundas, Bentinck, Hardinge, Dalhousie, Canning, Lawrence, Mayo, Dufferin, Lansdowne, Hamilton, Morley, Minto, Salisbury, Argyll, Chamberlain, and other statesmen who figured prominently in Indian history. Among other collections acquired are those of the Dutch East India Company, Indian materials in Bibliotheque Nationale, Paris, British Museum, Bodleian Library, Register House (Scotland), Public Record Office (London), National Archives (Washington), Library of Congress, Cleveland Public Library, and many others.

The radical expansion in the volume of its holdings has imposed on the Department a gigantic task of listing, describing and indexing them. Works brought out under the head include a host of important records; to mention a few, Index to Foreign and Political Department Records, 1756-80, Calendars of Persian Correspondence (1788-1793), descriptive lists of Mutiny Papers in the Bhopal Record Office, edited texts of Fort William India House Correspondence, the Indian Travels of Thevenot and Careri, Major Browne's Correspondence, 1782-85, Selections from Educational Records relating to the post-1859 period and a reprint of Sir Henry Sharp's Classic Selections (1781-1839). In collaboration with universities and other learned

organisations the Department has brought out three volumes dealing respectively with Hindi, Sanskrit, and Bengali documents, and four others embodying the correspondence of Elphinstone and Ochterlony, Punjab Akhbars and Selections from Orme Manuscripts.

Latest scientific techniques have been adopted for large-scale repair of brittle documents and speedy disinfection of those infested by insects. With the setting up of a microphotographic unit, it has been possible to copy out as many as 9,000,000 manuscript pages. The Department has set up a laboratory, the first of its kind in Asia, to conduct researches into problems of conserving and rehabilitating documents under tropical conditions. Among others, the laboratory has developed new processes of repairing palm-leaf and birch bark manuscripts, as also a special process of manual lamination, which is now being followed in many repositories outside India.

In 1947 the Department started a journal, 'The Indian Archives', chiefly with the object of disseminating useful information on archival techniques and developments in the new science of archives-keeping.

National Library, Calcutta

Since independence the scope and services of the library have tremendously increased and these, among others, include attending to reference queries from India and abroad giving technical advice and providing practical training. The present policy of the library is to acquire basic books on all subjects which are likely to be of use for the mental and material well-being of the citizens of India and which have been published anywhere in the world in any language. Besides acquisition by purchase, a large number of books and periodicals have been added, firstly as a result of receipts under the Delivery of Books (Public Libraries) Act, 1954, under which this Library along with the Central Library, Bombay and Connemara Public Library, Madras, receives free of cost one copy of all books, newspapers and journals published in the country and secondly as gifts from generous persons. Gifts totalling more than 200,000 volumes have been already received.

Another development after independence relates to the fact that the library has become a repository for the publications of the United Nations and its agencies, and foreign governments like that of the USA, Canada and Australia. As an extension activity, a separate section was opened in 1960 to serve the needs of the children. This section is now a self-contained unit having about 13,000 volumes of children's books in Bengali, English, Gujarati and other languages.

The reading rooms and the lending section of the library, whose membership is free, remains open 362 days during the year. Books are also lent out to any citizen in any part of the country against cash security. Reference queries are freely attended to and bibliographies or microfilm copies of books are supplied on request. A hostel with six self-contained rooms has been opened inside the library campus for readers who come from outside Calcutta.

The nation's invaluable treasure of books and journals are housed in this Library. Many of them are several centuries old. It is a great problem to preserve them against tropical climate and attacks from insects. Books damaged by climate and insects are treated chemically for which purpose a laboratory has been set up in the library.

Indian National Bibliography Unit

The publication of the Indian National Bibliography on the 15th August, 1958, marks a notable event in the bibliographical history of this country and a significant achievement in the field after independence. As a project of the proposed Central Reference Library, it was decided to start the compilation and publication of the Bibliography from Calcutta to take advantage of the acquisition by the National Library of the current Indian material under the Delivery of Books Act. This was the first time that the publications in all the languages included in the Constitution of India could be brought together under one roof making the compilation of the Indian National Bibliography possible. Brought out on the advice of an expert committee, the bibliography records all the publications brought out in India, both official and non-official. This bibliography was issued as a quarterly publication till December 1963 and from January 1964, the periodicity has been changed to monthly. The quarterly volumes are cumulated and five annual volumes have been published besides the quarterly issues.

Khuda Baksh Oriental Public Library

The Khuda Baksh Oriental Public Library, Patna, has assumed national importance for its very rare collection of Arabic and Persian manuscripts and other art objects. To preserve, maintain and run it as an institution of that status and to re-organise and develop it on modern lines, the Union Government have decided to enact a statute and to set up for its administration an autonomous body. A bill in this behalf has been introduced in the Lower House of Parliament on 16th August, 1965.

Indian Archaeology

During the past eighteen years Indian Archaeology has witnessed an all-out advance comprising a series of discoveries and researches at home, improved care of monuments and sites of which the country is rightly proud, opening up of several new and improvement of existing museums, augmentation of publications, and lending of a helping hand to the archaeology of other countries. In this mighty task have co-operated with the Archaeological Survey of India, New Delhi the Departments of Archaeology of various States and universities.

Partition took away from India several known sites of the Indus civilisation including the two famous ones, Harappa and Mohenjodaro. It is heartening to find that by now over hundred sites of that civilisation have been plotted on the new map of India. The more noteworthy amongst these are : Alamgirpur, Rupar, Kalibangan and Lothal.

Historians, particularly from the West, had always been sceptic about the antiquity of civilisation in India and continued to regard the period after the end of the Indus civilisation and before the time of Asoka as the 'Dark Age' of India's past. Exploration and excavation at selected sites like Hastinapura, Kaushambi, Ujjain, Navdatoli, Eran, Ahar, Gilund, Attranjikhera, Rajghat, etc. have clearly shown that there was nothing like a 'Dark Age' and that iron was used in India even prior to 1000 B.C., which completely upsets the long-held view that this metal was introduced in India after the invasion of Darius from Persia. Excavations in the cold climates of Kashmir have brought to light a most interesting culture, namely, that of pit-dwellers.

The Indian archaeolcgists have tried equally to preserve the monuments that stand above the ground. Taj at Agra, the rock-cut caves at Ajanta and Ellora, the Gol Gumbad at Bijapur, the Sun Temple at Konarak or the Buddhist remains at Sarnath, to name only a few, bear ample testimony to the care and technical skill with which these monuments are being preserved. A matter of immense technical importance in this context is the conservation of rock-cut monuments. In conservation, the country has witnessed another new experiment. With the construction of the 100-metre high Nagarjunasagar Dam on the Krishna river in Andhra Pradesh, an area of about 190 square kilometres will gradually go under water. Affected by it was the well-known early historical site of Nagarjunakonda. All the ancient remains in the valley have been excavated and the most important monuments removed to suitable places above the would-be water level.

To the betterment of archaeological research many a new technique from the natural sciences has been harnessed. For example, the Tata Institute of Fundamental Research, Bombay, has started a C-14 laboratory and within hardly a couple of years of its existence it has measured a large number of samples from various sites in the country.

Among other aspects, mention may be made of the introduction of a new bulletin, namely, 'Indian Archaeology—A Review' besides the existing one, 'Ancient India' and the establishment of a School of Archaeology in 1959, which imparts intensive practical training in all the branches of archaeology, besides providing to its pupils necessary theoretical background.

Since independence an altogether new chapter has been added to the archaeological activities of the country; it relates to the sending out of archaeological missions to neighbouring and friendly countries. Thus, in Nepal an Indian expedition excavated an early historical city-site and a medieval temple-site in the Terai region. Another expedition examined the Kathmandu valley for possible Stone-Age remains. Under the world-known Nubian-salvage scheme, the Government of India also sent an expedition which excavated sites at Tumas and Afyeh with valuable results. It is now proposed to lend a helping hand to the Royal Afghan Government in the conservation of some noteworthy monuments in that country.

Indian Museum, Calcutta

The Indian Museum Act, 1910 was amended in 1960. In the pre-independence era, there were numerous impediments to use the valuable collections of the Indian Museum, Calcutta, as effective means of visual education. Various measures of far-reaching character have been taken, particularly under the amended Act, to effect proper integration into six different sections all the finest collections of this Museum. To enable the visiting public understand the exhibits, picture post-cards and guide-books for each section and a general guide-book of the whole Museum have been published. Photographs of the exhibits are available for the scholars to study, as also a centralised library. A special children programme has been launched in collaboration with schools. Audio-visual equipment are being used in the educational programmes and various units, *viz.*, photography, publication and presentation, have been set up.

The National Museum, New Delhi

The foundation stone of the first unit of the National Museum's own building was laid by the late Prime Minister, Shri Jawaharlal Nehru, and it was inaugurated by Dr. S. Radhakrishnan, then Vice-President, on December, 18, 1960. At that time, 17 exhibition galleries were installed. All types of collections were represented except anthropology. The first gallery of anthropology (Costumes of India) was opened on the first anniversary, in 1961, and the second, for changing exhibitions, a year later.

To a carefully discerning visitor, the collections on display in this Museum provide an educative experience. Planned and active programmes of education are also carried on. The guide lecture, offered on schedule throughout the day, lecture tours by appointment, school visits and all other services are provided by well-trained lecturers. Visitors during the first five years (1960-65) total to a million. Scholars from far and wide use the Museum and are given access to its collections on display and in reserve. They are also provided research and reference facilities. The conservation laboratory of the Museum not only cares for its own vast collections, but assists other museums to preserve objects of national heritage.

Many thousands of carefully finished exact-scale replicas in plaster of paris illustrating Indian art have been produced in sets, on Harappan Art and Indian Sculpture through the Ages respectively. Accompanied by brochures and leaflets for the guidance of teachers, they have been acquired by educational institutions throughout the country. The publication programme comprises leaflets, post-card sets, colour reproductions, art books etc. Three de-luxe volumes on Kangra paintings deserve special mention, two of which have won first prizes as 'Art Books' in the all-India competition for excellent publications in 1964 and 1965.

Among the exhibitions organised by the Museum, mention may be made of a large exhibition of Indian archaeology that toured Japan and the USA during 1963-65.

Salar Jung Museum, Hyderabad

Inspired by the love of beauty and built through life-long efforts of Mir Yusuf Ali Khan, better known to the world as Salar Jung III, a great connoisseur of art, Salar Jung Museum is today a unique collection comprising antiques of curiosity and objects of art in a great variety from all over the world. The heirs of the late Salar Jung whose ambition to put the collections in the shape of a museum remained unrealised in his life-time bequeathed the collections to the nation by a compromise deed in 1958. Initially organised by the Government of Andhra Pradesh, the Union Government took over its administration, and by an Act of Parliament in 1961 it was placed under a Board of Trustees. Declared as an institution of national importance, it is a premier art museum of the country. In the place of the age-worn 150-year old ancestral palace, a new building has been planned at an estimate of Rs. 10 million. The museum is gaining ever-mounting popularity reflected in the year-to-year increase in the number of visitors. Every year, a Museum Week is observed during November which attracts huge crowds.

Nehru Memorial Museum and Library

The Indian Cabinet at its meeting on 4th September, 1964, decided that the official residence of the late Shri Jawaharlal Nehru, the first Prime Minister

and the architect of Modern India, at Teen Murti Marg, New Delhi, should be converted into a museum and library dedicated to his memory. Inaugurated on 14th November, 1964 by Dr. S. Radhakrishnan, the President of India, it has been decided to run it as an autonomous organisation. With the basic complement of collections already on display for the visitors, measures are afoot to make it worthy of the proud and glorious inheritance.

CHAPTER TWELVE

INTERNATIONAL COOPERATION

The late Prime Minister, Shri Jawaharlal Nehru, while addressing the General Assembly of the UNO on 10th November 1962 said, "The essential thing about this world is cooperation and even today between the countries which are opposed to each other in political or other fields there is a vast amount of cooperation". In fact the idea of observing an International Cooperation Year that is being celebrated this year, emanated from him. And the Government of the Republic of India in the true spirit of its late Prime Minister's assertion, have been pursuing this policy of cooperation in the international field through a number of cooperative endeavours. It has developed closer and deeper cultural relations with other countries both at governmental and non-governmental levels and supported and strengthened the programmes of Unesco in education, science and culture, the three fields of responsibility of the Education Ministry.

Cultural Relations with Other Countries

Freedom brought before the country a great opportunity of reviving the age-old tradition of cultural exchange between India and the world outside. It is to establish, foster and promote this cooperation and cultural exchange that a small beginning was made in 1950-51, which, since then has continued to expand both in terms of financial outlay and the number of countries with which cultural contacts have been established. Today India has cultural relations with nearly 80 countries and spends about Rs. 5 million annually. India has so far entered into formal cultural agreements with Afghanistan, Bulgaria, Czechoslovakia, Greece, Hungary, Indonesia, Iran, Iraq, Japan, Mongolia, Norway, Poland, Rumania, Turkey, USSR, UAR and Yugoslavia. These agreements envisage exchanges in the fields of arts and humanities as also in those of science, technology, health etc. A more recent development has been the drawing up of a formal annual or biennial programmes with some of the countries.

Through the performing arts, Ind a has placed herself on the theatrical map of the world; through her music and dance India has projected the values embodied in her rich artistic traditions. The Government of India have sent performing troupes to many countries like Algiers, Belgium, Bulgaria, China, Czechoslovakia, England, Ethiopia, France, Hungary, Italy, Morocco, Poland, Rumania, Syria, Tunisia, Turkey, UAR, USA, USSR and Yugoslavia, and nearer home to countries such as Afghanistan, Australia, Burma, Cambodia, Indonesia, Japan, Laos, Malaysia, Mongolia, Nepal, North Vietnam, Pakistan, the Philippines, and South Vietnam. India has also invited a number of music and dance troupes from various parts of the world, and audiences in India have had an opportunity of enjoying and appreciating classical and folk music and dance of Afghanistan, Bulgaria, Ceylon, China, Czechoslovakia, Hungary, Mongolia, Nepal, Poland, Rumania, UAR, USSR, Vietnam and Yugoslavia. Citizens of India have had the opportunity of witnessing different types of ballets and hearing some of the

best symphony orchestras from Europe and America under various programmes of the Education Ministry.

The Union Education Ministry has also organised several international conferences in India and has sent participants for international gatherings abroad. Besides the Conference on Asian Archaeology in 1961, the XXVI International Congress of Orientalists was organised in January 1964. India also played host to the Second East and West Music Conference which was held in New Delhi in 1963. Among the major international conferences held abroad and participated by India, mention may be made of the East and West Encounter held in Japan in 1961 and the Edinburgh Festival in 1962. India has also participated a number of times in the Theatre des Nations Festival in Paris and the Holland Festival in the Netherlands. In 1965 India has participated in the First Commonwealth Arts Festival held in the UK.

Many distinguished thinkers, scholars, writers and poets have visited India. Prof. Arnold Toynbee and Mr. & Mrs. Catlin from the UK were here as guests of the Government of India. Other important visitors were Mr. Moller Krishtensen from Denmark, Dr. Isa Sipehbudhi from Tehran, Dr. Ahmad Sammans from Syria, Mr. Hallador Laxness from Iceland, Mr. Julius Germanus and Prof. Ervin Baktay from Hungary, Rev. Nakayamad, Prof. H. Nakamura and M. Miyamoto, and Dr. T. Suzuki from Japan, Mr. Purve Harlo from Mongolia and Mr. H.T. Hall from Cambodia. Under the same programme many distinguished Indian thinkers and scholars have gone abroad for participation in conferences and to deliver lectures.

It is only since independence that the greatness of ancient Indian art has received proper recognition. Two major exhibitions of ancient Indian art have toured different parts of the world. The first one was entitled, 'Five Thousand Years of Indian Art'. It was presented in five centres of Europe. The second was entitled, 'Ancient Indian Art' and toured Japan and six centres in the United States of America. Exhibitions of contemporary Indian art have also been sent abroad, and Indian artists have received international prizes at many bienniales in Europe and America. An exhibition of contemporary Indian paintings visited Bulgaria, Czechoslovakia, Hungary, Poland, Rumania and USSR in 1956. Another exhibition of contemporary Indian paintings toured Latin America in 1959-60. Apart from this, individual artist exhibitions have been held in France, Italy, Japan, the UK and many cities of the USA. India has also received a number of art exhibitions from many countries of the world An exhibition of contemporary art of the Soviet Union was invited by the Ministry of Education, a brilliant exhibition of graphic art from Poland was seen here a few years ago and another from Rumania arrived in 1965. A major exhibition of French decorative art visited this country in 1964 and an exhibition of Mexican art was invited by the Government in 1965.

Through the programme of presenting books to libraries abroad, India has sought to share its intellectual achievements with other countries. Large sets of books on India have been presented to libraries in Latin America, Africa, West Asia, East Asia, the UK and America. Under this programme India has also given assistance to many voluntary organisations which have worked towards the goal of international cooperation.

Indian Council for Cultural Relations

The Indian Council for Cultural Relations was established by the Union Government in 1950 as a non-governmental agency to establish, revive and strengthen cultural relations between India and other countries. Through its activities during all these years, the Council has today grown to be one of the chief organisations that strive to promote goodwill and understanding amongst people of the world.

The Council has played an important part through its various programmes in bridging gaps of understanding between scholars in the field of the humanities and arts. An Asian History Congress was organised by it in 1961, when nearly forty distinguished historians from Asia, Europe and America discussed the movements of people and ideas in the history of Asia. It also organised, in collaboration with the Sahitya Akademi, an International Literary Seminar during the Tagore Centenary Celebrations in 1961.

The Council instituted the Azad Memorial Lectures in the memory of the late Maulana Abul Kalam Azad, the first Education Minister of the Government of independent India, whose vision and initiative was instrumental in founding the Council. These are held annually since 1959 and provide an opportunity not only to the peoples of Delhi, but through the press and radio, to a much larger public to get acquainted with the views of men of international distinction such as Jawaharlal Nehru, Arnold Toynbee, Clement Attlee, C. V. Raman, Walter Hallstein, Gen. Carlos P. Romulo and Rene Maheu, who have all spoken on subjects of fundamental importance to humanity at large.

An important feature of the Council's work is its programmes for foreign students in India. International Students Hostels and Centres sponsored by the Council are functioning in Bombay, Calcutta, Delhi and Madras. These hostels and centres cater for the material and emotional needs of the foreign students. The Council also has a significant programme of establishing Chairs of Indian Studies. The Council has established such Chairs in Cambodia, Iran, the Caribbean area, Turkey and Yugoslavia. It collaborated with the University of Melbourne in Australia in opening a department of Indian studies there with the help of a generous donation from the Spalding Trust of Oxford. The Council runs a library which has a valuable collection of manuscripts and books. The Council's publication programme is chiefly oriented towards introducing Indian society and culture to interested persons in other countries. Books have been planned on Indian art. It has also undertaken a programme of translations of select Indian works into foreign languages. A number of classics have appeared in Arabic, Persian and Korean translations. The Council publishes three journals, namely, 'Cultural News from India', 'Indo-Asian Culture' and 'Thaquafatul Hindi', the last-named a quarterly in Arabic.

Cooperation with Unesco

Unesco came into being on the 4th of November 1946, with India as one of its founder-members. In accordance with the Constitution of Unesco and to ensure a full and active participation of the people of India in the implementation of its programmes, the Government of India set up in 1949 an interim Indian National Commission for Cooperation with Unesco. It was placed on a permanent footing in 1951 and reorganised in 1961.

The Indian National Commission continued to develop and strengthen its relations with Unesco, other National Commissions, international organisations, foreign organisations etc. engaged in activities in the fields of education, science and culture. The Commission had the pleasure of welcoming the Director-General of Unesco, Mr. Rene Maheu, during January and February 1965. The Commission participated in the Regional Conference of Asian National Commissions held at Bangkok (Thailand) from 10-15 February, 1964. This Conference reviewed the progress made in the implementation of the Karachi Plan on Primary Education, and made specific recommendations to National Commissions and also to Asian States to expand primary education and to promote the quality of teaching. It is hoped that the next Conference of Asian National Commissions will be held in India either in 1966 or 1967. The Government of India are participating in the international campaign to save the monuments of Nubia from inundation by the waters of Aswan Dam. India has agreed to contribute Rs. 28 million in the form of services, stores and equipment of Indian origin for this purpose. The flow of assistance to the UAR under this project is expected to start during the current year. The Indian National Commission is also taking a prominent part in the worldwide celebration of the International Cooperation Year.

Unesco's project of Education for International Understanding has been intensively implemented in this country. About 450 schools presently participating in this project are engaged in inculcating in their pupils interest in and appreciation for the life and culture of the people of other countries as well as understanding of the significance of the United Nations and its Specialised Agencies, particularly in the field of promotion of world peace and international cooperation. Under the aegis of the Indian National Commission for Cooperation with Unesco, a national seminar was held in New Delhi during December 1964 to review the progress of the project. Arising from the recommendations of this seminar, the Indian National Commission has suggested to all State Governments that education for international understanding should now be made an integral part of the educational curriculum in schools.

A ten-year Major Project on Mutual Appreciation of Eastern and Western Cultural Values was launched by Unesco in 1957 to be spread over a period of ten years. The project aimed at stimulating, among the peoples of the East and the West, appreciation of one another's cultures, which alone could lay a lasting foundation for international understanding and peaceful cooperation. Fully participating in this project, India has made valuable contributions to East-West understanding. The project has helped stimulate greater interest in and better understanding of Indian civilisation and culture in foreign countries. Scheduled to come to a close at the end of the next year, this project will be merged into a larger programme of Mutual Appreciation of International Cultural Values. Following the scheduled meeting of the Advisory Committee of the Project in Paris in December 1965, Unesco has decided to hold a seminar in February 1966 in New Delhi to evaluate the success of the project and to suggest the lines on which further action should be taken. The Indian National Commission will make necessary arrangements for this seminar.

Another event of fundamental importance will be the Unesco organised Round Table on Jawaharlal Nehru's Role in the Modern World which will be held in New Delhi in March 1966. About 12 to 15 leading thinkers, philosophers, scient*ists*, educationists,

writers, artists, publicists and the like from allove the world are expected to participate in the Round Table.

India has been participating to a signifiant extent in the important regional (pan-Asian) activities sponsored by Unesco. The Regional Research Centre on Social Implications of Industrialisation in Southern Asia was established jointly by Unesco and the Government of India in 1956 in Calcuta. After five years, the Centre was transferred to Delhi and redesignated the Unesco Research Centre on Social and Economic Development in Southern Asia. The Centre has afforded valuable opportunities to research workers from India and several other South Asian countries to study the social and economic impact of modern technology and industrial activity in South Asian countries. A Regional Centre for the Training of Educational Planners, Administrators and Supervisors in Asia was opened in New Delhi in 1962 in collaboration with Unesco. Administered by the Government of India with assistance from Unesco, this Centre has been redesignated in 1965 as the Asian Institute of Educational Planning and Administration. It offers training courses in educational planning and administration to senior officers of the education departments of the countries in South Asia. Several Unesco experts are attached to this institute, which has already held a number of courses and is also conducting research in the techniques of educational planning, administration and supervision. Since the adoption of the Major Project on Scientific Research of Arid Lands, in 1957, India has been actively participating in the work of the project. A Central Arid Zone Research Institute has been established at Jodhpur to conduct research in the problem of arid zones in this country.

Unesco's assistance to the Government of India is being channelled through the South Asia Science Cooperation Office which was established in New Delhi in 1948 to coordinate programmes and activities of Unesco in the South Asian region. The Director of the South Asia Science Cooperation Office is also the Chief of the Unesco Mission in India. The South Asia Science Cooperation Office is particularly connected with the implementation of the UN Technical Assistance and Special Fund Programmes administered by Unesco. Among the projects now under implementation in India under the Technical Assistance Programme, one relates to the development of science education at secondary level through the strengthening of the Science Departments of the National Institute of Education and the four Regional Colleges of Education, and the other to the development of the Centres of Advanced Study at selected universities. The total assistance for these projects comprising fellowships for Indians abroad, services of foreign experts deputed to this country and supply of such equipment as cannot be fabricated in India, might extend up to 2 million dollars during the six-year period 1963-68. Under the United Nations Special Fund Programme, Unesco has given assistance for a number of schemes in the field of science and technology, including the Power Engineering Research Institutes at Bhopal and Bangalore, the Central Mechanical Engineering Research Institute, Durgapur and the Central Scientific Instruments Organisation at Chandigarh.

At the 13th General Conference held in Paris during October-November 1964 Unesco approved an experimental programme for the eradication of illiteracy in certain selected countries, designed to be the precursor to a worldwide and nassive programme for the eradication of illiteracy on a global basis. The General Conference also decided to devote a substantial part of Unesco's resources for the promotion of science and

technology in the developing countries in the interests of economic development. These fundamental changes in the policy and direction of Unesco constitute a turning point in its history and are due, in part at least, to India's efforts as a member, and often as foremost in the group which has championed the cause of the developing countries in Unesco. Indian delegations to successive General Conferences of Unesco culminating with 13th General Conference held last year, have repeatedly drawn attention to the chasm between the 'haves' and the 'have-nots' of the world and the urgent need for Unesco to direct its activities towards the educational, social and scientific development of the vast mass of under-privileged people in the developing countries of Asia, Africa and Latin America.

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