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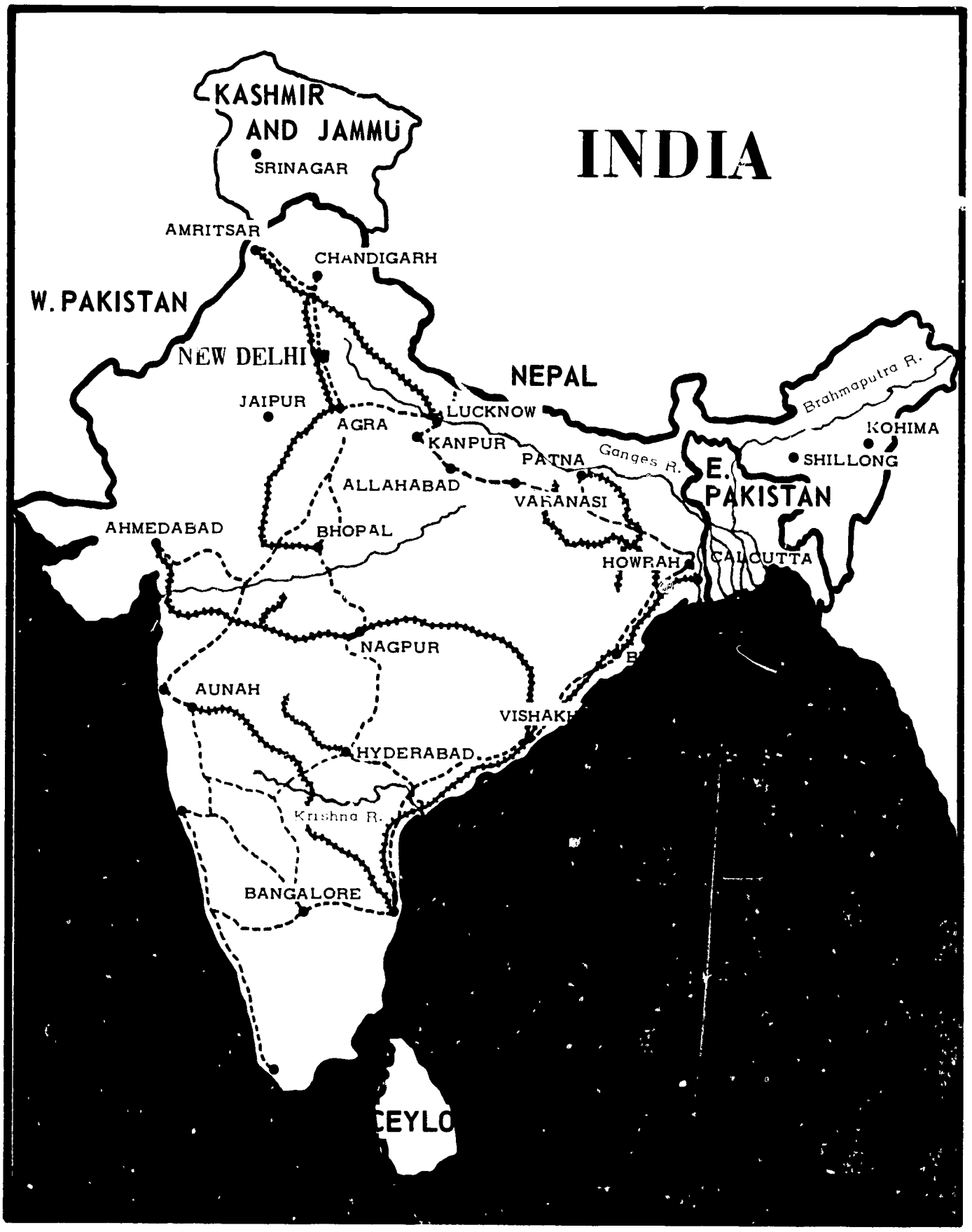
Approximately 70 percent of India's 1963 population of 460,000,000 engage in agricultural pursuits and cottage industries. Some progress has been made in developing industry. The Indian Constitution provides for universal, free, and compulsory education through 14 years of age, but full application has been hindered by inadequate facilities, attendance enforcement difficulties, and teaching standards. Secondary education is of four main types. Technical education is a state responsibility, with coordination of standards and supplemental support from the central government. Trade training for adults is provided in industrial training institutes administered by the Ministry of Labor and Employment. Institutional programs include degree courses in universities, certificate and diploma courses at the polytechnics, trade courses in the industrial training institutes, basic training courses in junior technical schools, and special trade training in schools of industry. Technical teacher education is conducted in seven central training institutes. National apprenticeship training for 23 trades has been organized since 1961. In 1965 there were 15,000 apprentices. Industry inservice training is conducted for skilled workers, supervisors, and operatives. A staff training institute for college and institution administrators and industrial education and training officers is planned. (JM)

Outline of Vocational Training in INDIA

PREPARED BY THE DEPARTMENT OF LABOUR AND NATIONAL SERVICE
OF THE COMMONWEALTH OF AUSTRALIA FOR THE
PAN INDIAN OCEAN CONFERENCE ON TECHNICAL EDUCATION AND TRAINING
PERTH, 1966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Frontispiece: Map of India

1. Introduction

Area, Population

The Union of India covers an area of 1,262,275 square miles and, in 1963, its population was estimated at 460,000,000.

Primary Industry

Approximately 70 per cent of India's population live on the land, most of them being engaged in agricultural pursuits and cottage industries. As the size of the average farm is no more than five acres, it yields a bare subsistence, despite the widespread use of irrigation.

The dominant food crop is rice, with millet, wheat, barley and maize next in importance. Further agricultural diversification is achieved through substantial acreages of cotton, oilseeds, sugar, jute, tea and coffee.

In Northern India, in particular, cattle raising is assuming increasing importance. The Government has recognized this by setting up cattle-breeding farms which have made progress in developing heavier, more robust strains with greater resistance to diseases.

Although only seven per cent of the sub-continent is covered by forest, the timber industry is well established and a valuable export trade has been developed. Teak, sal, conifers and sandalwood are milled in commercial quantities, and find a ready market.

India's mineral wealth is primarily based on coal and manganese, although gold, iron, mica, copper and ilmenite are also mined. Petroleum has been found in limited quantities.

Secondary Production

Although agricultural commodities still account for 45-50 per cent of Indian exports, successive governments have endeavoured to broaden the base of the economy. In 1962, a Declaration of National Emergency was issued which called for, and achieved, a rapid growth in industrial production.

The textile industry (one of the basic industries in developing economies and an important employer of labour in India), has made progress, and noteworthy increases were achieved in the production of coal, cement, steel and aluminium. In turn, this has stimulated growth in the building, engineering and chemical industries.

Despite these achievements, however, industrial production fell short of the targets set under the current Five-Year Plan (1961-1966).

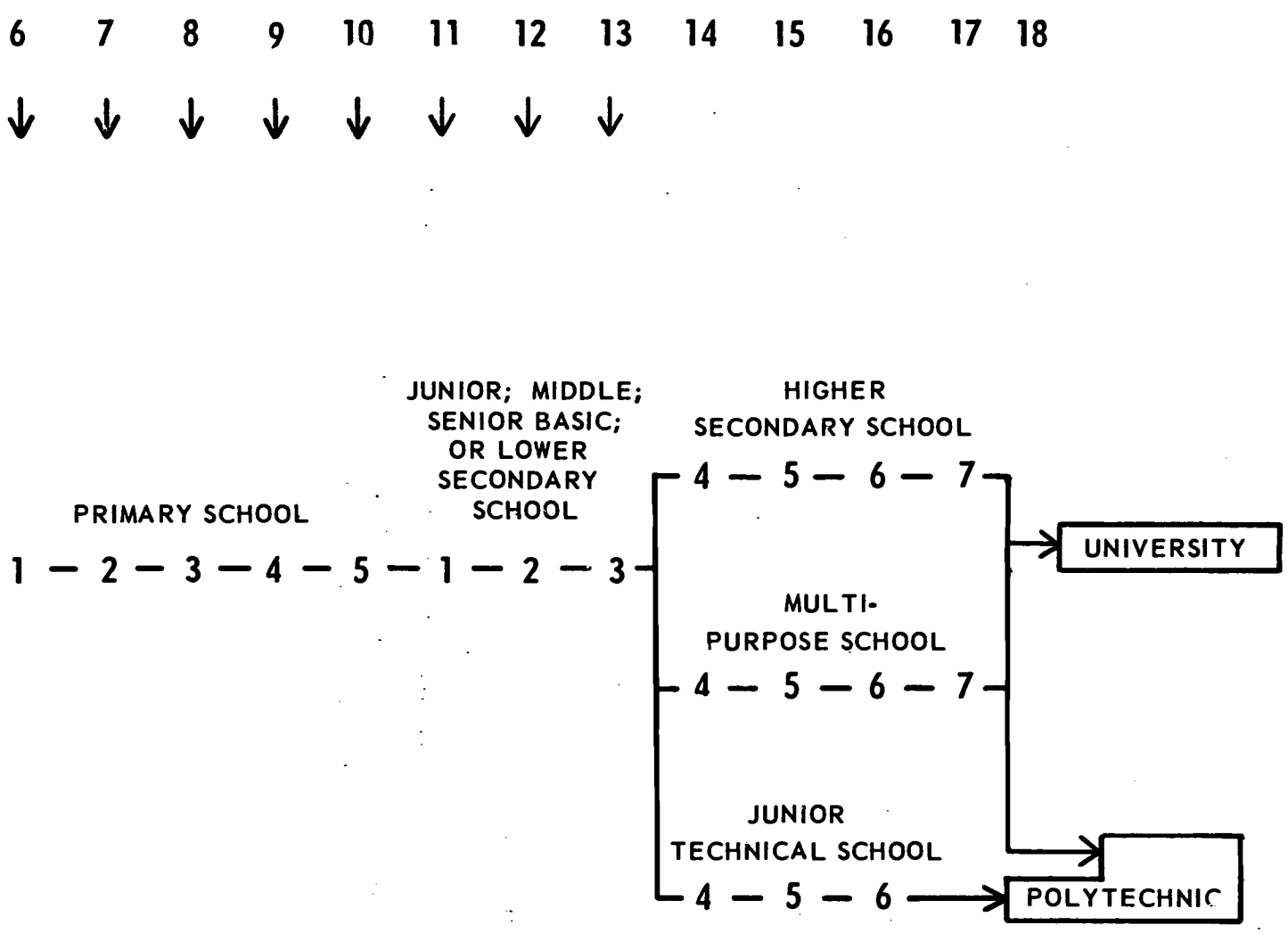
General Economic Development

None the less, national income in 1963-1964 rose by 4.3 per cent compared with 2.4 per cent and 2.6 per cent respectively in the two preceding years. The main difficulty still lies in the agricultural sector, and a preliminary memorandum on the fourth five-year plan (which commenced in April, 1966) has proposed an expenditure pattern designed to secure a 5 per cent per annum growth rate in agriculture, with an over-all growth rate of 6.5 per cent per annum.

The problem of growth has been complicated by a rapid decline in foreign exchange reserves since 1962-1963. Current attempts to improve the balance of payments, centre around export promotion in the form of freight concessions, improved credit facilities and railway and port development schemes. In addition, heavy import restrictions and foreign exchange controls have been introduced.

INDIA

GENERAL STRUCTURE OF EDUCATION



2. General Education

The Indian Constitution provides for the provision of universal, free and compulsory education for children up to the age of fourteen years, irrespective of race, caste or language. However, the difficulties in providing adequate facilities in scattered hamlets, enforcing attendance, enrolling some rural children and achieving satisfactory teaching standards, have hindered the full application of this provision.

The fact that each Indian state has its own school system, makes it difficult to describe an "Indian" system. The accompanying chart and following notes, therefore summarize a wide range of systems in general terms.

Primary education varies in length from four to six years and is followed by attendance at secondary school.

Secondary education is divided into two stages, the first of which is usually given at a junior secondary school (otherwise referred to as middle school, senior basic school or lower secondary school), and in most states extends over three years. The second stage allows students to enter one of four main types of schools: high school, higher secondary school, multi-purpose school or junior technical school. The high schools are gradually being replaced by the higher secondary schools—the only difference between the two being the extra year provided by the latter—and are not shown on the chart of the General Structure of Education.

The multi-purpose schools provide a similar course to the higher secondary school but provide a wider range of scientific, technical and commercial subjects. The junior technical schools on the other hand are primarily pre-vocational in nature, although they do teach some general subjects. Their main aim is to prepare for further training either in industry or at a polytechnic.

There has been a remarkable expansion of primary and secondary education in the past decade. At the end of 1963, 70 per cent of children in the 6-11 year age-group, thirty per cent of the 11-14 year age-group and 13 per cent of the 14-17 year age-group were attending school. It is anticipated that by the end of 1966, 80 per cent of the 6-11 year age-group will be enrolled and that girls will form a considerably higher proportion than they have done in the past.

3. Technical Education

Organization and Administration

Technical education in India is primarily the responsibility of the respective states, but the Central Government has the responsibility for determining and co-ordinating standards in institutions for higher education or research, and for scientific and technical education.

The Central Government supplements state expenditure on technical education by way of grants for development and expansion programmes, and directly administers and finances some special institutions.

The Ministry of Education is advised by the All India Council for Technical Education which includes representatives of State Governments, Central Ministries, industry, professional bodies and universities.

Whereas the Union Ministry of Education organizes vocational training at the secondary and tertiary level, the Ministry of Labour and Employment organizes trade-training of adults through a network of industrial training institutes. The day-to-day administration of these institutes is vested in the respective State Governments but the Union Ministry determines policy on

such matters as syllabi and staffing. It is advised by the National Council for Training in Vocational Trades which includes representatives of the Central and State Governments, employers' organizations, and workers.

Types of Institutions and Courses

Indian university courses include first-degree courses in textile technology, leather technology, instrument technology, architecture and ten branches of engineering. Degrees are of either four or five years' duration and may be followed by post-graduate degrees or diplomas.

Specialised science and engineering courses at both certificate (sub-professional technician) and diploma (technologist) level are provided at the polytechnics and it is an aim of the All India Council for Technical Education to expand the role of these institutions. In 1947, there were 53 institutions with a total enrolment of 3,650, but by 1964, there were 264 institutions with an enrolment of 46,240.

In addition to the polytechnics, are the industrial training institutes which offer basic courses in a wide variety of trades, designated as engineering" or "non-engineering". The minimum age of entry to these institutes is 15 years. The duration of training for all non-engineering trades is one year, and for engineering trades, varies from one to two years.

Trainees who graduate from industrial training institutes may either complete an apprenticeship or enter industry as semi-skilled workers.

Junior technical schools provide a course of three years' duration which is intended to provide basic training in the technical trades for boys of fourteen to seventeen, while at the same time, advancing their general education.

Training in weaving, carpentry, auto-mechanics, turning and printing, is also provided through the technical education system by the schools of industry. These schools provide a two-year course, at the end of which, trainees are classed as semi-skilled. Their status may be raised to the skilled level by completing a further two years as an apprentice.

Arrangements for Technical Teacher Training

To provide industry and the vocational training institutions with a supply of skilled instructors, the Union Ministry of Labour and Employment has set up central training institutes for instructors, located at Calcutta, Bombay, Madras, Kanpur, Ludhiana, Hyderabad and New Delhi.

In setting up the instructor training programme, India has received considerable assistance from the International Labour Organization and the United Nations Special Fund—particularly for the institutes at Calcutta, Madras, Kanpur, Ludhiana and Hyderabad. The institute at Bombay has received assistance from the United States Agency for International Development.

4. Apprenticeship

Since the passing of the Apprenticeship Act in 1961, apprenticeship training in India has been organized on a national basis. This Act gave the responsibility for apprenticeship to the Union Ministry of Labour and Employment working in conjunction with the corresponding ministry in each state.

Twenty-three trades are designated for apprenticeship by the Act, and a ratio has been set whereby employers are required to have one apprentice for each stated minimum number of skilled workers in each trade. The ratio in the machine shop trades is 1:7, but in other designated trades, it varies from 1:1 to 1:4.

The normal age of entry to apprenticeship is either fifteen or sixteen years of age, although the minimum entry qualification varies from the completion of primary school to the completion of the sixth year of high school according to the trades concerned. The duration of training also varies according to the trade concerned, it being three years in most cases, and four years in others. Throughout the period of training, apprentices are paid a small stipend on a progressive scale and are released one day per week to attend classes in trade theory.

In 1965, there were 15,000 apprentices training under the national system, but, in addition, some of the larger industrial establishments, such as Tata Iron and Steel and Tata Engineering and Locomotive, had set up their own apprenticeship centres catering for their own needs. Such schemes are also covered by the Apprenticeship Act, although non-designated trades are excluded. It is anticipated that the national system will expand considerably under the Fourth Five-Year Plan, the aim being to have 40,000 apprentices in training under this system by 1971.

Co-ordination of apprentice training schemes with industrial manpower needs is being achieved through the employment market information programme of the National Employment Service—a section of the Union Ministry of Labour and Employment. Information is collated on a periodical basis regarding job vacancies and personnel shortages in various occupations. Reports based on these studies are then used as a guide for the adjustment of training programmes. Guidance on course content within these programmes is obtained from trade committees (consisting of representatives from the Central Government, the technical training institutions and the trade concerned) set up for this specific purpose.

5. Accelerated Vocational Training

Accelerated vocational training schemes have been in operation in India since 1943, carried out by the industrial training institutes (see section three).

An independent National Council for Training in Vocational Trades acts as adviser to the Ministry of Labour and Employment on accelerated training, conducts trade tests for the institutes, and awards National Trade Certificates to successful trainees.

A very high priority has been given to these schemes in the Five-Year Plans: at the end of the first plan (1956), there were 59 institutes with 10,500 trainees, and it is planned that by the end of the fourth plan (1971), there will be 500 institutes and 200,000 trainees.

6. In-industry Training

The responsibility for promoting and developing in-industry training rests with the Directorate-General of Employment. Up to date, the accent has been on the training of skilled workers, but officers are currently being trained who will help employers locate training needs and develop supervisor- and operator-training programmes.

Prior to the 1961 Apprenticeship Act, training of skilled workers was left to each firm to fill its own needs. It was common, and still is in the non-designated trades, to up-grade workers as they gained experience. Up-grading however, is not necessarily haphazard, and in some of the more progressive industries, formal on- and off-the-job up-grading training has been organized.

Formal training of workers at operator level is undertaken only by the larger firms but, in general, their programmes are of high standard and cater adequately for their specific needs.

The Chief Adviser of Factories, in the Ministry of Labour and Employment, has made considerable efforts in the past few years to promote the use of T.W.I. programmes and a special centre has been set up at Bombay to train trainers in T.W.I. and other supervisory training programmes.

Quite a number of large industries employ full- or part-time training officers, but there are no formal facilities available for their training, other than the T.W.I. centre at Bombay.

7. National Planning for Vocational Training

The National Planning Committee is responsible for economic planning through the preparation of the five-year plans. It pays particular attention to skilled labour requirements, including provision for the establishment of new technical institutions. High priority is being given to the individual training institution, but another important development planned, is a staff-training institute for the training of college and institution administrators in the first instance. It is planned that it will later make provision for training industrial education and training officers.

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