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Contents

<i>Chapter</i>	<i>Page</i>
I INTRODUCTION	5
II RAILWAYS	7
III ROADS	12
IV ROAD TRANSPORT	17
V SHIPPING	19
VI PORTS AND HARBOURS	24
VII INLAND WATERWAYS	28
VIII CIVIL AVIATION	31
IX POSTS AND TELEGRAPHS	36
X BROADCASTING	42
XI OVERSEAS COMMUNICATIONS	46

CHAPTER I

INTRODUCTION

IN a country like India, where distances are so great, a well planned system of communications is a vital necessity. Unfortunately, this aspect of development was till recently not given the attention it deserved, with the result that large areas were completely untouched by the progress made elsewhere. In general, while the big cities and towns were to some extent able to keep pace with modern developments, rural India remained in the state of backwardness in which it had lain for centuries.

Once independence had been achieved this state of affairs could obviously not be allowed to continue. When the scheme of national reconstruction was being drawn up, it was realized that development plans would be meaningless without quick and efficient communications to link the various sectors and ensure co-ordinated progress. Only thus, too, could hitherto inaccessible areas be reached.

So urgent was the need to develop transport and communications that the planners allocated nearly Rs. 500 crore in this connection under the following heads for the period of the Five Year plan :

	(Crores of rupees)
Railways	250.00
Roads	108.88
Road transport	8.97
Shipping	18.05
Civil Aviation	22.87
Ports and Harbours	33.09

Inland Water Transport	0.10
Posts and Telegraphs	50.00
Broadcasting	3.52
Overseas Communications	1.00
Meteorological Department	0.62
	<hr/>
	497.10

It will be seen from these figures that the bulk of the allocation goes to Railways and Roads, both of which are in a sad state of disrepair and need immediate rehabilitation. Lesser allocations go to the rapidly expanding Posts and Telegraphs Department, to developing the Ports and to assisting the growing Shipping and Civil Aviation industries. As a result it should be possible for the country's transport and communications to be established on a sound footing by the end of the Plan period.

CHAPTER II

RAILWAYS

WITH 34,000 miles of track and a million workers, India's railway system is the largest in Asia and fourth among world railways; but it is still inadequate for the needs of so big a country. The first railways in India—100 years ago—were company-owned and managed, and it was not till 1870 that the State itself began to take an interest. From 1907 the major lines were, however, gradually acquired by the Government and leased for management to the companies. By 1922 this process was complete.

World War I brought heavy military demands on the railways, with inevitable straining of resources, but in the twenties there was a boom period, and 5360 miles of new lines were laid in eight years. Then came the great depression, and the railways were only beginning to recover from it when World War II broke out.

On the outbreak of the war the bulk of the railway rolling stock had already outlived its normal life, but this worn-out stock had to be kept on the rails because of the enormously increased demand. Again before there could be any recovery at the end of the war, partition of the country brought fresh problems in the migration of refugees and the splitting up of the railway system, the latter involving the division of assets and the administrative problems of the transfer and absorption of staff.

REORGANISATION

To ensure the success of any scheme to rehabilitate the railways, it was necessary first to attempt some form of reorganisation. Before independence, railway development had been haphazard, so that in 1948 there were as many as 42 systems, 15 lines being owned by princely States. The move for regrouping began in 1904, but it was not till 1947 that a decision was finally taken to group the railways into a small number of viable systems, reducing costs by the elimination of duplication and waste. By 1952, the railways were regrouped into the following six zones :

- (1) *Southern Zone*—Comprising the Madras and Southern Mahratta, South Indian and Mysore systems.
- (2) *Central Zone*—The G.I.P., Nizam, Scindia and Dholpur Railways.
- (3) *Western Zone*—Most of the B.B. & C.I., the Saurashtra, Mewar and Jaipur Railways.
- (4) *Northern Zone*—The East Punjab, Jodhpur and Bikaner Railways, the Allahabad, Lucknow and Moradabad Divisions of the East Indian and the Delhi-Rewari-Fazilka section of the B.B. & C.I.
- (5) *Eastern Zone*—The remaining five divisions of the E.I. and the Bengal-Nagpur.
- (6) *North-Eastern Zone*—The O. & T. and Assam Railways, plus the Kanpur-Achnera section of the B.B. & C.I.

RAILWAY FINANCE

There was another aspect to be considered. With the railways now completely nationalised and the need for rehabilitation pressing, a revision of the relationship between the Railway and General Finances became necessary. In 1924, a convention had been adopted separating the Railway Finances. Under the arrangement, the railways were to contribute to the General Finances an amount varying with their revenue surpluses. This denied the railways the chance of building up adequate reserves

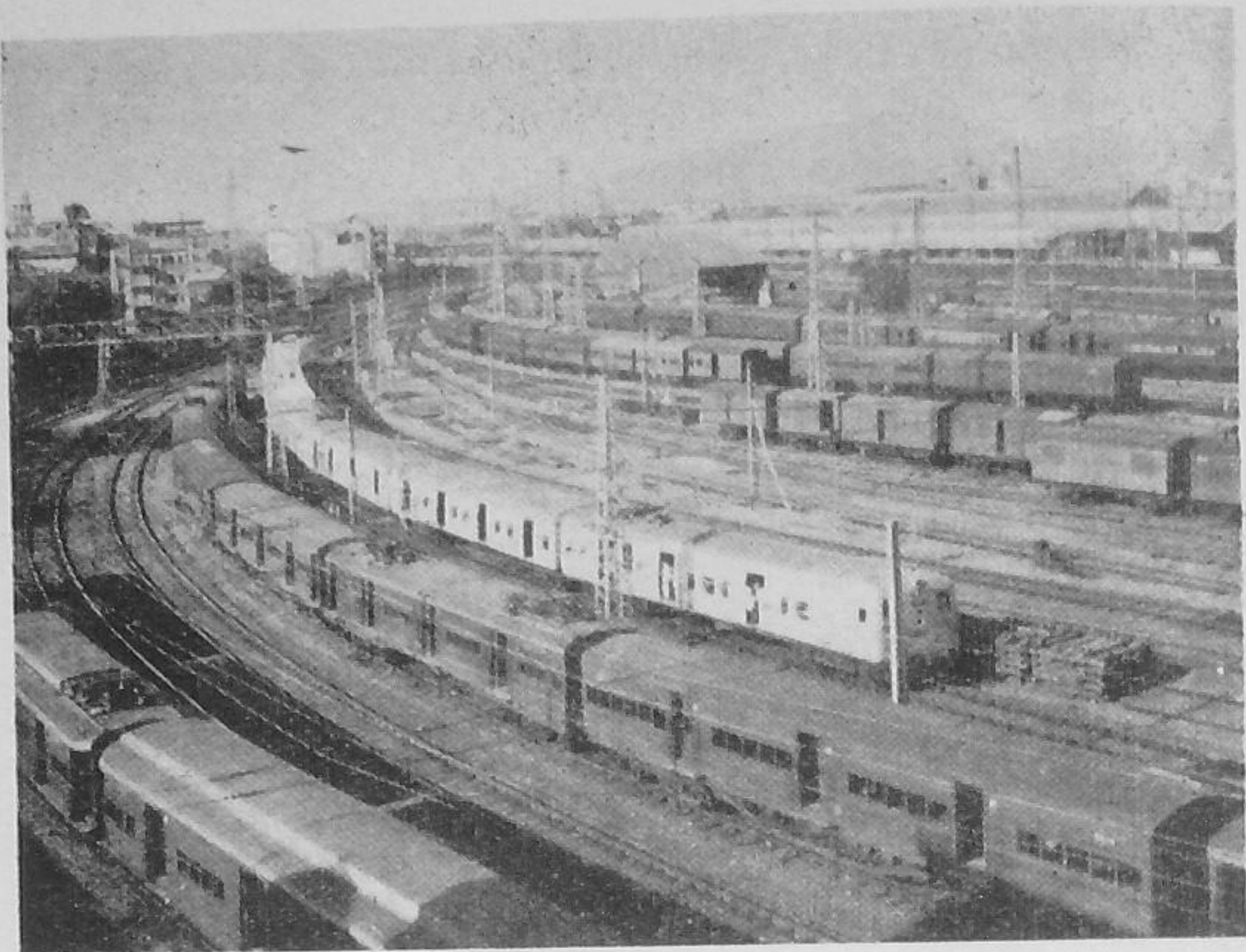
in years of prosperity which they could use for developmental purposes. Their expansion and development were thus hindered.

In these circumstances, the Government of India in December 1949 accepted the recommendations of the Convention Committee of Parliament. It was decided that the Railway Finances should continue to be separate from the General Finances, and that the tax-payer, having the status of a sole shareholder in railway undertakings, should be entitled to a dividend of 4% for five years commencing from 1950-51. In view of high replacement costs, the annual contribution to the Depreciation Reserve Fund was stepped up. The Convention also provided for a Railway Development Fund for financing passenger amenities and labour welfare and for projects which were necessary but unremunerative at the time of inception. Acceptance of the Convention's recommendations marked the beginning of a new railway policy.

REHABILITATION

The new policy came not a minute too soon. Indeed, by now the railways were in desperate need of rehabilitation, repairs and replacements having fallen heavily into arrears. On March 31, 1951, no less than 1,051 locomotives were due for replacement, whereas the average number per year had in the past been 190. On the same date there were 5,514 overage coaches and 21,418 overage wagons in service as against normal annual figures of 650 and 5,000, respectively. The track, too, had deteriorated considerably and was in need of renovation. Finally, these problems had to be viewed against the background of increasing pressure on the railways in connection with industrial expansion and the transport of foodgrains.

In the Five Year Plan, it was inevitable that the major part of the allocation for Transport and Communications should go to the railways, and just as inevitable that most of the money to be spent on this section should be for new



Victoria Terminus Yard, Bombay

locomotives, coaches and wagons. Including the amounts normally set apart every year for renewals, Rs. 400 crore is to be spent on the railways during the Plan period. Of this, Rs. 208 crore will be spent on rolling stock and machinery and Rs. 71 crore on bridges and on repairing and improving the track. Branch lines dismantled during the war are to be relaid at a cost of Rs. 6 crore. To provide better amenities for third class passengers Rs. 15 crore has been set apart, and Rs. 20 crore for opening new lines. Of the Rs. 400 crore, Rs. 320 crore will be provided by the railways, the balance being met from the Central revenues.

As far as possible, the needs of an essential service like the railways are to be met from internal production. The Chittaranjan Locomotive Works are expected eventually to produce 120 locomotives and 50 spare boilers per year, and the Tata Locomotive Engineering Company 50 locomotives a year when in full production. During the period of the

Plan these two undertakings will turn out 268 and 175 locomotives, respectively. Altogether the Plan provides for 1,042 locomotives to be replaced by 1956, of which about 600 will be imported.

The import of coaches and wagons will also be necessary for some time to make good deficiencies and to replace overage stock. Actually, in the matter of wagons supplies from domestic production have now caught up with the annual replacement of 6,000, and it is estimated that 30,000 wagons will be produced during the period of the Plan.

The present coach-building capacity is about 670 a year. Apart from the railway workshops, Hindustan Aircraft Ltd. produces 100 to 180 coaches annually. It is estimated that during the period of the Plan about 4,380 coaches will be manufactured in India. A new Government-owned factory is being built at Perambur, Madras, at a cost of Rs. 4.61 crore. It will turn out 350 steel, light-weight model coaches annually. For the next three years orders have been placed for 3,384 coaches, of which 3,172 will be manufactured in this country.

In the restoration of old railway lines and the construction of new ones the most significant development has been the completion of the Assam Rail Link, connecting the old Assam line with the Eastern Railway through Indian territory. Then there is the Deesa-Gandhidham line linking Kandla port with the Western Railway. Other developments include the expansion of the Kalyan powerhouse to increase electric supply for the railways. The Khandwa-Hingoly line will, when completed, provide a badly needed link between the northern and southern metre-gauge systems, eliminating the expensive process of ferrying equipment and reducing difficulties in the movement of food and materials. All these are aspects of the co-ordinated development envisaged under the Five Year Plan.

CHAPTER III

ROADS

ROADS are as important as railways in opening up a country for development purposes. In fact, they have the advantage of being able to serve the remotest areas, where railways for physical and other reasons cannot penetrate. Again, in any given area in India, no matter how intensive the railway network it cannot serve every village, whereas all villages can with a little effort be connected by road. It is the aim of our Government that every village should be within easy reach of a main road.

Before this can be achieved, a tremendous amount of work will have to be done. Our present road system is grossly inadequate for the needs of the country. Methods of construction are not very modern, and till recently attention has been mainly concentrated on the maintenance of the main highways, other roads being neglected. Roads in the districts are often mere tracks and, for the most part, not motorable. During the monsoon most villages are cut off completely from the towns. Altogether India has 239,137 miles of roads i.e. there are 19.6 miles of roads for every 100 square miles. The comparable figures for the U.S.A., the U.K. and Japan are 100, 200 and 400 miles, respectively, which give an idea as to how far behind we are in this respect.

The present trunk road system has been largely laid on the old Mughal roads and others built in earlier periods of our history. With the coming of the railways in the last century, little attention was paid to road development, which



A section of the Bombay-Agra Road (by courtesy A.C.C.)

was relegated to the care of the provinces. World War I, however, brought a sudden tremendous expansion in motor transport and, with it, the need for good roads. A Committee under the chairmanship of Mr. M. R. Jayakar reported in 1927 that road development was passing beyond the capacity of the provinces, and recommended assistance from the Centre in the form of annual block grants. Thus was the Central Road Fund instituted. Later, a semi-official body known as the Indian Roads Congress came into being. A body of professional engineers, it is playing an important role in road development.

Nagpur Plan—World War II and the great strain on communications led to the realisation that a good road system was vital to the needs of the country. The result was the Nagpur Road Plan of 1943, which visualised the balanced development of all classes of roads. It called for an increase in road mileage from 178,400 to 330,000, and the improvement

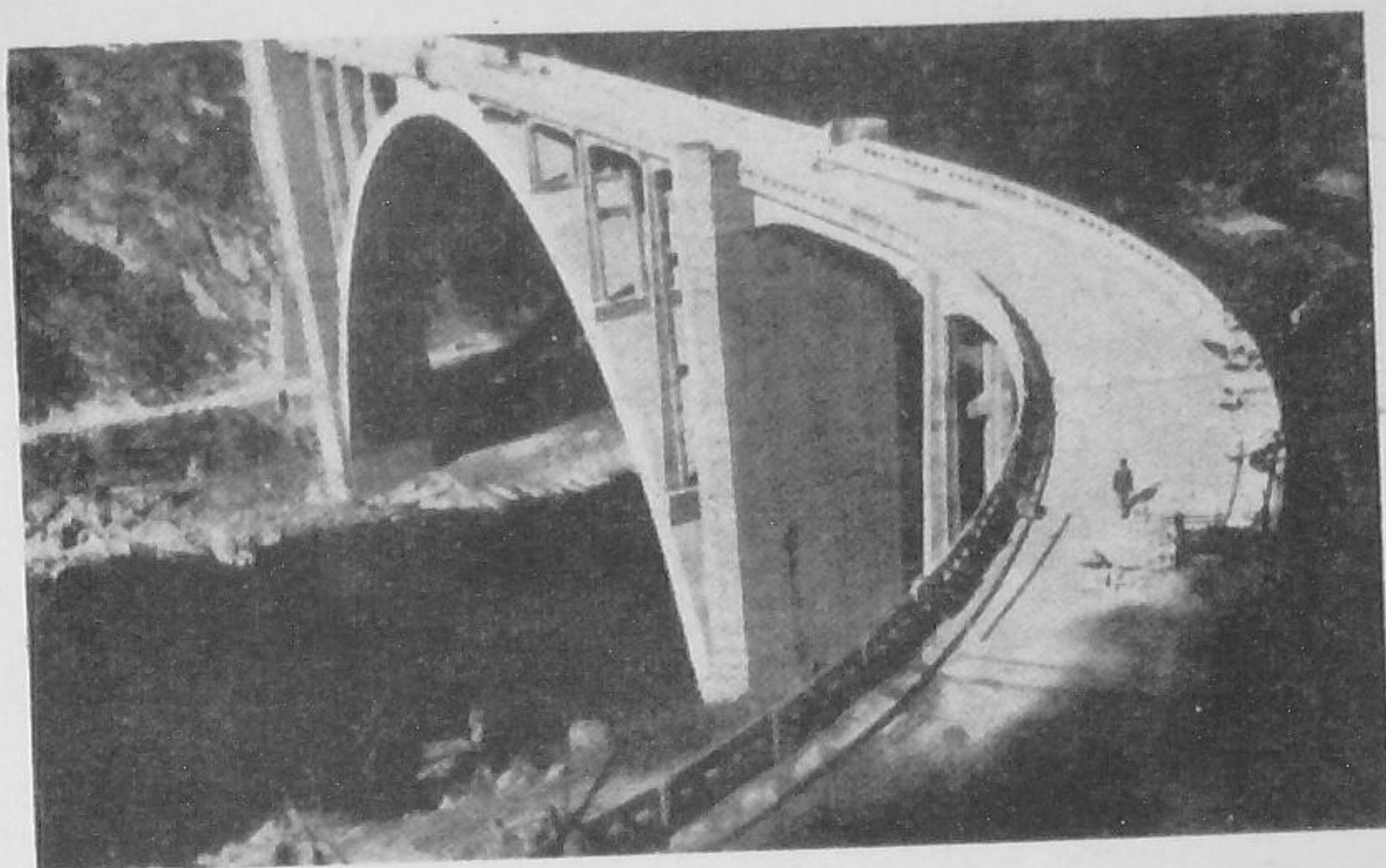
of existing roads at a cost of Rs. 372 crore in 10 years. The Plan classified roads into four categories—national highways, provincial or state highways, major district roads, and minor district roads or village roads. There were to be 13,400 miles of national highways, including roads of strategic importance, to be looked after by the Central Government, while the other roads would be cared for by the States.

This ambitious programme could not be fulfilled due to paucity of funds and shortages of material, but it did immense good as it settled for the first time the broad classification of roads and prepared the way for development under the Five Year Plan.

Under the Plan the road system will be improved as well as extended. In the four years before the present Plan period, i.e. from 1947-48 to 1950-51, 110 miles of new links, 10 large bridges and numerous smaller bridges were constructed and 1,000 miles of existing national highways were improved. In addition, the construction of 300 miles of new roads and 18 large bridges were in progress at the commencement of the Plan period.

The Plan provides for the completion of work in hand and the construction thereafter of 625 miles of new links and 50 major bridges, besides a number of smaller bridges. About 3,000 miles of existing national highways are to be improved. Of this programme, about two-thirds is expected to be completed by 1955-56.

In the Central sector of the Plan Rs. 27 crore have been provided for national highways and Rs. 6.84 crore for selected roads in Sikkim, the Andamans and the NEFA areas in Assam and certain other roads of inter-State or strategic importance. In addition, the Government of India have sanctioned Rs. 10 crore as grants to the States for the development of roads of inter-State or economic importance not already provided for in the State Plans. A sum of Rs. 21.5 lakh has been provided for the study of technical problems connected with road development. For this last-named work, a Central Road Research Institute was opened in



The Coronation Bridge over the river Teesta, Assam

July 1952 to advise the Central and State Governments and also the Community Projects Administration on road works.

The state roads are linked with the national highways and are financed by the States themselves with assistance from the Central Road Fund. According to the schemes drawn up, the total length of metalled roads will be increased from 10,007 miles in 1950-51 to 12,453 miles by 1955-56 in Part A States and from 7,588 miles to 8,129 miles in Part B States. Plans in the Part C States and tribal areas are directed towards building as many roads as possible and opening up inaccessible areas. The total provision for road development in the States is Rs. 76.44 crore, of which Part A States account for Rs. 51.49 crore, Part B States Rs. 18.27 crore and Part C States Rs. 6.68 crore.

As regards village roads, the aim is to connect villages of a certain size and population with marketing centres and district headquarters. The State Governments are paying special attention to this, and are enlisting the co-operation of the villagers. The Roads Wing of the Ministry of Transport has formulated a model scheme for the construction of village roads on a co-operative basis, and it offered Rs. 60

lakh from the Central Road Fund Reserve as a contribution towards specific projects for the period 1951-54. Road development has also been planned under the community projects, and it is estimated that 16,000 to 17,000 miles of *kutcha* roads will be built in the village units.

During the first two years of the Plan, Rs. 6.87 crore were spent on road development. About 190 miles of "missing works" on national highways were constructed. In addition, 10 of the 68 proposed bridges were completed on national highways. As regards selected roads, in Tripura, Bombay, Jammu and Madras nearly 140 miles of new construction were completed. In the States, new constructions and improvements totalled 7,200 miles at an expenditure of Rs. 2801.3 lakh.

It may be said that, while the task of building up an adequate road system will not be completed for many years, the administration has really come to grips with the problem and the position henceforth will be one of steady progress to the country's increasing economic benefit.

CHAPTER IV

ROAD TRANSPORT

WHILE the country remains short of good motorable roads, the bulk of the traffic in the less developed areas continues to be carried by the humble bullock-cart, which has been performing this function for some thousands of years.

Motorised transport came later to India than to most countries. It was virtually unknown before World War I, but soon after that war ended public transport services rapidly sprang up, the companies using war surplus vehicles. There was severe competition not only between the rival companies but between road and rail transport in general, and the railways were especially hard hit during the depression. The new Motor Vehicles Act in 1939 was a big step towards creating fair conditions of competition and enabling motor transport to develop along sound lines. In 1946 encouragement was given to a system of transport undertakings on a tripartite basis, the parties being private operators, the State Governments and the railways. A more recent development is the setting up of fully autonomous statutory road transport corporations by some State Governments.

At present there are 47,475 operators of commercial motor transport in India, of whom 46,000 are small operators, none owning more than six vehicles. Even before World War II ended there were several public-owned transport organisations, and now in as many as 20 States the Government runs services. The trend is towards public corporations, and these have been formed in Bombay, Delhi and

Bilaspur under the Road Transport Corporations Act, 1950. The Act has been extended to Bihar, Madhya Pradesh, West Bengal, Hyderabad, Kutch, Mysore and Saurashtra.

In the interests of co-ordinated road-rail transport, a fusion of financial interests has been agreed. The railways are now taking part in such undertakings in Bombay, Madhya Pradesh, Punjab and Orissa, with a total contribution of Rs. 3.07 crore in capital outlay, the contribution of the State Governments being Rs. 6.03 crore. The Governments of Uttar Pradesh, Bihar, Saurashtra and Kutch have also invited the railways for similar participation.

Most of the Five Year Plan allocation of Rs. 8.97 crore for the development of road transport will be spent on the purchase of about 2,000 buses and the establishment of up-to-date workshops for repair and maintenance.

A significant feature is the progress since the end of World War II in the establishment of an automobile industry in India. At present there are 15 firms engaged in the assembly and manufacture of cars, though only two are actually producing important parts. A severe handicap has been the absence of specialised ancillary industries to produce parts. The industry is, however, growing fast.

Motor transport has made great strides in recent years, and it is expected that, with the increasing participation of the State Governments and the extension of motorable roads it will be of great help to the industrial development of the country.

CHAPTER V

SHIPPING

ALTHOUGH possessing nearly 3,500 miles of coastline and with almost her entire foreign trade carried by sea, India's shipping industry is insignificant when compared to those of the great maritime Powers.

This was not always the case, for India before the British came had a long and distinguished record as a seafaring nation. Restrictive British navigational laws in the end destroyed Indian shipping, and till the end of World War I attempts at reviving the industry were severely discouraged. Between 1920 and 1930 several attempts were made by Indian interests to start coastal shipping services, but in the face of strong competition by established interests most were unable to carry on. One of the few survivors was the Scindia Steamship Company Ltd., founded in 1919.

Agitation for Indian-owned shipping services, however, continued to be strong, and in 1928 the Central Legislature accepted the principle of reservation of the coastal trade for Indian shipping. When the war broke out, however, there were only 30 Indian ships of a gross tonnage of 150,000, which by 1946 came down to 100,000.

In 1945, a Shipping Policy Committee was appointed to consider plans for the development of the Indian mercantile marine, and the principles contained in its report two years later were readily accepted by the national Government. The committee recommended the reservation of coastal trade for Indian shipping, increased participation in foreign trade and the expansion of tonnage to 2 million in the next

five to seven years. By December 1951 the gross tonnage of Indian shipping stood at 390,707, and by the end of 1953 it had risen to 435,300 tons—0.5% of world tonnage. Though far short of the target, a step had been taken in the right direction.

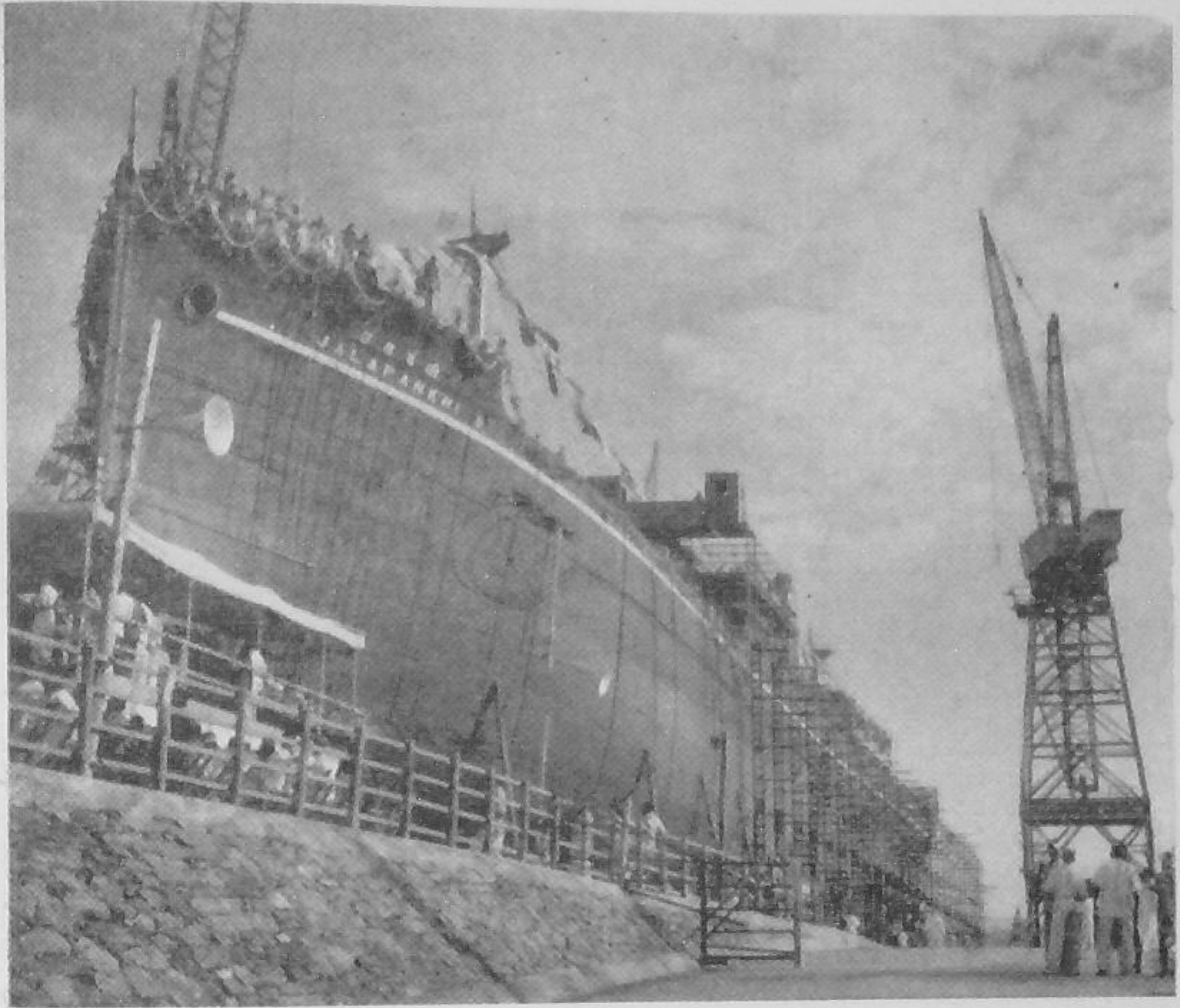
Meanwhile, Indian ships had made an entry into foreign trade, two companies—Scindia Steamship and India Steamship—starting cargo services to the U.K. and Europe, with Scindias having an additional service to the U.S.A. In March 1950 the Eastern Shipping Corporation was formed by the Government of India in partnership with Scindias to trade with Australia and Malaya.

DEVELOPMENT PLAN

About 5 per cent of India's overseas trade is now carried by Indian ships, and though this is an improvement on pre-war days, when none was so carried, there is still considerable room for progress. In the Five Year Plan this need of a sizable mercantile marine is given its due place. The shipping development programme is designed, firstly, to implement the scheme of coastal reservation and, secondly, to ensure fuller participation in overseas trade. In view of the limited resources of the shipping companies, it is proposed to give them financial aid on reasonable terms to acquire tonnage. The Plan envisages an increase in the total tonnage to about 600,000 by 1955-56, of which 315,000 will be for coastal trade. The Hindustan Shipyard is expected to contribute 100,000 tons during the period.

For more effective participation in overseas trade, the minimum tonnage requirements are placed at 110,000, including 40,000 tons required by the Eastern Shipping Corporation. To acquire this additional tonnage the Government is to (1) provide a loan of Rs. 6.5 crore, to be supplemented by the companies to the extent of Rs. 2.2 crore; and (ii) invest Rs. 4.44 crore in the Eastern Shipping Corporation.

During the first two years of the Plan the companies were reluctant to accept the loans because of the high prices



S. S. Jalpankhi, the fourth ship built at the Vishakhapatnam Shipyard

of ocean-going ships. The Eastern Shipping Corporation, however, placed orders with the Hindustan Shipyard for two ships of 10,000 GRT, and for one ship of nearly 7,200 GRT with a German shipyard.

Sailing vessels play an important role in coastal trade. It is estimated that about 2,500 sailing vessels, aggregating about 150,000 tons, carry nearly $1\frac{1}{2}$ million tons of cargo annually. The Planning Commission has suggested reorganisation of this industry on a rational basis. It has also proposed the reservation of certain commodities for transport by such vessels and co-ordination of traffic between coastal ships and the railways.

Lighthouses—A lighthouse is as important to shipping as are signals to the railways. All important maritime

nations have, therefore, attached great importance to the development of lighthouses.

With a view to meeting the increased needs of Indian shipping, the Five Year Plan envisages among other things the improvement of existing lighthouses and the construction of a chain of new lighthouses. The existing lighthouses are being provided with modern and efficient lighting equipment to give greater optical ranges. Where necessary, the heights of towers are being increased to provide greater geographical ranges. Electric lights are provided to give higher beam intensity. In addition, about 70 new lighthouses are being erected along both coastlines of India to make navigation safer and easier.

Lighthouses are not the only aid to navigation. Other forms like fog signals, floating marks and buoys are also to be installed. A suitable network of medium frequency radio beacons will be shortly installed at False Points, Cochin and Okha to provide very high ranges of coverage. Harbour radar will be installed at Kandla for safe pilotage. The "Decca Navigator" system will be employed in Indian waters at an early date.

Installation of V.H.F. radio telephone sets are also included in the progressive scheme for closer contacts between lighthouse stations and the mainland and to give signals of distress in cases of shipwreck. Lastly, a scheme for powered boats has been drawn up to provide a means of contact and of supplying water, rations, etc., and also for use in emergency. Eventually a life-boat service will be developed.

Vishakhapatnam Shipyard—No survey of Indian shipping would be complete without reference to the country's first modern shipyard at Vishakhapatnam. The foundation-stone was laid in June 1941, but development was held up by the War. Following the air raid on the port in 1942, the authorities ordered the removal of all machinery. After the war its development was taken up again, and the keels of two ships were laid in 1946.

The Yard has so far turned out 11 ships, 10 of 8,000

D.W.T. each and a small passenger vessel. Besides the five ships aggregating 40,000 D.W.T. actually delivered since the beginning of the Plan period, the Shipyard has under construction three ships of 7,000 D.W.T. each, in addition to two ships of 8,000 D.W.T. each which are being fitted up after launching. Another six vessels, aggregating over 39,000 D.W.T. are expected to be built in the remaining two years of the Plan.

In March 1952, following a longstanding request by the Scindia Company to the Government of India to take over the Shipyard, the Hindustan Shipyard Ltd. was formed, with the Government holding the majority of the shares and Scindias having a one-third interest. The organisation has entered into a five-year agreement with a French firm under which the latter is to advise on organisational matters and the building of vessels and also train Indian personnel for technical posts.

CHAPTER VI

PORTS AND HARBOURS

HAND IN HAND with the growth of India's shipping industry comes the development of the ports. With the loss of Karachi, the country's sea trade has been carried on through the five major ports of Calcutta, Bombay, Madras, Cochin and Vishakhapatnam. The total annual capacity of these ports—about 20 million tons, in addition to petroleum and goods moved by country craft and bunkers—is not sufficient for the country's requirements. Moreover, much of the equipment of the ports is antiquated and in need of replacement.

The Five Year Plan provides Rs. 24.24 crore to modernising and expanding the four major ports of Calcutta, Bombay, Madras and Cochin, and Rs. 12.05 crore for the development of Kandla to serve those areas in central and north-west India which formerly traded through Karachi. A further Rs. 8 crore is provided for oil discharge facilities for the petroleum refineries at Trombay (Bombay) belonging to the Standard Vacuum Oil Company and the Burmah-Shell Company, which will begin working by 1955. This provision is likely to be increased to Rs. 10 crore as the expenditure on the project may be of this order. The total expenditure on ports during the period of the Plan will be Rs. 46.3 crore. The Plan provides for an advance of Rs. 16.50 crore by the Central Government to the port authorities to be supplemented by their own resources. A sum of about Rs. 1.95 crore is being advanced as loans during 1953-54.



The port of Bombay

The major ports, and their expansion plans are :

Calcutta—Situated on the river Hooghly 90 miles from the Bay of Bengal, the port is not accessible to the largest ships and its approaches have to be constantly dredged. There is, however, an excellent pilot service, and wireless stations keep in touch with all vessels in the river and the Bay. The Port handles about 9 million tons of cargo per year. Being a terminal of east India's railway, road and inland waterways systems, it has a hinterland in Bengal, Assam, Bihar and U.P. possessing the important jute, tea, steel and coal industries. The total value of its imports in 1951-52 was Rs. 223.8 crore and its exports Rs. 434.9 crore.

Much of the equipment has already been modernised and the port has its own railway system, modern workshops, cranes, extensive transit sheds and warehouses. New dredgers are also being bought. Major items in the new development programme are the purchase of a dredger, wagons, locomotives and a heavy crane for handling machinery imported for the river valley projects, and the construction of two general cargo berths. During the first two years of the Plan Rs. 44.52 lakh was spent on the purchase of wagons and locomotives, Rs. 6 lakh for tugs and river

survey vessels and Rs. 27.35 lakh on housing and social services.

Bombay—The main port on the western coast, there is direct approach from the sea, the main channel being two miles wide. There are three main docks and a number of open wharves for country craft. Most of the transit sheds and warehouses were severely damaged in the explosion of 1944, but since 1950 an extensive programme of reconstruction has been undertaken. The scheme includes the modernisation of Prince's and Victoria docks, the reconstruction of transit sheds and the installation of electric cranes at Alexandra Dock. It is estimated that these works will enable the port to handle 800,000 tons additional cargo annually. During 1952-53 this entailed expenditure of Rs. 86.48 lakh, with a further Rs. 5.73 lakh spent on the housing of labour.

Madras—An artificial harbour, the problem of silting is ever present, and constant dredging is required. The port has seven general cargo quays and two coaling berths, and the Buckingham Canal links it with a rich tobacco-growing region. The cargo handled in 1950-51 amounted to 2.15 million tons. Under the Five Year Plan, a provision of Rs. 2.25 crore has been made for a wet dock, which will enable four ships to dock simultaneously, and Rs. 0.22 crore for two all-weather petroleum berths. During the first two years Rs. 7.18 lakh and Rs. 19.62 lakh, respectively, were spent on these items.

Vishakhapatnam—Development of this port has been slow, but it is expected that trade will increase considerably on completion of the Hirakud Project and the industrialisation of the hinterland. Traffic increased from 716,000 tons in 1947-48 to 1,226,712 tons in 1951-52. This has brought a definite improvement in the financial position of the port. As in Madras, there is the problem of dredging, but the port cannot afford a modern dredger. Similarly, a plan for a dry dock capable of accommodating big ships has had to be postponed for lack of funds.

Cochin—This is a fine natural harbour, giving access to about 125 square miles of navigable backwaters. Trade has been steadily increasing, total imports in 1951-52 being 1.3 million tons and exports 3.2 million tons. The development programme provides for the construction of new berths for cargo at a cost of Rs. 8 crore. During 1951-53 the port authorities spent Rs. 6.03 lakh on transit sheds and warehouses and Rs. 2.81 lakh on the construction of coal berths.

Kandla—In 1948 the Government of India accepted the recommendations of the West Coast Major Port Development Committee that Kandla in the Gulf of Kutch should be developed as a major port to serve central and north-west India following the loss of Karachi. The Planning Commission has provided Rs. 12.05 crore for this purpose, and when the work is completed Kandla will have four cargo berths, a lighter basin for country craft, an oil jetty and a passenger jetty plus the usual transit sheds, warehouse and railway facilities. Traffic handled is expected to increase from 122,000 tons in 1951 to about 850,000 tons annually by 1956 — 450,000 tons of general cargo and 400,000 tons of oil. A metre-gauge line 174 miles long, linking the port with the Western Railway system, was completed in 1952. Up to the end of 1953, Rs. 2.52 crore had been spent on the port.

Minor Ports—Although the major ports handle 90 per cent of the country's sea trade, the numerous minor ports are vital to coastal trade and also need attention. To co-ordinate its port policy, the Government of India set up an advisory body called the National Harbour Board, at whose instance Shri Nanjundiah made a survey of these ports and submitted a report. A number of improvements were suggested. The recommendations have been accepted and steps are being taken to implement them. The improvements are to cost in all Rs. 204.41 lakh during the Plan period. The Central Government will contribute Rs. 80 lakh by way of loans to the State Governments concerned.

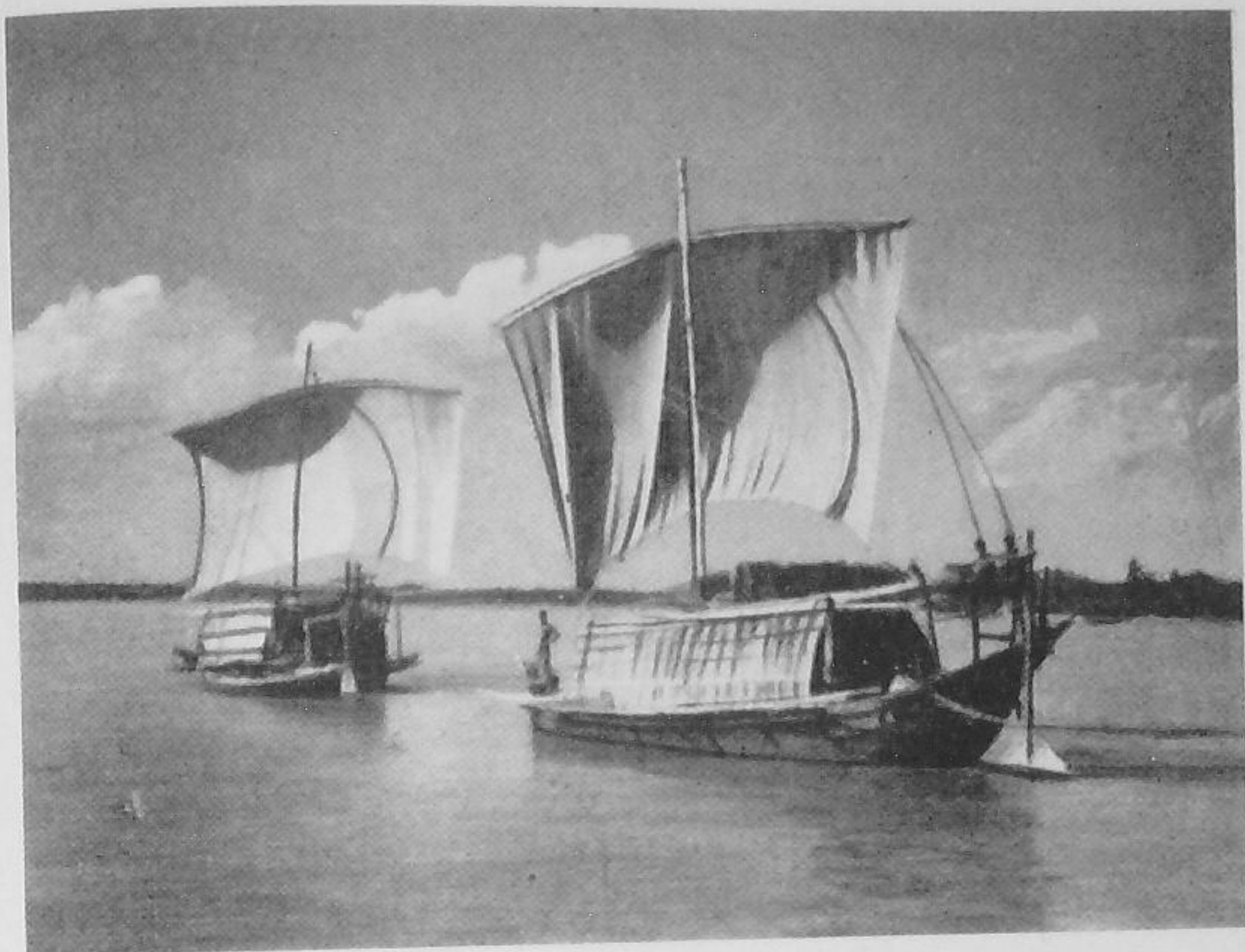
CHAPTER VII

INLAND WATERWAYS

IN ancient India, and in fact until the development of the railways, inland waterways were an important means of transport. In 1834 there were regular services between Calcutta and various towns on the Ganga. Till 1854, steamers came as far as Garhmukteswar, 400 miles above Allahabad. The bulk of the traffic was, however, by country-boat. The railways, providing a faster and more comfortable means of transport, drew off most of the traffic that had formerly gone by water, and the decline of the inland waterways was accentuated by the withdrawal of water in the upper reaches of the rivers through canals.

In recent years, especially since independence, there has been a move to develop these waterways to play their part in the general transport scheme. The carriage of bulky goods can to a certain extent be effected more conveniently and cheaply by water than by rail, thereby also relieving pressure on the railways. Goods in this category include coal, petroleum, cotton, jute and foodgrains.

There are over 5,500 miles of navigable waterways in India. The important ones are the Ganga and the Brahmaputra and their tributaries, the Godavari and the Krishna, the backwaters and canals of Travancore-Cochin, the Buckingham Canal and the West Coast canals in Madras and Andhra States and the Mahanadi canals in Orissa. In addition to a large number of large and small country-boats, steam and motor vessels ply on the Ganga and Brahmaputra rivers and the backwaters and canals of Travancore-Cochin.



Country-boats on the Ganga, one of the most important inland waterways

Large steamers ply from Calcutta 1,135 miles up the Brahmaputra and between Cochin and Quilon in Travancore-Cochin. The Brahmaputra service was disrupted by the 1950 earthquake and it will take time to return to normal.

The drawback of water transport hitherto has been a certain lack of co-ordination between the policies adopted by the State Governments. Since 1949, the Government of India have been taking steps to remedy this defect. As a first step there was set up in 1952 a Board known as the Ganga-Brahmaputra Water Transport Board in order to co-ordinate the activities of the participating Governments viz., Uttar Pradesh, Bihar, West Bengal and Assam, in regard to the development of water transport on the Ganga and Brahmaputra systems of rivers. The Board was to consider proposals relating to the development of traffic over particular stretches of the rivers, the maintenance and improvement of navigational facilities, administrative problems

arising out of the registration and licensing of inland steam vessels, inter-State movement of goods by river, amenities for passengers, fixation of passenger and freight rates and other related matters. The Central Water and Power Commission, who are technical advisers on navigation, were also represented on the Board. At its meeting in July, 1952, the Board took note of the serious situation arising out of the Assam floods and stressed the need for measures to control the river. It also decided, on the recommendation of E.C.A.F.E., to carry out a pilot demonstration project to test the feasibility of using shallow draft tugs for towing barges and boats on shallow waterways. An officer of the Central Water and Power Commission has been appointed on a part-time basis to draw up the details of the project. If this method is successful, it may to a certain extent obviate the need for the costly process of deepening channels by dredging.

There is a proposal for another inland water transport board in South India to cover the backwaters in Travancore-Cochin, which extend to Malabar in Madras State. The matter is being discussed between the Government of India and the two States.

The new multi-purpose river valley projects include schemes for new navigation channels. The Damodar Valley Project, for instance, envisages a channel from Calcutta to the Raniganj coalfields which is scheduled to be completed in 1954. The Kakrapar Project in Bombay is to provide navigable channels from the sea to the Kakrapar Dam and 50 miles further inland. The Hirakud Project will make the Mahanadi navigable for its last 300 miles down to the sea. It is hoped eventually to be able to link the eastern and western coasts of India by means of dams, weirs and locks on the Narmada, Rihand, Sone and Ganga.

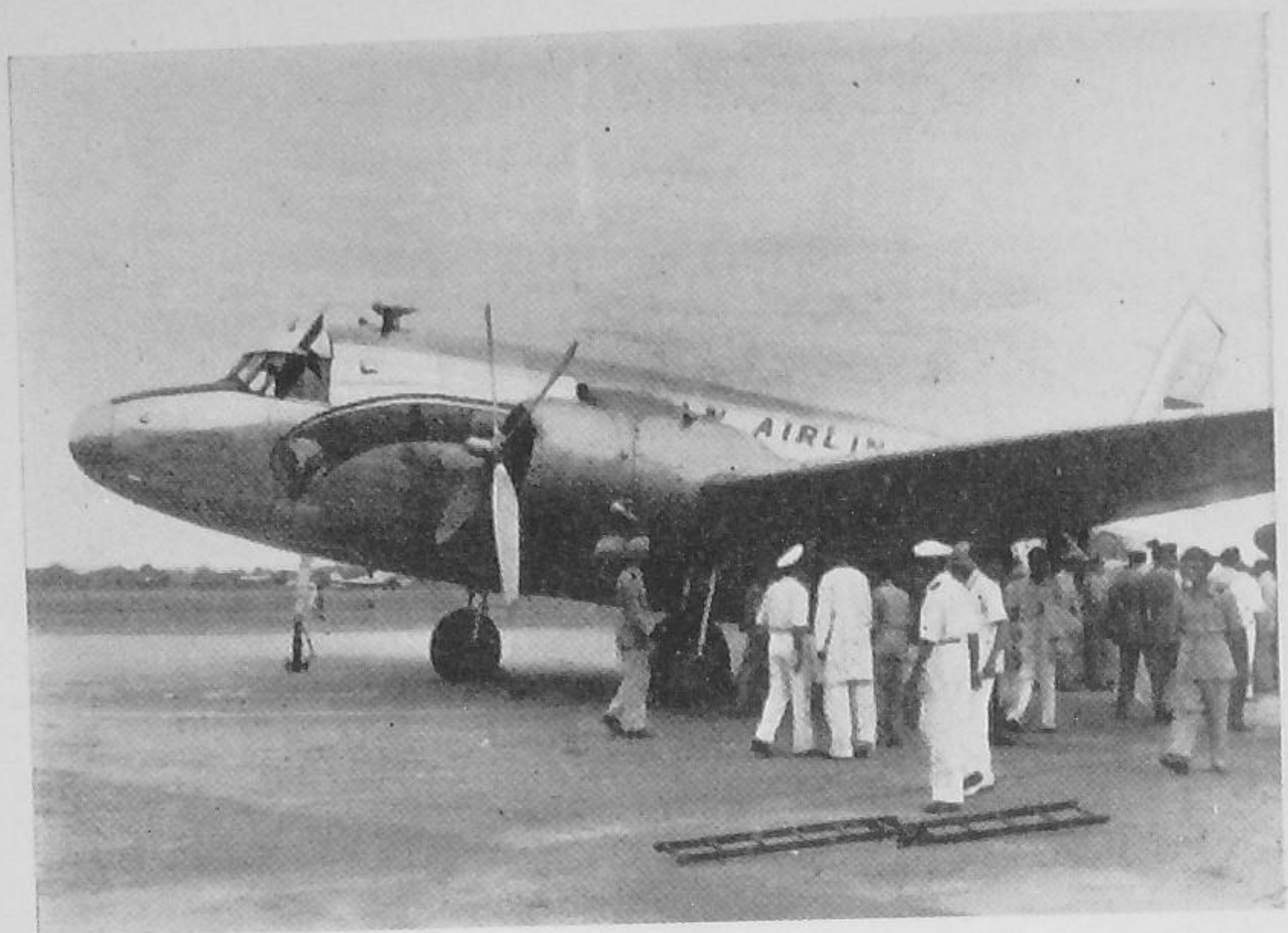
CHAPTER VIII

CIVIL AVIATION

WITH her vast distances and favourable climate for flying almost throughout the year, India has ideal conditions for the development of aviation. It is, moreover, strategically placed across the main routes between East and West.

The industry in the country is still in its infancy, with a history of barely 20 years. In 1932 the first scheduled service was inaugurated between Karachi, Bombay and Madras on the day a plane of Imperial Airways (predecessors of B.O.A.C.) carried the first air mail in India. In the same year Tata Air Lines organised a weekly service from Karachi to Madras, and two years later Indian National Airways operated the Calcutta-Rangoon and Calcutta-Dacca routes and another service between Karachi and Lahore. In 1937 another company, Air Services of India, entered the field. During the war there was a break in civil aviation, all aircraft being commandeered for war purposes, but when hostilities ended a large number of new companies were formed, using war surplus aircraft. There was keen and finally ruinous competition between these new companies in the scramble for new routes, and the industry has not yet recovered from the effects.

With so many companies organising services, there was tremendous expansion in the years following the war. Most of these companies were not, however, established on a sound footing, and there was also much waste by the duplication of services. In order to reduce total expenditure and to guide the industry's growth on correct lines the Govern-



An Indian Airlines plane at Palam

ment ultimately decided on nationalisation, and a Bill to this effect was passed by Parliament in 1953. The Act set up two Corporations—the Indian Airlines Corporation for home services and those to neighbouring countries, and Air-India International for external services.

Great progress had been made since the war ended. During 1953, when the operation of all scheduled services was taken over by the two Corporations, Indian aircraft flew over 19 million miles on scheduled services, carrying nearly 4 lakh passengers. More than 83 million lb. of cargo and mail were lifted. In addition to scheduled air operations, five companies were operating purely non-scheduled services. Air-India International also operated non-scheduled flights to carry Haj pilgrims between Afghanistan and Jedda and between different places in the Middle East.

The introduction of night air mail services in 1949 was a major achievement, and was instantly successful. In 1953, 24,290 passengers, 101,258 lb. of freight and 3,182,254 lb. of mail were carried.

External Services—Before independence, external services were confined to the neighbouring countries of Burma and Ceylon, but today Indian aircraft fly to places from London in the West to Djakarta in the East. Air transport agreements have been concluded with many countries. The starting point of this expansion was the formation late in 1947 of Air-India International Ltd. This company (now a Corporation) operates four services weekly between India and the U.K. and two services a week to East Africa. It has also examined the possibility of extending operations to the Far East.

The undertakings of the following eight air transport companies which were operating scheduled internal air services were taken over by the Indian Airlines Corporation :—

Air India Ltd.,
Air Services of India Ltd.,
Airways (India) Ltd.,
Bharat Airways Ltd.,
Deccan Airways Ltd.,
Himalayan Aviation Ltd.,
Indian National Airways Ltd., and
Kalinga Airlines.

Following an agreement with the Pakistan Government on the operation of Indian air services to Kabul across the territory of West Pakistan, the Indian Airlines Corporation began a weekly service to Afghanistan on the route Delhi-Amritsar-Lahore-Kabul-Kandahar on the 7th November 1953. The old Bombay-Zahidan-Kandahar-Kabul service was discontinued from the 26th November, 1953.

Another new service introduced by Indian Airlines after nationalisation is a direct evening service on the Delhi-Calcutta route with effect from the 10th December, 1953. The Bombay-Delhi non-stop night service has been converted into an evening service since the 17th December, 1953. Both these evening services are operated with Viking aircraft.

The expansion of Indian air services and the require-

ments of the foreign services which traverse the country have greatly increased the task of the Civil Aviation Department in providing terminal navigational, communications and other facilities for aircraft. The department operates 77 aerodromes, three of which—Santa Cruz (Bombay), Palam (Delhi) and Dum Dum (Calcutta)—are international airports. Air traffic control services, navigational aids, and air to ground and point to point radio communications are provided throughout India. There is a network of radio ranges and direction finding stations.

A civil aviation training centre was established at Allahabad in 1948 to meet the need of trained personnel. It comprises four wings: (a) Flying School; (b) Aerodrome School; (c) Engineering School; and (d) Communications School.

There are 10 subsidised Flying Clubs—at Delhi, Bangalore, Bhubaneswar, Bombay, Jullundur, Lucknow, Madras, Nagpur, Patna and Barrackpore. Another has lately been established at Jaipur.

The Indian Gliding Association, Bombay, has been revived and another gliding club formed in Delhi. Both receive subsidies for the purchase of gliders and equipment.

DEVELOPMENT PLAN

The plan for the development of civil aviation has two aspects. The first is the provision of new aerodromes and facilities for meeting increased traffic. The second is the reorganisation of the industry. In the first phase, the Five Year Plan provides Rs. 1.85 crore per annum for the first two years and Rs. 9.5 crore for the remaining three years. A number of new aerodromes have already been completed and existing ones improved. These include four landing strips in each of the States of Tripura and Assam and a new aerodrome at Mangalore. The runways at Dum Dum, Palam, Gauhati and Bagdogra have been improved, and proper lighting facilities provided at Santa Cruz and Dum Dum.

For reorganisation, the Plan provides Rs. 9.6 crore. This is being used to meet the cost of new aircraft and for taking over private airlines.

One important point remains—aircraft manufacture in India. History was made on August 13, 1951, when the first Indian prototype designed and constructed at the Hindustan Aircraft Factory was test-flown and found to be satisfactory. This was a big step forward towards the goal of self-sufficiency in this vital industry. There is, of course, a tremendous way to go before India can manufacture aeroplane engines and other complicated parts of a modern aircraft, but the great thing is that there has been some solid achievement in a very short time, and India can confidently look ahead to the day when she will have a fully developed aircraft industry of her own.

CHAPTER IX

POSTS AND TELEGRAPHS

THE history of the modern Indian postal system really begins in 1774, when Warren Hastings made postal facilities available for the public. Eight years before, Lord Clive had introduced a service solely for Government purposes, and before him the Mughal emperors also had maintained courier services for official use.

It was not till 1837, however, that a public post was officially established and the carriage and delivery of mail became a state function. A dual system came into being, the Imperial Post controlling the main routes and the District Post the minor services. In 1854 the postage stamp was introduced and in 1890, following the recommendations of a commission, the entire system was reorganised.

The next development was the carriage of mail by air with the extension to India in 1929 of the services of Imperial Airways, followed the next year by KLM and Air-France. A state air mail service was started between Delhi and Karachi, and in the next few years it was rapidly extended. India introduced an airmail postcard in 1931.

The introduction of the "all-up" service in 1949 was a landmark in the history of the postal service. Now all letters and money orders are carried by air wherever possible without additional charge. The scheme has proved an unqualified success, and it is estimated that 27% of inland mails were airlifted in 1951-52. Overseas mail, too, is being increasingly carried by air. Cheap air-letter



Telephones being assembled at the Bangalore factory

facilities, for a long time restricted to countries of the Commonwealth, have been extended to all important countries. There are also air parcel services to Afghanistan, Australia, Ceylon, Egypt, France, Switzerland, the U.K. and the U.S.A.

Since independence the Postal Department has rapidly expanded. From 18,121 rural and 3,995 urban post offices in August 1947, the numbers rose to 37,434 and 5,769, respectively, by March 1953. As a result, 80 million people in the rural areas and 10 million in towns and cities have increased postal facilities. A scheme to open a post office in every rural locality with a population of 2,000 or more was virtually completed by the end of 1952, but it was then found that in some cases headquarters of tehsils and talukas were still not served. It was decided, therefore, in April 1953 to take into account the distance one had to

travel to reach a post office besides the population of an area. Post offices will now be opened at all headquarters of tehsils, talukas and thanas provided that in any particular case the loss entailed does not exceed Rs. 750 per year and comes down to Rs. 240 or less within five years. In backward areas like the Lushai Hills, the Santhal Parganas and Himachal Pradesh, however, the limit of loss will be Rs. 1,000 a year. In choosing areas with a population of at least 2,000, care will be taken that every village served is within two miles of a post office.

It is estimated that the number of post offices that will be opened under the new policy during the last three years of the Five Year Plan will be about 10,135, at a total cost of Rs. 25 lakh.

TELEGRAPHS

There is considerable scope for expansion of the telegraphic network, which is grossly inadequate for the needs of so big a country. Progress, has, however, been made in the past few years, the number of telegraph offices, for instance, increasing from 7,330 in March 1948 to 8,468 in March 1953.

The total mileage of telegraph and telephone wires at the end of March 1953 was 777,500, in addition to 789,900 miles of conductors and 432,500 miles of carrier channels.

Efficiency Measures—The efficiency of the telegraph service has steadily improved through constant attention. The following special measures have been taken :

(1) Provision of additional direct long distance outlets between stations. Eleven such outlets were provided in 1948-49, 6 in 1949-50, 8 in 1950-51, 7 in 1951-52 and 6 in 1952-53.

(2) Extension of the high-speed voice frequency system to provide relief to heavily congested circuits.

(3) A high-speed system with teleprinters has been introduced on all main circuits. In all, 1035 teleprinters are now in operation.

(4) Booking of telegrams has been accelerated by pro-

viding national cash register machines at more telegraph offices. Seven such machines were provided prior to 1950-51, 7 in 1951-52, 23 in 1952-53 and 60 were being added during 1953-54.

(5) Steady acceleration of the transmission and delivery systems in the principal telegraph offices.

(6) Transit delays of telegrams traversing the circuits leading to the Bombay Central Telegraph Office are expected to be reduced considerably with the introduction of the mechanised system at the Bombay C.T.O. This system is likely to be extended to the New Delhi, Calcutta and other telegraph offices.

HINDI TELEGRAPH SERVICE

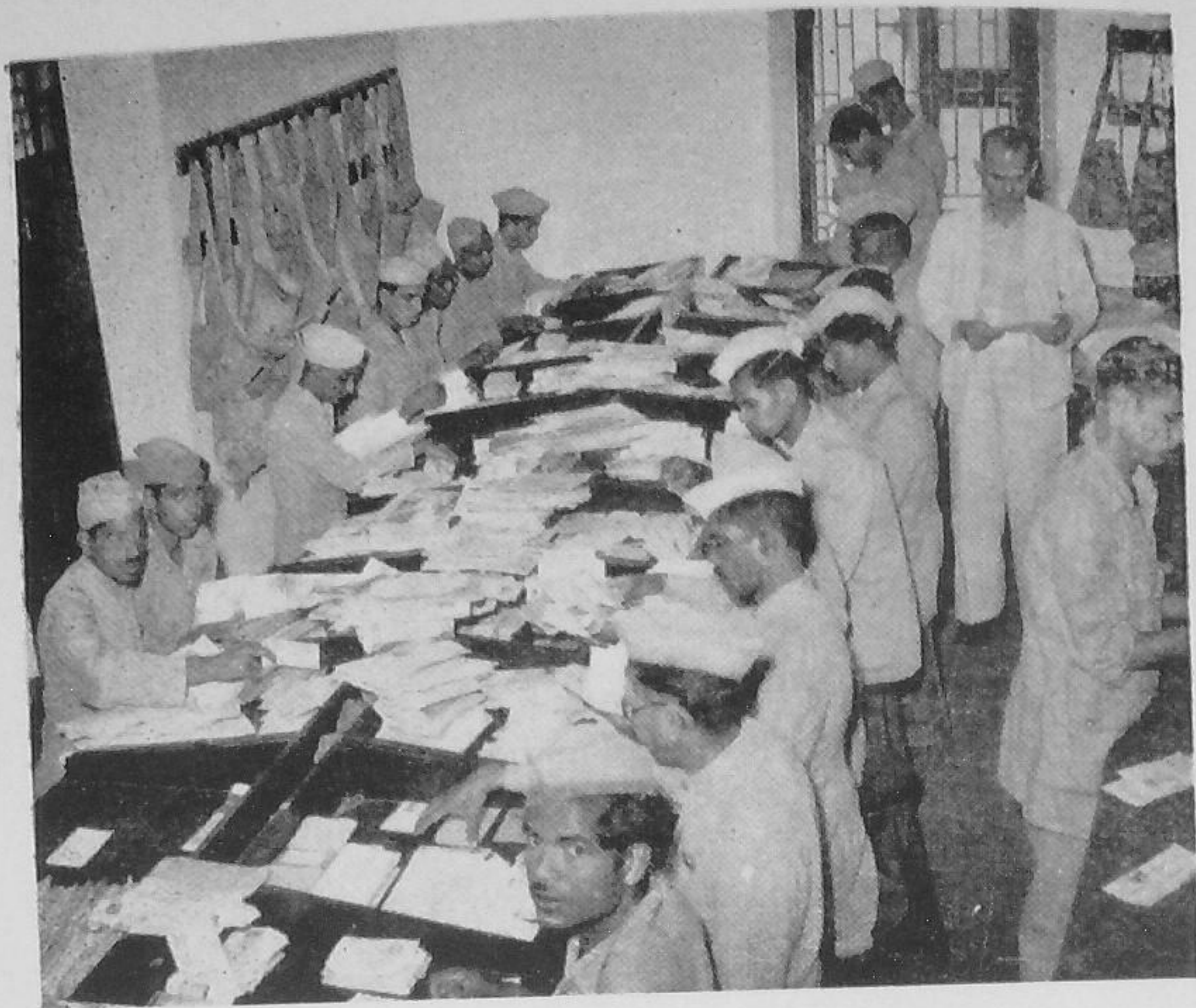
The Indian languages telegraph service in the Devanagari script has been extended to several stations since its inauguration on June 1, 1949, with 9 stations. Three new stations were linked in 1949-50, six in 1950-51, five in 1951-52, 80 in 1952-53 and 433 from April to December 1953. A total of 536 offices are now handling Indian language telegrams in the Devanagari script. It is proposed to extend the service by the phonocom system over short-distance trunk telephone circuits.

As a first step in the plan to extend the service to all district headquarters in Hindi-speaking States and other States where the demand exists, six Hindi morse telegraph training classes have been opened. So far 420 officials have been trained and 120 are under training.

A proposal to introduce a Hindi teleprinter service is under consideration. Two creed-type teleprinter machines, the keyboards of which were modified in the Jabalpur workshop, were actually used during the Congress session at Nanal Nagar.

TELEPHONES

The importance of the telephone in modern times needs no emphasis, but progress in India in this, as in most means



Postmen sorting out letters

of communication, has been rather slow and unable to keep pace with demand.

The first service was inaugurated in Bombay in 1875, and six years later exchanges were installed at Bombay, Madras and Karachi with a total of 29 telephones at the start. Thereafter there was a gradual increase, and in 1914 an automatic exchange of 700 lines was opened at Simla. At the outbreak of World War II the number of exchanges and telephones stood at 297 and 85,000, respectively. By March 1953 the number of telephones in use had risen to 195,800.

The expansion of trade and industry in the post-war years sent demand soaring, so that the supply of telephones became grossly inadequate. Nor was it possible to rapidly increase the number of connections, as there was a severe shortage of materials. Even before the war was over there

was a move to set up a telephone equipment factory. In 1950, following an agreement with a British firm, Indian Telephone Industries was formed as a joint stock company, with the Government of India holding 83% of the shares. The manufacture of all items required for automatic exchanges and the carrier system has been undertaken and, with production in full swing, the assembly of equipment for 30,000 lines a year is expected by 1955. Switchboards and other equipment are manufactured in the P. & T. workshops at Bombay, Calcutta and Jabalpur. A telephone cable factory is also being set up at Chittaranjan near Calcutta.

The country's entire requirements of telephone equipment are now being met from home production, thereby removing a major obstacle to the rapid expansion of telephone services throughout the country.

WIRELESS

In addition to telegraph and telephone facilities, India has a wireless communications system, which serves several useful purposes. Wireless stations maintain contact between fixed points as a standby to the telegraph system in case of a breakdown of the latter. Stations at coastal places maintain contact with ships at sea and also aircraft flying over the sea. Such stations are established at Bombay, Calcutta and Madras and also at minor ports such as Mangalore, Karwar and Ratnagiri. Meteorological stations exchange weather data with ships and also with other countries. Monitoring stations have been set up at Jabalpur, Calcutta, Delhi and Bombay under the International Telecommunications Convention to detect harmful interference or misuse of wireless communications.

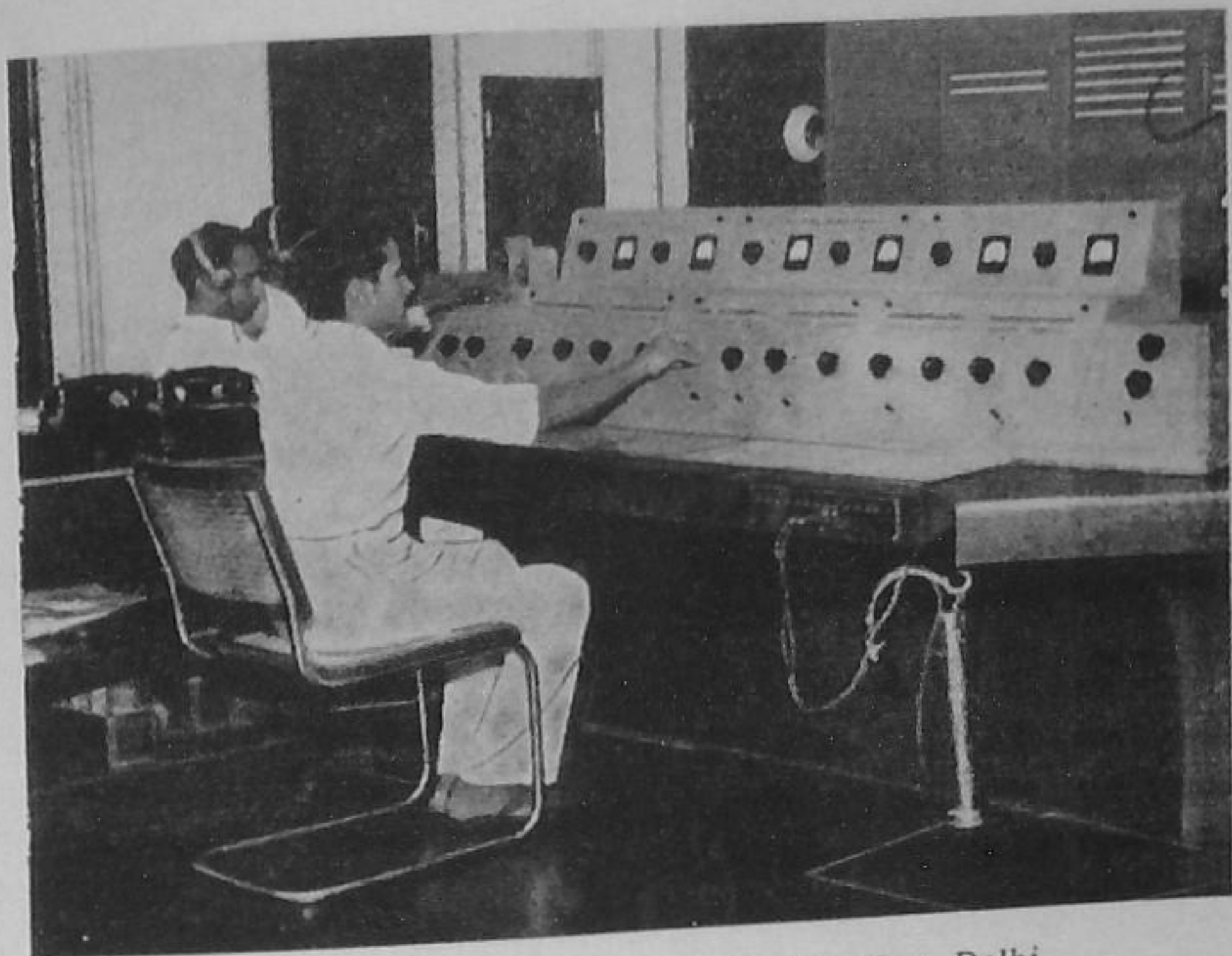
Wireless has also been put to additional constructive uses such as helping fight the locust menace.

CHAPTER X

BROADCASTING

BROADCASTING is a very effective instrument for the social, educational and cultural advancement of a nation, and its development is, therefore, of the utmost importance. This great and effective medium had a very small beginning in this country in 1927, when the first broadcasting station in India was opened in Bombay by a private company. Three years later the State took it over. By 1938, six stations had been set up and the number of receiver licenses had reached 65,000. During the war the latter rapidly increased, exceeding 200,000 by 1945. In 1947, however, there were still only six stations. This was clearly inadequate, and an ambitious eight-year development scheme was drawn up. Shortage of funds caused this to be modified, but the main features were incorporated in the Five Year Plan. The development plan is a threefold one, the objectives being the strengthening of the present network, improvement in the quality and variety of the programmes and rationalisation of the location of stations.

Today the number of broadcasting stations stands at 21, the latest addition being Poona. These are divided into four zones—Delhi, Bombay, Madras and Calcutta. The number of receiving sets increased from 2,75,955 in 1947 to 7,38,126 in November 1953, the average rate of increase being almost 8,000 sets per month. The number of community sets in rural areas and in schools has also gone up. Broadly speaking, there are two radio sets per 1,000 of population. This does not compare favourably with even some Middle



Control Room in All-India Radio, New Delhi

East and Asian countries, Israel having 123, Japan 106, the Lebanon 36, Egypt 12 and Ceylon four sets per 1,000 people.

Under the Five Year Plan, however, the area served by radio broadcasts is being rapidly extended, and by the end of the Plan period, it is hoped, more than half the population, embracing a third of the country's total area, will be served by our broadcasting service. Under the Plan, high-power medium-wave stations are to be set up to cater to the needs of the linguistic units, with a few short-wave stations for countrywide broadcasts. High-power medium-wave transmitters are to be set up at Bombay, Ahmedabad, Jullundur, Lucknow and Bangalore and new medium-wave stations in areas such as Madhya Bharat, Rajasthan and Saurashtra. These latter stations will be at Poona (already on the air), Indore, Jaipur and Rajkot. The transmitting strength of the Nagpur, Gauhati, Hyderabad and Madras stations is being increased. An important proposal is the

establishment of high-power short-wave transmitters of 100 kw. each at Bombay, Calcutta and Madras.

Where stations have in the past sprung up too close together, as at Jullundur and Amritsar, the matter is being rectified by installing a high-power medium-wave transmitter at one of them. Jullundur has been chosen in this particular case, and the weak transmitters at Ahmedabad and Baroda are similarly being replaced by a strong transmitter at Ahmedabad.

Main Functions—One of All-India Radio's main functions is to help preserve India's cultural heritage. This is done mainly through the national programmes of music, at present being broadcast from Delhi only but to be extended in due course to Bombay, Calcutta and Madras. Through these programmes not only is the country's rich store of classical and folk music revived but the topmost musicians are able to perform for the benefit of those who would otherwise have no chance of hearing them.

As the great majority of the people live in the villages, rural broadcasts are also of the utmost importance. To enable them to listen to All-India Radio's programmes, nearly 6,850 community sets in rural and industrial areas have been installed. Special broadcasts are arranged with the co-operation of the State Governments and deal with their intimate problems of food production, social reform, etc., besides containing items on folk-lore and light topics for their entertainment—all aimed at a gradual introduction to the best in the country's culture. It is estimated that in Madras, Bombay, Delhi and Uttar Pradesh, where rural broadcasting has made much progress, listening facilities have been brought within the reach of 16 million people. A big obstacle to expansion is lack of electricity in the villages. At present this is being partly overcome by the use of battery sets. On completion of the major multi-purpose river valley schemes and the rapid electrification of the rural areas there is bound to be a big increase in the number covered by these broadcasts.

Educational broadcasts for schoolchildren in the regional

languages are another feature. At present over 2,300 educational institutions are served, and in some areas the broadcasts form part of the curriculum. Special talks are also given from time to time on topics of general interest such as the Constitution and the Five Year Plan. Yet another special feature is radio reporting, which covers national festivals, conferences, meetings, cultural activities and sports. Finally, there is the vast news organisation of All-India Radio, which puts out 73 news bulletins every day in 31 languages, keeping the country abreast of world affairs and the world informed on Indian affairs.

CHAPTER XI

OVERSEAS COMMUNICATIONS

BEFORE independence, India's external communications were almost entirely through London. Today there are 18 radio circuits linking India directly with distant countries, as compared to six radio circuits in operation at the end of 1946.

As was the case with most countries, India's foreign telegraph services were till 1927 by submarine cable. The first radio telegraph service with the U.K. was inaugurated in that year by the Indian Radio Telegraph Co. Ltd., Bombay. In the competition between radio and cable the latter fared badly, and so in 1932 the two interests were merged into the Indian Radio and Cable Communications Co. Ltd. This arrangement continued till January 1, 1947, when the services came under public ownership and have since been worked by the Overseas Communications Service, a department directly under the Ministry of Communications, Government of India.

Radio Telegraph—The Bombay-London service has been in operation since 1927. The Delhi-London service, started during the war, has been retained as a permanent circuit and is now handling about 15% of India's total traffic—about 10 million words a year. Contact has been regularly maintained with China, the service originally working to Chungking and now to Shanghai. The Bombay-Tokyo service, started in 1933, was suspended during the war but was restored in 1950. The American end of the India-U.S.A. direct radio telegraph circuit is being shared by two compa-

nies viz. R.C.A. and Mackay Radio & Telegraph Co. A direct service with Moscow was opened in June 1951 from New Delhi; till then messages between India and Russia had gone via London. A service to Australia was started during the war; now there are also direct services to Indonesia, Thailand and Afghanistan.

The establishment of radio-telegraph services with certain other countries is under examination.

Radio Telephone—The Bombay-London service was inaugurated in 1933. Through the relaying facilities at London, the service is being rapidly extended, Italy and the Vatican being the latest additions.

Meanwhile, India has developed direct radio telephone services with Indonesia, Egypt, Iran, Japan, East Africa and Hong Kong. Besides ordinary calls, radiophone is used for inter-continental interviews, discussions and for programme material to be rebroadcast.

Submarine Cable—Despite being expensive both in capital and maintenance costs, submarine cables, which pioneered international telegraph contacts, continue to be a very important means of long-distance communications. Our cable lines are :

- (a) Bombay-Aden-Alexandria-Gibraltar-London
- (b) Bombay-Aden-Mombasa-Zanzibar-Seychelles
- (c) Madras-Penang-Singapore-the Far East.

Multi-address Broadcasts—Since short-wave radio came into use as an inexpensive means of speedy and worldwide dissemination of news, some countries have started using this method of sending official information to consular posts abroad. The Overseas Communications Service has been handling news transmissions on behalf of the Government of India for the last four years. These slow-speed morse broadcasts are daily utilised by about three dozen of our consular posts in Asia, Europe, Australia and, a recent addition, South America. Before long it is hoped to extend the service to North America.

Radiophoto—It is possible to signal to far-off countries written material, drawings or photographs which

are recorded at the other end as photo replicas of the transmitted material. The India-London radiophoto service, inaugurated in 1948, has been extended to many European nations bordering the North Sea. The O.C.S. also has a service to the U.S.A.

Expansion—During the first six years of nationalisation, India's external communications services handled about 15 million telegrams of a total of 424 million words, 40,000 radio telephone calls, 300 radio pictures and over 3.5 million words as news and information. These figures are impressive, but actually the services have not yet attained the size required by a country which has a sixth of the world's population and is believed to rank seventh in world trade. A vast expansion of foreign communications is necessary in keeping with India's growing stature in world affairs.

Expansion in this sector under the Five Year Plan will cost Rs. 1 crore. The scheme envisages the modernisation and expansion of the Bombay and Delhi centres and the opening of similar centres at Calcutta and Madras. This will ensure the balanced dispersal of services needed for the speedy disposal of foreign messages.

The establishment of the new centre at Calcutta has been given priority. Over 20 million words a year of telegraph traffic, amounting to 30% of India's telegraphic wordage, are handled by that station. A pilot station was opened at Calcutta in March 1953 in temporary buildings and with equipment released from other centres. The construction of permanent buildings is in hand and the major portion of the equipment ordered from abroad is expected to be received and installed during the Five Year Plan. The opening of this station is an important event in the development of India's external communications.