



20844(08)

MINISTRY OF STEEL AND HEAVY INDUSTRIES
(DEPARTMENT OF IRON AND STEEL)

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L2Deptt. of HI/62—1

# **ORGANISATION**

The Ministry of Iron and Steel which was formed as a separate Ministry of Iron and Steel within the Ministry of Iron and Steel which was formed as a separate within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel within 1960 at the Ministry of Steel Marie the Department of Iron and Steel Within 1960 at the Ministry of Steel Marie the Department of Iron and Steel Within 1960 at the Ministry of Steel Marie the Department of Iron and Steel Within 1960 at the Department of Iron and St the Ministry of Iron and Steel which was formally of Steel, Mines and Fuel on 1st April, 1957. Since 1st April, Industry Department of Steel and Heavy Ministry of Steel and Heavy Order, log2 Ministry of Steel, Mines and Fuel on 1st April, 1957. Since 1st Open 1956 is. The Department is a part of the new Ministry of Steel and Heavy 1956 is. The Department is a part of the new Ministry of Steel and Heavy 1956 is public and lndustries. Department is a part of the new Ministry of Steel and Item private import and operation deals with the Iron and Steel (Control) Order, and operation of the steel steel works in the public and the steel works in t 1956. The Department is a part of the new prince. Private sectors and export of iron and steel, steel works in the public and the ferro-alloy industry. It is the private sectors, re-rolling mills and the ferro-alloy industry. It is the mily had been sectored by the desired by the formula of the Hindustan Steel Limited, the administrative Department responsible for the Hindustan Steel Limited, the Wood undertaking the Wood of the Hindustan Steel Limited, the Hindustan Steel Limited with the Wood of the Hindustan Steel Limited with the Hindustan Steel only public undertaking under this Department and it is also entrusted with Biha in connection under this Department and it is also entrusted with Bihar. The Department is also responsible for the pricing and production Work in connection with the setting up of a new steel plant at Bokaro icies to The Department and it is also entrusted ..... policies for the iron and steel industry.

There is only one attached office under the control of the Department of that of the long of Steel Controller, which has three band office of There is only one attached office under the control of the Department the life of the life and Steel Control of the Iron and Steel Controller, which has three of the Iron and Steel Controller. The head office of the Iron and Steel Control of Iron and Iton and Steel Control organisation at Calcutta is under the administration the Iron and Steel Control organisation at Calcutta is under the charge of the Iron and Steel Controller who is also responsible for the administration and Steel Controller who is also responsible for the administration and Steel Controller who is also responsible for the administration the line long steel Control organisation at Calcula ...

port/export of iron and Steel (Control) Order, 1956, issue of licenses for the purchase of steel. hport/export of iron and steel and for the purchase of steel.

PRODUCTION

Production of iron and steel during 1962 was as under:—

Production of iron and steel during 1961 and 196 Production of Saleable Pig Iron during 1961 and 1962

(Figures in metric tonnes; for calendar years)

Mysore Iron and Steel C Rourkel fron and Steel C Bhilai Sa Steel Plant Charge Plant	Omno					1961	1962
Burkela Steel Plant  Kalinga Valent  Burkela Steel Plant  Kalinga Valent  Steel Plant	Company	• •				20,868	21,112
Durgi Steel Plant Kalinga Works Works	el Works	• •				267,873	204,298
The stant	• • • • • • • • • • • • • • • • • • • •	• •				9,934	-
Work Plant	••	• •	• •			99,370	60,246
, 1K2 -111	•••	• •	• •			393,442	334,390
		• •	• •	• •		314,792	325,016
		• •	• •	• •	• •	30,255	28,469
Productic			То	TAL		1,136,534	973,531

# roduction of Finished Steel during 1961 and 1962

Roson Iroand St	(1 igu	ites in	metric	tonnes	; for calendar	years)
Ryson Iri and Steel Compan Rourle Iron and Steel Compan Bhilai Sa Steel Steel Compan Surgapteel Plant Scondur Steel Plant Wiregiary Steel Pl	v				1961	1962
Surgapur Steel Plant Unredary Steel Plant Unredary Steel Plant Wire dary producers and reg units  Wing units	anv	• •			875,588	948,422
Unongue Plant Work	s	• •			563,054	613,720
Wirepiary Steel D.	• •	• •	• •		37,673	39,108
register production		• •			145,027	428,909
Wie recers and	• •	• •	• •		256,558	514,194
ng uniters and reg	sistered re-ro	11000	• •	• •	49,613	188.203
auts	• • • • • • • • • • • • • • • • • • • •	Hers	• •	• •	753,076	827,110
	••	• •	• •	• •	120,269	126,422
	••	• •	• •	• •	15,503	21,662
		То	TAL		2,816,361	3,707,750

# Production of Finished Steel during 1961 and 1962

(Figures in metric tonnes; for calendar years)

						1961	1962
			•••		-	(	estimated)
Heavy Structurals						230,505	208,245
Light Structurals						275,698	273,983
Medium Structural	ls					40,385	197,08
Heavy Rails (I Cla	ss)					177,862	311,22
Heavy Rails (II Cla						41,298	83,04
Light rails						 11,926	9,15
Fish Plates						 211	1,36
Black Sheets (P)						 142,003	261,32
Galvanised Sheets	(P)					24,146	30,13
Galvanised Sheets,		ated)				 106,022	121,79
Plates						 141,253	256,18
Bars						950,773	1,027,01
Rods						 203,895	316,30
Wire (Galvanised,	Barbed a	ind Mi	sc.)			 41,136	46,68
Hoops						 13,593	10,80
Strips						 71,117	121,66
Tinplates						 87,675	94,34
Steel Sleepers				•		 10,659	38,12
Special Sections						 37,815	49,43
Spring Steel .						 18.167	26,67
Tool Steel .						 151	11
Wheels, Tyres and	l Axles					 21,685	34,65
Skelp	• • • • • • • • • • • • • • • • • • • •		• •			 170,506	188,37
				To	TAI.	 2,816,361	3,707,75

# DEMAND, AVAILABILITY AND DISTRIBUTION OF STEEL

# Demand

The Indian Steel Industry has added another year of satisfactory progress and production continued to increase. However, the total availability of steel was short of the demand, particularly in respect of thinner plates, sheets, tin-plates and galvanised wire. The demand for 1962-63 was reassessed at about 5.1 million tonnes, excluding some increased requirements as a result of ments as a result of the declaration of the Emergency.

# **Availability**

The total availability of steel in 1962-63 is estimated at 4.8 million tonnes (comprising of indigenous production of approximately 4 million tonnes and about 0.8 million 4.3 million tonnes and about 0.8 million 4.3 million tonnes and about 0.8 million 4.3 million about 0.8 million tonnes of imports as against 4.15 million tonnes in 1961-62. made up of indigenous made up of indigenous production of 3.15 million tonnes and about 1 million tonnes impact to the second second about 1 million tonnes impact to the second s 1 million tonnes imported.

The supply position of pig iron (foundry grade) remained unsatisfactoryproduction ranging at about 1 million tonnes against an estimated demand of about 1.8 million tonnes of about 1.8 million tonnes.

# Distribution

The policy of liberalisation of distribution control was continued in spite of shortage in some sections like plates, wire, sheets and hoops. Quota system was confined to sheets, 14 guage and thinner, and tinplates. The indents for relaxed categories in which there is shortage, were however, scrutinised by the Steel Control before planning with a view to check inflated indenting. Indenting. As the Producers were carrying large outstanding orders for Galvaniced at the Producers were carrying large outstanding orders for Galvanised plain and galvanised corrugated sheets, fresh allotments were not made during 1962-63, except for meeting the Defence requirements and for relief work in natural calamities.

# Scrap

The Committee constituted under the chairmanship of the Iron and Steel scrap Controller to consider various problems connected with iron and steel scrap or this submitted its area. submitted its report. On the basis of the recommendations of this committee. Governmentations of the recommendations of the recommendations control to the recommendations of the recom Committee its report. On the basis of the recommendations of on all categories. Government decided to remove distribution and price control to all categories. on all categories of scrap other than fresh un-used defectives, re-rollable to remove distribution and price conductives, re-rollable un-used defectives, re-rollable to remove distribution and price conductives, re-rollable to remove distribution and price conductives and re-rollable to remove distribution and tom Main and comments decided to remove un-used defectives, re-rounces from Main and comments. Industrial scrap arisings of about 145,030 tonnes that Main and comments are respectively. from Main and Secondary Producers, were distributed to the various States through Controlled Scrap Merchants.

# G<sub>eneral</sub>

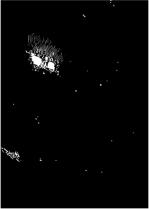
During the year under review, one meeting of the reconstituted Iron and Advisory Council of the Standing Committee (Trade) Steel Advisory Council, three meetings of the Standing A meeting of the reconstituted Ton delay four meetings of the meetings of the standing to represent meetings of the relating to and four meetings of the Extras Committee were held. A meeting to relating to supply of the Extras Committee were held. These meetings of the Extras Committee were held. representatives of the Extras Committee were held. A meeting of to supply and distribution and distribution are supply and distribution and distribution and distribution are supply and distribution and distribution are supply as a supply are supply and distribution are supply are supply are supply and distribution are supply as a supply are supply are supply are supply are supply are supply are supply as a supply are supply are supply are supply are supply are supply are supply as a supply are supply are supply are supply are supply are supply as a supply are supply are supply are supply are supply as a supply are supply are supply are supply as a supply are supply are supply are supply are supply as a supply are supply are supply are supply as a supply are supply are supply are supply are supply as a supply are supply as a supply are supply are supply as a supply are sup supply and distribution of iron and steel was also held. These meetings with the assisted Governments to many problems connected greatly and distribution of iron and steel was also held. These meeting assisted Government in taking decisions on many problems connected the distribution of iron and steel was also held.

Committee was appointed under the Chairmanship of Dr. K. N. Raj. awaited. Committee was appointed under the Chairmanship of Dr. K. N. Raj. report is awaited. submitted a preliminary report, but its final report is awaited.

IMPORTS & EXPORTS Due to the acute shortage of foreign exchange, were issued to a product on the state of the stat inports to the acute shortage of foreign exchange, strict issued to actual produced or produced in 1962-63. Import licences were either not at all produced trade of the case of established or produce and for cost Imports users only and for categories of steel which were either not at like timplates, wire, important in limited actions to acted the country. In the case like timplates, wire, important in limited actions and the country. or produced in 1962-63. Import licences were established to a few essential items like timplates, tool are licences were according to a few essential items like timplates. trade, import licences were confined to a few essential items like tinplates, tool and alloy steel and law strannings. and alloy steel and box strappings.

Qued both against DIE and from Punce payment countries. wire, import licences were confined to and alloy steel and box strappings. both against DLF and from Rupee payment countries.

croves (\$ new Loan No. 217, given by AID, a further (\$ 43,00 million), in addition to Rs. for the import of steel earlier, was released during 1961-63, for the import of steel in the



# Production of Finished Steel during 1961 and 1962

					(Figure	s in me	Stille to	and 1962 nnes; for calc	
	-		., .						(estimate
						-			
								230,505	273 5
Heavy Structurals	,							275,648	197.0
Light Structurals								40,385	311.2
Medium Structur	als							177,862	031
Heavy Rails (I C	lass)					,		41.298	9,1
Heavy Rails (II C	lass)					•		11.926	1.
Light rails							• •	211	261,
Fish Plates								142,003	20
Black Sheets (P)							•	24,146	121,
Galvanised Sheet	s (P)							106.022	256.
Galvanised Sheet	,		ited)					141.253	256. 1.027. 316.
Plates		_						050.773	310,
Bars						• •		263.895	
<b>D</b> 1							•	41.136	
Wire (Galvanised		bed a	nd Mis	c.)				13,553	12 <sup>1</sup> ,
							• •	71,117	
_ ·								87,675	
Tinplates								10,059	
							• •	37.815	
Special Sections							• •	18.167	34,
Spring Steel						. •		151	34, 188.
Tool Steel								21.685	100
Wheels, Tyres at								170.506	<del>-3,707,</del>
Skelp							• •	2,816,361	

# DEMAND, AVAILABILITY AND DISTRIBUTION OF STEEL

The Indian Steel Industry has added another year of satisfactory progred production continued to increase the total availability plans and the satisfactory progred plans and plans and the satisfactory progred to the satisfacto and production continued to increase. However, the total available play as steel was short of the demand, particularly in respect of 1962 require sheets, tin-plates and galvanised wire. The demand for 1963 require ments as sheets, tin-plates and galvanised wire. The demand increased reassessed at about 5.1 million tonnes, excluding some ments as a result of the declaration of the Emergency. sheets, tin-plates and galvanised wire. The demand increased reassessed at about 5.1 million formand increased incre

The total availibility of steel in 1962-63 is estimated at 4.8 million and tonnes 62. mprising of indigenous production of approximately 4 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million and tonnes 62. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availability of steel in 1962-63 is estimated at 4.8 million in 1961-60. The total availibility of steel in 1962-63 is estimated at 4.8 million tonnes of indigenous production of approximately 4 million in 1962-63 about 0.8 million tonnes of imports as against 4.15 million tonnes and made up of indigenous production of 3.15 million tonnes imported made up of indigenous production of 3.15 million tonnes imported.

The supply position of pig iron (foundry grade) remained unsatisfactory and production ranging at about 1 million tonnes against an estimated of about 1.8 million tonnes.

The Policy of liberalisation of distribution control was continued in the Shortage in community was distribution control was continued in the Control was **Distribution** spite of shortage in some sections like plates, wire, sheets and hoops. The system was continued indents for confined to the sections like plates, wire, sheets and timplates, were however, and thinner, and thinner, were however, and thinner, were however, and thinner, and thinner, and thinner, were however, and thinner, and thinner, and thinner, and thinner, and the second the second thinner, and the second thinner the second thinner thinner the second thinner thinner the second thinner thinner the second thinner the second thinner thinner the second the second thinner the second the second thinner the second thinner the second thinner the second the second thinner the second the second thinner the second the seco system was confined to sheets, 14 guage and thinner, and were however, indents for relaxed ..... indents for relaxed categories in which there is shortage were described by the Street Gale. seruting for relaxed categories in which there is shortage, were linderly with a view to check inflated with the steel Control before planning outstanding orders and thinner, and were however, were however, which there is shortage, were however, with a view to check inflated there is shortage, with a view to check inflated there is shortage, with a view to check inflated there is shortage, with a view to check inflated there is shortage, were outstanding orders were however, and thinner, and view to check inflated there is shortage, which is shortage, were however, and thinner, and t indentised by the Steel Control before planning with a view to check innator of the steel Control before planning with a view to check innator with a view to check innator with a view to check innator of the steel Control before planning with a view to check innator of the steel Control before planning with a view to check innator of the view to check innator of the steel Control before planning with a view to check innator of the view to check in view t Galvanised by the Steel Control before planning with a view to a orders for made during 1962-63, except for meeting the Defence requirements and steel work in natural advantage. for made during 1962-63, except relief work in natural calamities.

The Committee constituted under the chairmanship of the Iron and steel scrap in the Iron and steel scrap this of the Iron and steel scrap in the Iron and Ir Controller to consider various problems connected with iron and steel scrap of this on mittee its report. On the basis of the iron and steel scrap of the chairmanship of the iron and steel scrap of this connected with iron and steel scrap on mittee consider various problems connected with iron and price control on mittee. The chairmanship of the iron and steel scrap on mittee its report. On the basis of the iron and price connected with iron and price connected with iron and steel scrap on mittee its report. On the basis of the iron and steel scrap on the Submitted Committee constituted under the chairmanship of the month steel scrap of this consider various problems connected with iron dations control on mittee, report. On the basis of the recommendation of the recommendations control serall categories. Government decided to remove distribution states from and price reports. On the basis of distribution and price reports than fresh un-used defectives, various states than fresh un-used about 145,030 tons the part of the price of the on mittee, Government decided to remove distribution and price from Main mendations of the recommendations control of the recommendations of the recommendations and price online of the recommendations of the recommendations and price online of the recommendations of the recommendations and re-rollable recommendations and serious of the recommendations control of the recommendations and price recommendations and resolutions are recommendations and resolutions and resolutions are recommendations are recommendations and resolutions are recommendations are recommendations are recommendations and recommendations are recommendations are recommendations are recommendations are recommendations are recommendations. frap categories of scrap other than fresh un-used about various States

through Controlled Scrap Manakager

On the basis of distribution defectives, 030 tonnes un-used through Controlled Scrap Merchants.

Steel uring the year under review, one meeting of the recommittee of the four meetings of the relatings of the standard A merilating of the standard A meetings of the standard A meeti and four meetings of the reconstituteu (Trade) of the four meetings of the State Covernments to also held. and Advisory Council, three meetings of the Standard were held.

Supply and distribution of iron and steel.

With the distribution of iron and steel.

A meeting of the recommittee of the committee of the standard problems in the connected of the committee of the committee of the standard problems in the connected of the standard problems in the connected of the committee of the c With the object of streamlining the anship but its final report is dwaited has submitted a preliminary report,

imports to the acute shortage of foreign exchange, were at of estimpliates, import of in 1962-63. Import were in the interest sporte to the acute shortage of foreign exchange, were at a strict issual prolities produce and for categories of steel which was continued in 1962-63. Which were In the items were, import limited quantities in the country essential in the country. was the acute shortage of foreign exchange, were at all produced in 1962-63. Import were in the items wire, import licences were confined to a few in limited quantities in the country.

2. Purchase

was the acute shortage of foreign exchange, were at all produced in 1962-63. Import licences like which wire, import limited quantities in the country. Consider the country and alloy steel and box strappings.

Controller, in the country and alloy steel and box strappings.

Controller, in the country and alloy steel and box strappings. l<sub>mports</sub> in for categories of steel which were In the continuous in limited quantities in the country.

The purchases of steel by the Iron and both against DLF and from Rupee payment the continuous payment to against DLF and from Rupee payments against DLF and from Rupee payments of steel by the Iron and Payments of steel payments against DLF and from Rupee payments of steel payments of steel payments against DLF and from Rupee payments of steel payme

to-gether with the earlier loans received brought the aggregate to \$ 160.3 million.

3. Import of essential categories of steel on barter basis was also continued against exports of surplus steel materials and also scrap, overall ceiling of 4 lold overall ceiling of 4 lakhs tonnes during 1962-63 for export of ferrous scrap, has been fixed has been fixed.

Total imports of iron and steel in 1962, upto November, 1962 aggregated to 737,644 tonnes. The break-up of this is as follows:—

							(in metric tonnes)	Valu (Rs. in
I Semic (blaces 1 ::						•	63,582	463
1. Semis (blooms, bill	ets an	d slabs	s)		• •	• •	585,181	6
2. Finished Steel						• •	8,772	·
3. Spring Steel							403	130
4. Terneplates							53,816	130
5. Tool and Alloy Ste	els						10,188	34,
6. Railway fittings							12,247	34, 1,
7. Castings and forgin			• •				3,075	J,
8. Iron and Steel scrap		• •	• •	• •			3,07	
9. Pig Iron		• •		••		. •	737.644	678,

Only such items of steel as could not be utilised in the country were wed to be exported. Provision was a state of categories of later for the country of categories. allowed to be exported. Provision was made for export of categoryment steel to East European countries agreements. steel to East European countries with whom India has rupee been agreements. The exports in 1962 (.... 1962) have been follows. agreements. The exports in 1962 (up to November, 1962) have been follows.

follows.			Quantity	(Rs. in 182
Category	 		Quantic (in metric tonnes)	5,482
			21,224	5,158
1. Pig Iron	 		103	1 GUP
2. Semis (Blooms and Billets)	 		·· 8,505	08
3. Finished Steel			151,099	
4. Iron and Steel Scrap	 ••		180,931	curnot be
	Тот	'AL		Cillin
			~ WIII	

The policy of exporting only those categories of scrap which d indigenously was continuously used indigenously was continued.

PRICE
In 1962 Government announced the retention prices for April april 1960
Steel payable to the Main Producers for the period 1st April and average
31st March 1962 on the basis of the Tariff Commission's 1 an average
The prices of Steel with 1965 of the Tariff Commission's 1 an average 1960. pig 1960 pig The prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were fixed provisionally yielded an average and the prices of Steel which were steel and the prices of the prices of Steel which were steel and the prices of the prices

about Rs. 512 per tonne. The new prices worked out to an average of from Rs. 522.50 per tonne. The new prices worked out to an average of Pig Iron was increased. Rs. 522.50 per tonne. The new prices worked out to an average from Rs. 193 per tonne. The provisional price of Pig Iron was increased foundry grade I). from Rs. 193 per tonne. The new prices worked out was march.

The new prices worked out was marched.

The provisional price of Pig Iron was grade I).

The provisional price of Pig Iron was grade I).

Periodic retains are provisional for the provi

The retention prices announced by Government are provisional for the freights 1st April 1962 period from 1st April 1962 on wards.

Premia and round to Rs. 202 per tonne to Rs. 202 per to rail from 1st April 1962 on wards. Increases on account of the rise premia and royalty on minerals, incidence of War Risk Insurance incidence of War Award, are to be premia and royalty on minerals, incidence of ward, are to be incidence to the production of the Interim Wage Board Award, are felt that

allowed to the producers on the basis of actuals. The producers on the basis of actuals.

The sale prices were not increased correspondingly as it was felt that surcharge in retention and increased could by and large be absorbed by and large by an actual by a act the sale price were not increased correspondingly as it was felt by the surcharge element prices allowed could by and large be absorbed by the wever arge element prices allowed could by Steel Equalisation 1962 to the wever arge element of the sale prices are the sale prices are the sale prices allowed could by and steel Equalisation 1962 to the sale prices allowed could be sale and sale are sale by the sale prices are the sale prices are the sale prices are the sale by the sale prices are the sale pri the increase price, were not increased correspondingly as it absorbed by the surcharge in retention prices allowed could by and large be absorbed fund. The wever, the element accruing to the Iron and Steel Equalisation 1962 to 1962, the sale prices were revised with effect from 30th Finance Act of the increase duty imposed by the Finance and Steel Equalisation 1962. the extent of the increase in the excise duty imposed by the Finance Act of the Equal th

# HINDUSTAN STEEL LIMITED

introduction: During the period under review the Company was engaged in was been three steel by the point of the period under review the Bhilai and Durgapur constructions of the three steel by the period under review the Bhilai and Durgapur constructions of the three steel plant. Nunning the period under review the Company was engaged and the company was engaged and the light washeries at Durde Rourkela, Bhilai and Durgapur construction of the base at Durde Rourkela, at Alloy Steel Plant at Company the Description of the Alloy Steel Plant at Company was engaged in the Company was engaged in the Company was engaged and the Company was engaged and the Company the Company was engaged and the Company was engaged and the Company the Company was engaged and the Company the Company was engaged and the Company was engaged and the Company the Company was engaged and the Company was engaged and the Company was engaged and the Company the Company was engaged and the Company was e Coal & of the period under review the Company was engaged and the lon Washeries at Dugda, Bhojudih, expansion of the Alloy Steel Plant at Patherdih Washer and setting up of the Alloy Organic lion Washeries at Dugda, Bhojudih, expansion of the Alloy Steel Patherdih Washery and setting up of the Patherdih Washery and setting up of the Company Durgap construction of the Alloy Steel Plant at Patherdih Washery and setting up of the Alloy Organi-

Under its Head office at Ranchi the Company has a Central Bureau at Calcutta and a Central Engineering and Design Company has a Central Purchase Organisation and a Shipping and Bureau at Calcutta and a Central Engineering and Company has a Central Purchase Organisation and a company has a Central Purchase Organisation and a central Engineering and Design Company has a Central Engineering and Bureau at Calcutta and a Central Engineering and Engineering has a Central Engineering and Engine

including 31st December, 1962 the subscribed share capital of the Government to Rs. 3571 millions

amounted to Rs. 3571 millions. Northere has been steady improvement in production of it in capacity of the thing is reached its rated capacity, even exceeding rated capacity, even exceeding rated capacity, even exceeding the production also rated capacity, even exceeding rated capacity. W There has been steady improvement in production of it in certain units, before Bhilai reached its rated capacity, even exceed the rated capacity of the end of 1962. Durgapur has also reached steel production of the coke, iron and steel ingots. per ks. Te has been steady improvement in production of it in capacity of the reached its rated capacity, even exceed the rated capacity of the rated capacity, even exceed the rated production also to the coke, iron and steel ingots.

The production of all certaporty of the rated capacity, even exceed the rated capacity, even exceed the rated production also reached its rated capacity.

The production of all certaporty of the rated capacity, even exceed the rated capacity.

The production of all certaporty of the rated capacity, even exceed the rated capacity.

The production of all certaporty of the rated capacity, even exceed the rated capacity.

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November, 1962. till 31st Det Nitron 1962. till 31st Det Nitron 1962 and tonnes of Ammonia and 9489 tonnes of Nitron 1962 and 17,000 tonnes 4.3 tonnes of Nitron 1962 about 17,000 tonnes 1962 about 1962 ab The dring April December, 1962 about 17,000 f. Rs. past commitment consisted and foreign exchange to the value against. past of mainly of pig iron delivered

under various trade agreements. Due to adverse conditions in the International market the agreements. national market, the overall export activities remained subdued.

# **Bye-products**

As the synthetic organic chemical industries have not yet fully developed, re was some surplus and there was some surplus of bye-products, i.e. coal chemicals after meeting the indigenous requirement the indigenous requirements. During April—December, 1962 about 5,300 tonnes of benzene and 1,200 tonnes of benzene and 1,300 tonnes of hot-pressed Napthelene were exported and foreign exchange and foreign exchange amounting to \$ 272,470 was earned. Arrangements for export of further amounting to \$ 272,470 was earned. for export of further quantities of benzene and Naphthelene during the remaining period of 1962 (2) remaining period of 1962-63 have also been made.

# **EXPANSIONS**

# Bhilai Steel Plant

About 3,800 tonnes of equipment have already arrived and further signments are on the way. consignments are on the way. The total equipment to be imported from USSR is about 67,000 topped. USSR is about 67,000 tonnes. Approximately Rs. 8 crores worth of plant and equipment are to be approximately Rs. 8 construction as school. plant and equipment are to be procured indigenously. Schedule has been drawn up on the basis of the expected dates of arrival of working drawings and follows. working drawings and fabricated steel structures, refractories and equipment.

Work on the fourth Coke Oven Battery has started and the foundations the fourth and fifth Blast Francisco Contracts work on the fourth Coke Oven Battery has started and the foundations for the fourth and fifth Blast Furnaces laid. Civil engineering contracts have been awarded in the different management of the contracts of the contracts and the foundations of the foundations of the contracts of the contract of the contracts of the contract of the contr

Tenders for main equipment are being finalised and letters of intent ed to tenders in respect of 24 items ing of the C renders for main equipment are being finalised and letters of inting issued to tenders in respect of 24 items of plant and equipment Tenders signing of the Credit Agreement with W. Green and equipment. civil engineering works have also been finalised. The construction wing sintering plant is making good progress and 70% of the concreting wing has been completed. Civil engineering works for the second machine is nearly complete and erection work is in progress. The control of the second has been completed. The control of the second has been completed. The control of the second has been completed and erection works for the second has been completed. The control of the second has been completed and erection works for the second has been completed. machine is nearly complete and erection work is in progress in for pile and pile caps and construction of open foundations in Rolling Mills and other zones have been and 70% of the second Controlly machine is nearly complete and erection work is in progress.

Most of the tenders for the equipment have now been finalised the orders are expected to be placed shortly. The tender for extensions of the Central Engineering leter of the Maintenance Shops and the Central Engineering leter of th Most of the tenders for the equipment have now been finalised to lers are expected to be placed shortly. The tender for extension of the standard of the stand Gas Distribution system, modifications to the Central Engineering leted Maintenance Shops and the Sintering plant are expected to be have by May, 1963. Tenders for civil engineering and erection work been received and the sintering plant are expected to be have been received and the sintering plant are expected work been received and the sintering plant are expected to be a sint by May, 1963. Tenders for civil engineering and erection work been received and a time-schedule prepared

Iron ore and limestone required for the Steel Plant mines are procure by having the Steel Plant mines are procure for the Steel Plant mines are procure of the Steel Plant mines are procure of the Steel Plant mines are procure of the Steel Plant mines are procured to the Steel Plant mines are procu Iron ore and limestone required for the Steel Plant are procured been the Company's mines at Rajhara and Nandani. Both the mines are mines are mechanised. Dolomite, manganese and quartaite are also mines at History now working and limestone required for the Steel Plant are product been are Company's mines at Rajhara and Nandani. Both the mines are mines are mechanised. Dolomite, manganese and quartzite are Rajhara company's mines at Hirri, Balaghat and Balod. The Rajhara now working very nearly to their full

The performance of the Ore Processing and Handling Plant at the lithing plant at Barrens of the Ore Processing and Handling Plant at the lithing plant at Barrens of the Ore Processing and Handling Plant at the lithing p Ore Mines at Barsua was satisfactory and 75% of iron ore requirements of the Use a large now have now h the Mines at Barsua was satisfactory and 75% of iron ore requirements to use a high roler, being met from this source. At present it is not bossible At present it is not bossible At present it is not bossible of its high alumina mined at Barroler, because of its high alumina mined at to plant are now being met from this source. At present it is not possible at present it is not A use a higher now being met from this source. At present alimina contact Report for the beneficiation of the iron ore and Design Bureau.

The project Report for the beneficiation of the iron ore and Design Bureau. Barsua has been undertaken by the Central Engineering & mining

The commissioning of the Limestone Crushing and Processing mining limestone completed are the Limestone in progress. Purapani is completed and trial runs are in progress.

The entire at Purnapani by manual means continued during the mined at Company's Lippostone Quarry at Satna.

hined at Company's Limestone Quarry at Satna. Contract for development of the Company's Dolomite Oracles is in prothe This awarded of the Company's property in the company's polomite of the tequirement of the company's polomite of the company polomite of the compan has contract for development of the Company's Dolomite is in protein the Plant quarry is a source. Steel Island Grant at Games of the Plant quarry is a source. Steel Island Grant at Games is in protein the Plant quarry is a source. Steel Island Grant at Games is in protein the Plant quarry is a source. Steel Island Grant at Games is in protein to the company's Dolomite Grant is in protein to the company is in protein to the company is a company in the company in the company is a company in the company in the company is a company in the company in the company is a company in the company in the company in the company is a company in the company in the company in the company is a company in the company in th This quarry is expected to meet a major portion of kanchi for dolomite

lant for dolomite.

A Limestone Cell has been formed under the Head Office at Ranchi for but the requirements.

This Cell will work for the prospecting in the prospecting of the prospecting and development of potential sources of the prospecting of the prospection of the prospec of the Plant for dolomite. future, prospecting and development of potential sources in the Bhavanath who mite.

West De, line and Sattra are the Head Office at mestode to the Head Office at mestode to the Head Office at mestode to the Bhavanath of the Prospecting for the prospecting for the prospecting to the prospection of the prospection district of the prospection of the prosp Shahbad and Satna areas. This cell will also the Jalpaiguri district of Bengal. oniahbad and development of potential sound in the prospecting for the present in the prospecting of the present in the prospecting of the present in the prospecting of the prospection West Bengal.

BOLANI ORES LIMITED

Fixed Supply iron ore to Durgapur Steel Plant where the mine flas single steel of the Gua region of Orissa which the Gua region of Orissa which the Gua region of operation of the Government and operation which ment Company be hold 50.50 per cent and the Orissa Mineral Development of the shares

per old 50.50 per cent and the Orissa Mineral Development and the first of the shares.

Spril completed. The supply of ore to Durgapur iron of the monthly rate of about 1.20 lakin tomas. The supply of ore to Durgapur steel rich by At present Bolani Ores are supplying steel that by ansion the monthly rate of about 1.20 lakh tonnes end of Bolani mine is also in hand. It is to the monthly rate of about 1.20 lakh tonnes to the increased demand of the expanded been end of Bolani mine is also in hand. Plant at the supply of ore to Durgaplying it is present Bolani Ores are supplying it is present Bolani Durgapur it is present Bolani Durgapur it is present Bolani I be at a supplying it is plant by the present Bolani Bolani I be at a rate of 1.60 lakh to have the plant in the present Bolani Durgapur in the plant Bolani I be at a rate of 1.60 lakh to have the plant Bolani Durgapur in the plant Bolani Durgapur in the plant Bolani Durgapur in the plant Bolani I be at a rate of 1.60 lakh to have the plant Bolani Durgapur in the plant Bolani Bolani Durgapur in the plant Bolani Durgapur in the plant Bolani Bo

ALLOY STEELS PROJECT

The enders ALLOY STEELS PROJECT have the equipment in the enders the enders and have subject the end to most of the main plant and have subject to the end of orders the end o ALLOY STEELS PROJECT HAVE THE PROJECT HA

Major portion of land required by project has been released by the reapure Steel Plant About 1920. Durgapur Steel Plant. About 127 acres of land remain to be acquired. Site-levelling work and control of land remain to be acquired. Site-levelling work and construction of temporary site office buildings, will be dary walls etc. are in access of land remain to be acquared boundary will be dary walls etc. are in progress. Power and water for construction will be mostly available from the Dark mostly available from the Durgapur Steel Plant.

# COAL WASHERIES

With the limited reserves of metallurgical coals in the country, assures for conserving and de measures for conserving these coals were kept in view in locating and designing the new steel works—(i) to ing the new steel works—(i) to wash all metallurgical coals with the fully the ash content and (ii) to be a second with the fully the second with the second w the ash content and (ii) to blend weak or semi coking coals with the steel coking coals of Jharia coking coals of Jharia. In pursuance of this policy, the Hindustan Bhojudih Limited, was to instal four coal many and Dark Durgda, Bhojudiand Durgda, Bhojudiand Durgda, Bhojudiand Durgda, Bhojudiand Limited, was to instal four coal washeries at Durgapur, During the period and Patherdih. Washery at Durgapur was commissioned in April, 1960 and Supplying washed coal to the Durantee Start Works. is supplying washed coal to the Durgapur Steel Works. During the period During the Poriod During the P April 62-January 63 the washery supplied 317572 tonnes of washer to the steel works. These washeries to the steel works. These washeries are in addition to the one put at Jamadoba, West Bokaro and I odding and at Jamadoba, West Bokaro and Lodna in the private sector and the one put up by the National Coal Development up by the National Coal Development Corporation at Kargali.

Washery at Dugda is located in the Hazaribagh district of Bihar and for an n in operation since December 1061 wasnery at Dugda is located in the Hazaribagh district of Bihar and an been in operation since December, 1961. The washery is designed for 1.8 annual input capacity of 2.4 million toward for 1.8 million tow annual input capacity of 2.4 million tonnes of raw coal Works. million tonnes of washed coal for Bhilai and Rourkela Steel works in the stages of its operation there washed to a stage of the stages mulon tonnes of washed coal for Bhilai and Rourkela Steel Works. In the initial stages of its operation there were some difficulties due to excessive dust formation but they have since bear and the washery is now reaching its rotal. mual stages of its operation there were some difficulties due to dust formation but they have since been overcome and the washery reaching its rated capacity.

Bhojudih washery is situated in the Purulia district of trial runs the progress Al-Bengare
The construction of the washery is almost complete and the fed into the mashery to produce the product of the trial runs the in progress. About 1.2 million to produce the product of the product in progress. About 1.2 million tonnes of raw coal will be washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of raw coal will be set washery to produce about 0.0 million tonnes of the coal washery to produce about 0.0 million tonnes of the coal washery 0.0 million tonnes of the coal w washery to produce about 0.9 million tonnes of washed coal.

Patherdih washery, at present under construction is, located in for & rict of Bihar. Hindustan Steel I imited have placed the order herts in ipment, machine Patherdih washery, at present under construction is, located in for & district of Bihar. Hindustan Steel Limited have placed the Roberts in the equipment, machinery and erection of the weekers with M/s Roberts and Schaefer Company of the weekers with M/s Roberts with M/s Roberts and Schaefer Company of the weekers with M/s Roberts with M/s Roberts and Schaefer Company of the weekers with M/s Roberts with M/s Ro equipment, machinery and erection of the washery work is proper second to so had according to so had a property of the civil and according to so had a property of the civil and according to so had a property of the civil and according to so had a property of the civil and according to so had a property of the civil and according to so had a property of the civil and the civil a equipment, machinery and erection of the washery with M/s profibe per Schaefer Company of U. S. A. The civil engineering work is will according to schedule. About 1.8 million toppes of raw coal into the washery to approximate the schedule. Schaefer Company of U. S. A. The civil engineering work is will be according to schedule. About 1.8 million tonnes of washed about 1.3 million tonnes of washed about annum. The washery is expected to be ready for operation by third quarter of 1963 annum. The washery is expected to be ready for operation by third quarter of 1963.

To meet the requirements of the expanded steel industry at hand with Five Year Plan, it has been decided to expand the washeries in hand with and Dugda. The expansion of Bhoindib washery is already placed in the public and Dugda. The expansion of Bhojudih washery is already placed it and order for the equipment, machinery and erection has been the district the state of the expansion of Bhojudih washery is already placed it and order for the equipment, machinery and erection has been the district the state of the state and Dugda. The expansion of Bhojudih washery is already placed placed order for the equipment, machinery and erection has been the M/s Coppee and Co. (GB) Ltd., London who had put dule expansion of sprogressing according to schedule export the unit. The Construction is progressing according 1963. Atomus definition expected that the washery will be completed during 2 million to Unstalling the annual input capacity of the washery will be a million to unit of a second a second. London who had put up and ansign to schedule expansion to the washery will be annual input capacity of the washery will be a washed by of arc coal and with an output of 1.4 million tonnes of washed double tonneshery expansion programme the washery at Dugda will be a second coal washing plant with a capacity of 2.4 million washer coal per annum. Supply and expected to be issue. expansion programme the washery at Dugda will be washed coal by sof are a second coal washing plant with a capacity of 2.4 million of the washery at Dugda will be coal per annum. Supply orders for the expansion of the expansion of expected to be issued short. a second coal washing plant with a capacity of 2.4 million washery coal per annum. Supply orders for the expansion of the expected to be issued shortly.

CENTRAL ENGINEERING & DESIGN BUREAU

The Central Engineering and Design Bureau which prepared the Project ports for the Roughestern Project Expansions. Reports for the Rourkela and Durgapur Expansions continued to give and lender service in the Rourkela and Durgapur Expansion of technical specifications the Rourkela and Durgapur Expansion of technical specifications that tenders tenders. consultancy service in the matter of preparation of these expiry of the addition for main relations. and tenders for main plants and equipments and scrutiny of these tenders place consult, they understand and equipments and scrutiny of million to the matter of preparation of technical specifications. In tenders service in the matter of preparation of technical these tenders of the addition, they undertook to take over the residual work on plants at D take over the residual work of preparing and at D take over the residual work of preparing the addition, they undertook to take over the residual work million tonne a project p. The D. Messrs. IGKD for the task of preparing project p. The D. Messrs. IGKD for the task of preparing project p. The D. Messrs. plant at Rourkela. The Bureau has also been plant at Barsua.

a lt has a

It has been decided to strengthen this Organisation by recruitment of Coreign personnel Colombo expected to in principle, like Colombo Plan A see the principle of the colombo Plan A see the principle of the principle of the plan A see the principle of the principle of the plan A see the plan as the Colombo Plan. Agreement has also been reached in principle, for the Services of the Servic

It has also been decided to move the Bureau to Ranchi as soon, as accommodation is ready.

RECRUITMENT

RECRUITMENT

RECRUITMENT

engineers/technical enginee RECRUITMENT engine remained posts, a number of accelerated promotions given to the young posts remained to the you outant a number of accelerated promotions given to the your possible control of senior and middle grade technical experience Engineers it was not possible to recruit men with requisite Graduate control of senior and middle grade technical experience Engineers for Necruitment and middle grade technical experience for difficulties for being trained first line supervisors. Even in this in Graduates the other forms are the possible to recruit men was mainly Even in this in Graduates. At all the even even trained first line supervisors. hers for Recruitment, therefore, was mainly Even in ade in Graduates. At this greater experienced. Efforts will, therefore, and will be made as a same in numbers of both diploma holders and academic technology. At the greater numbers of both diploma holders and for steel in the steer time, Universities and Technical Institutions are lence of the steer of the steer of the steer of time, Universities and Technical Institutions and for steel in the steer of the steer of time, Universities and Technical Institutions and for steel in the steer of the st of the same time, Universities and Technical Institution and for since the same time, Universities and Technical Institution are lence Graduate and Diploma Holders with a basorption in larger numbers for immediate absorption. Science Graduate and Diploma Holders with a absorption in available in larger numbers for immediate assorption in larger numbers.

TRAINING

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m The phase of large-scale foreign training programme and in the year under ravious 61 engineers up been assumed in practically in the year under ravious 61 engineers and been a of mining in the contract of the phase of large-scale foreign training programme is gives the same in the contract of the phase of large-scale foreign training and the phase of large-scale foreign training and the phase of large-scale foreign training programme is given by the phase of large-scale foreign training and the phase of large-scale foreign training and training in the phase of large-scale foreign training programme is given by the phase of large-scale foreign training and training programme is given by the phase of large-scale foreign training and training programme is given by the phase of large-scale foreign training programme is giv The training faculty of the phase of large-scale foreign training programme ocing expanded. their the year under review 61 engineers and personnel displaying in the land the West German Government had also of the remaining 11 will be sent shortly.

The wallov computed in practicomputation in the control of the remaining 11 will be sent shortly.

The wallov computed in practicomputation in the program of training facilities have been element of training in the personnel displaying in the personnel displaying in the remaining 11 will be sent shortly.

The wallov computed in programme in practicomputation in the personnel displaying in the personnel Por the remaining 11 will be sent shortly.

Alloy Steel Plant, a phased programme and are Messrs

Atlac of Canada. Cawo the remaining 11 will be sent shortly.

Cano the Alloy Steel Plant, a phased programme and the Messrs. Atlas of Canada.

are expected to leave in the next year.

# Foreign Technicians

For efficient operation and maintenance of Steel Plants a number of sign technicians had to be sign technicians and maintenance of Steel Plants a number of sign technicians had to be sign to be sign technicians had to be sign technicians had to be sign to be si foreign technicians had to be employed in all the three Steel Works of Hindustan Steel Limited Hindustan Steel Limited.

In Bhilai it was possible to reduce the number of foreign technicians m 107 in April 1962 to 12 from 107 in April 1962 to 42 at the beginning of 1963. Of these, 33 are expected to leave but the segment of th are expected to leave by the middle of 1963. For Expansion construction, however, a number of Society of them however, a number of Soviet Experts will be required, and 15 of them have already arrived have already arrived.

In Rourkela, the number of foreign technicians had to be increased as immended by a special difference of the special diff recommended by a special delegation from West Germany was 218.

Rourkela during 1962. Their recommendation from West Germany was 218. Rourkela during 1962. Their number in the beginning of 1963 was special In order to raise and stabilized and st In order to raise and stabilise production and on account of the special features of the LD Plant and the special stabilise production and on account of Rourkels, it is not the special stabilise production and on account of Rourkels, it is not the special stabilise at Rourkels. features of the LD Plant and the complicated Rolling Mills at Rourkels, it is proposed to increase the authority and in the peginning of the special features of the LD Plant and the complicated Rolling Mills at Rourkels, it is proposed to increase the authority and in the peginning of the special features. it is proposed to increase the number to 265 shortly. Indian under-studies have, however, been placed to work as sively and the complicated Rolling Mills at Rourkairs have, however, been placed to work as sively and the complication and on account at Rourkairs at R have, however, been placed to work with all foreign technicians for progressively replacing them in all the

In Durgapur the number of foreign technicians at the beginning 64, 1963 was 71. This number will be increased to 122 during 1961 particularly for initial running in action of the property of was 71. This number will be increased to 122 during particularly for initial running-in-period of the Wheel, Tyre and Axle Plant.

INDUSTRIAL RELATIONS

In all in all in all works. A recognised labour University on was also at the second the Works. A recognised labour Union is functioning in Bhilai. Rourkell nition was also given during the year to Unions at Durgapur and committees on the recommendations of the State Unions at Shop Committees on the recommendations of the State Governments. Shop departmental committees have been formulations of the State Governments.

A production bonus scheme has been introduced since December review of the working of this scheme has been introduced since December.

The C A review of the working of this scheme has been undertaken.

The Company has recently revised the pay structure of its and ustry has also also interim relief awarded by the Warner of the Iron and ustry has also interim relief awarded by the Warner of the Iron and ustry has also interim relief awarded by the Warner of the Iron and Iron ustry has also interimental awarded by the Warner of the Iron and Iron ustry has also interimental awarded by the Warner of the Iron and Iron ustry has also interimental awarded by the Warner of the Iron awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Warner of the Iron ustry has also interimental awarded by the Iron ustry has a large awarded by the Iron The interim relief awarded by the Wage Board for the Iron Industry has also been included by the Wage Board for the Iron Industry has also been implemented.

7,500 permanent houses sanctioned under the one million tonne stage the been constructed. In addition, 3,000 houses for the Expansion the es. 740 nave also been completed. Townships have been developed in 53 quarters at Hirri Mines have been constructed

Durganur

Durganur

7314 houses have been completed and construction of 2,000 low cost ses is to be undertaken shortly.

Tkela Durgapur

7320 houses have been completed. Townships have also pleted at the Mines and Quarries. 439 houses have been the Fertilizer Plant Township.

Hospitals, Health Centres. Dispensaries and First Aid Posts have been of primary ools in the Discontinuous A number of primary established in the Plant areas and the townships. A number of primary free educations of the plant areas and the townships. Set up with facilities for set u schools Health Centres. Dispensaries and First Amber of plant free education. Supply and High Schools have been set up with facilities for mid-day meals. free education, supply of uniform, shoes, and mid-day meals.

BOKARO STEEL PROJECT

BOKARO STEEL PROJECT

BOKARO STEEL PROJECT

BOKARO STEEL PROJECT

Works at and 350,000 with an initial capacity of one million tons of steel ingots the tons of steel ingots and the tons of steel ingots the tons of steel ingots and the tons of steel ingot 350,000 with an initial capacity of one million tons of steel ingots the consultants who have a scer-Consultants who have now been asked to prepare a detailed Survey ascerbling U.S. expected by the country to ascerbling the country to a which is who have now been asked to prepare a detailed Survey ascerbin the for visited the relation parts of the formula to apacity of one million has been received Reput Team to have now been asked to prepare a detailed Project Reput Team to have now been asked to prepare a detailed Survey ascerbin the for visited the relation parts of the country to ascerbin the for visited the relation parts of the formula to the formula to the formula to the formula to the relation parts of the country to ascerbin the formula to the formu from U.S.A. visited the plant site and various parts of the feasibility and plant site and various parts of about 1.4. A.

the feasibility, and its report is expected in March, 1963.

The Technology of the 963.

Approximately and the plant site and various parts of the 963.

Approximately app 44 Approval has been given by the Government for acquisition of land allowed by the since been handed over the project authorities. have since been handed over to the Project authorities.

Sile lav steel plant have been government for acquising forest land.

Respect of land. About 5,000 acres of Government preliminary for the proposed steel plant have been government and forest land.

Sile lav lav last report is expect to acquising forest land.

Sile lav last report is expect acquising for surveys and topographical features for the project authorities.

Sile lav last report is expect.

sites ay-outs for the construction of the township have been as been have been drawn up for the construction will be undertaken materials of for the construction of the township have plans required the construction will be undertaken materials required to the construction will be undertaken. phoposed steel plant have been completed. res examined; the construction of the township have been as a decision with a soon as a decision of the township have been as a decision with a soon as a decision of the township have been plans as soon as a decision of the township have been plans as a decision with a soon as a decision of the township have been plans as a decision with a soon as a decision of the township have been plans as a decision with a soon as a decision of the township have been plans as a decision as a de hents of the plant.

# TATA IRON AND STEEL COMPANY LIMITED and Steel ond Steel

TATA IRON AND STEEL COMPANY LIMITED Company with the expansion programme of Tata Iron and starget that the operation tonnes of ingot of steel is yet to be fully certain in the chiefly discovered the steel is yet to be fully certain in the state of the steel is yet to be fully certain in the state of the While the expansion programme of Tata Iron duction is starting the operations of ingot of steel is yet to be fully certain duction and the examined that the operations have been handicapped due to materials and understated the operation in the quality of facilities provided submitted to deterioration in the quality of facilities provided submitted by the Company for achieving their targets and these the provided submitted to the facilities provided submitted to materials and understated to the facilities provided submitted to materials and the facilities provided submitted to the facilities provi of their Skelp Mill from 148,000 tonnes to span allowed their Skelp Mill from 148,000 tonnes to span allowed to their spen approved.

INDIAN IRON AND STEEL COMPANY the million and increasing to about two productions and the same text and the company submitted proposals for increasing 2.25 word of the same text approved by Government who have accordance in the company submitted to cost about approved by Government who have accordance in the company is colliered to the Company for financing the foreign seel expansion to the same text and the same at increasing the production of steel per approved by Government who foreign seel from in except the same equivalent of 1.3 million tonnes of the convert the equivalent of 1.3 million tonnes of the convert text and the same equivalent of 1.3 million tonnes of the convert text and the convert text and the convert text and the convert the convert text and the convert the convert text and t NDIAN IRON AND STEEL COMPANY LIMITED the production of the product

A Company called, Mysore Iron and Steel Limited was registered under the Manies Act. Act of the Management took over the management 1962. 13 the Company called. Mysore Iron and Steel Limited was registered under the Mysore Iron and Steel Limited was registered under the Mysore Iron and Steel Limited was registered under the management. I show that the management of the Mysore Iron and Steel Limited was registered under the management. I show that the management of the Mysore Iron and Steel Limited was registered under the management. of the Mysore Iron and Steel Limited the management of the Mysore Iron and Steel Works. Bhadravati from 1st April, 1962.

iron into steel by the use of improved techniques, and the extra steel, along with steel from the classical improved techniques, and the extra steel, along with steel from the classical interest. with steel from the electric-melting furnace, will be cast directly as blooms in a continuous conti in a continuous casting plant. The finishing mills at these works have got spare capacity for programmer. spare capacity for processing the additional quantity of blooms.

The first phase of this Scheme referred to above has been approved by vernment in principle Government in principle.

# MYSORE IRON & STEEL LIMITED BHADRAVATI

The present annual capacity of the Works is about 35,000 tonnes. The y rated capacity of the company to the com daily rated capacity of the cement unit is now 260 tonnes.

During the Second Plan, the following schemes were earmarked for the orks:

- (i) Cast Iron Spun pipe Plant: This was completed in 1957 with with a capacity of 15 000
- (ii) Ferro-silicon Plant: One of the two furnaces was commissioned in December 1961 and at in December 1961 and the second furnace in May 1962, thus completing the expansion completing the expansion and bringing the installed capacity to 20,000 tonnes of ferro elizations. (iii) Sintering Plant: This Plant has also been completed and operation since 1962
- (iv) Steel Expansion Scheme: This Scheme aims at increasing production capacity of the Works to 22 lake tonnes of the ingots (27 and 20 and 20 are to 20 are production capacity of the Works to one lakh tonnes of the ingots (85,000 tonnes of finished steel) and consists following:

These Expansion Schemes were approved by Government in Year for ald be undertaken only towards the end of the Second Five Years and the end of the Years and the Years an I nese Expansion Schemes were approved by Government in Year for could be undertaken only towards the end of the Second The orders her.

It had, therefore to be carried over to the Third Plan. The plan inport of the Plant Louid be undertaken only towards the end of the Second The orders bernell had, therefore to be carried over to the Third Plan. The November import of the Plant and machinery were placed by the Works in Expansion 1960, and most of the items have already been imported. The Programme is any import of the Plant and machinery were placed by the Works in Expansion 1960, and most of the items have already been imported.

Programme is expected to be completed by the end of 1963.

(v) Expansion of found items have already been imported.

(v) Expansion of foundry, yard, electricity, etc. consisting and items to meet the various service demands on accountant panded productions. expansion of foundry, yard, electricity, etc. consisting of of sly items to meet the various service demands on account of panded production: This scheme is progressing simulations with the Steel E. items to meet the various service demands on simulation of panded production: This scheme is progressing ment with the Steel Expansion Scheme. The Government have agreed to meet Rs. 5 crores of the cost of this progression which is estimated with the Steel Expansion Scheme. The Government have agreed to meet Rs. 5 crores of the cost of this program which is estimated at Rs. 7 crores

SPECIAL STEELS PLANT

Steel the at the steel into wholly a special steel plant

The Project envisages estimate adravati into wholly a special steel plant

of Re of the steel plant of the project envisages estimate the project envisages estimated estimated the project envisage SPECIAL STEELS PLANT

There is a proposal to convert the Mysore Iron and the sage esting the Bhadravati into wholly a special steel plant. The Project at may be about version by addition of some units to the existing facilities at may cost of Rs. 8 to 9 crores, of which the foreign exchange cost produce order of Rs. 5/6 crores. After conversion, the plant will produce some special steel sections and forgings.

As it takes long for alloy steels plants to develop their mind. It been on their planting To develop their mind. It has been on their planting To develop their production the latest their planting To develop their production their planting to develop their production to develop their production thei capacity takes long for alloy steels plants to develop their mind. It has been estimated there of Alloy Steels by the end of the has been estimated that the requirements of Alloy Steels by the end of the Five Year Diag. Fourth Five Year Plan are likely to be as follows:

70,000 (i) Free-cutting, spring steels, etc. 240,000 (ii) Tool steels ... 70,000 (iii) Constructional steels ... 10,000 50,000 (b) Stainless steels 110,000 (v) Other high grade alloy steels (vi) Alloy Steel castings ......

The production of alloy steels in the country at present is not very signant. About 24,000 topses of alloy steels consisting dition on addition of spring to 24,000 topses of alloy steels consisting dition in addition of spring to 24,000 topses of alloy steels consisting dition to 24,000 topses of alloy steels consisting dition to 24,000 topses of alloy steels consisting dition to 24,000 topses of alloy steels consisting differences. Since the production of alloy steels in the country at present is not of spring to the steels. About 24,000 tonnes of alloy steels consisting addition to the steels of electrical sheets. Most of the demand is not steels, and alloy steel castings are produced annually in from imports.

With the steels and the steels are produced annually in the steels, and the steels are produced annually in the steels.

Notes and About 24,000 tonnes of alloy steels country and addition to the country and With a view to meeting the country's requirements of alloy steels, fifteen been licensed during the last 3-4 years. from electrical shades of electrical sheets. Most of the demand is met from with hits have been licensed during the last 3-4 years. from onnes in the last 3-4 years. from onnes in the making produced in the Tata's Alloy Steel Plant). The making arrangements for securing plant and equipments of alloy steels is a highly specialised job and produced in the Tata's Alloy and equipment in the plant of alloy steels is a highly specialised job and period for plant. The long arrangements for securing plant and the plant of the making arrangements for securing plant and equipment in the plant of alloy steels is a highly specialised job and period for plant in the plant in plant in negotiating agreements for technical known in the plant in plant i difficulties in negotiating agreements delay.

Two other factors also contribute to were supported three view of the unsatisfactory progress of for setting construct and settin

and inculties in negotiating agreements delay.

The two other factors also contribute to the schemes alloy steel to the licences for a total capacity of 8,400 to the setting construction of the sett

dat Sets in alloy steels, planning for stainless of the at about out the restingues.

STAINLESS STEELS

At 50.000 view steels, planning for stainless of the at about out the requirements by the end of plan in the country of the requirements by the Fourth steel in the country of the remarks are is no production of stainless of the stainless of the plan in the country of the plan in the country of the stainless of the stainless of the plan in the country of the stainless of the plan in the country of the stainless of the plan in the country of the plan in t ton the nts are met entirely from imports.

Of stainless stainless steel in the first stage and after apparatus.

To fill the gap, two other parties about 34,000 tonnes annually. have been approved in principle—one plant at Madras with an capacity of 7,000 tonnes and another at Vatwa, near Ahmedabad with an annual capacity of 10,000 annual capacity of 10,000 tonnes. These parties are making progress with arrangements for sources. arrangements for securing plant and equipment and for securing technical know-how.

# **ELECTRICAL SHEETS**

The demand for electrical sheets by the end of the Third Plan has been mated at 110,000 tons. estimated at 110,000 tonnes. The Fourth Plan estimates have not been worked out so far worked out so far.

The only existing capacity is at Rourkela Steel Works for the manufacture of 50,000 tonnes of the steel facture of 50,000 tonnes of sheets per annum and in the Tata Iron and Steel Works for 24,000 tonnes of them. Works for 24,000 tonnes of these sheets.

Recently, the expansion of the capacity of the Tata Iron and specifical appropriately planted, Jamshednur from 24 000 toppes of electrical Company Limited, Jamshedpur from 24,000 to 42,000 tonnes of electrical steel sheets has been sanctioned

The Working Group on Steel estimated that the requirements of ting the end of the Third Five Year Plant the annual to the standard that the requirements of ting annual to the standard that the requirements of ting annual to the standard that the requirements of ting the standard that the requirements of the standard that the requirements of ting the standard that the requirements of the standard that the requirements of the standard that the requirements of the standard that by the end of the Third Five Year Plan would be 300,000 tonnes. This includes 70,000 tonnes of the Tinplate Co. of India of Colombia, another 50,000 tonnes of the Tinplate Co. of India of Colombia, another 50,000 tonnes of the Tinplate Co. of India of Colombia, another 50,000 tonnes of the Tinplate Co. of India of Colombia, another 50,000 tonnes of the Tinplate Co. of India of Colombia, another 50,000 tonnes of the Tinplate Co. Golmuri, another 50,000 tonnes of the Tinplate Co. of (half of capacity is ready) and about 10,000 tonnes of Khemchand Calcutta.

A licence has also been granted for the establishment of a new expansion of the capacity of 10,000 to a new cubstantial 70,000 to the capacity of 10,000 to a new cubstantial 70,000 to a new cubstant Kerala State with an annual capacity of 10,000 tonnes. Substantial 70,000 tonnes to 160,000 M/s Timplets Company of 10,000 tonnes. tonnes to 160,000 tonnes has also been approved. Besides, set up matter than the steelworks at P. Steelworks at P. Substant Torythe Substant Torythe Substant Torythe Ltd., an electrative tonnes to 160,000 tonnes has also been approved. Besides, set up matter Steelworks at P. St tinning line with a capacity of 100,000 tonnes is also being set estimated Steelworks at Rourkela. These schemes are expected to meet the estimated demand by the end of the Third Plan

In planning for the development of the steel industry in the 1961 in position of the steel re-rolling industry during alled and account the in the 1961 in red in the steel re-rolling industry was reviewed during olled alargas rolling mills. The review revealed excessive capacity, with billets, regional distribution. Inspite of the limited availability of in the 1961 in red in the 1961 in red in the 1961 in regional distribution. Inspite of the limited availability of the decided to license about 150,000 topped further capacity to the limited sanction. regional distribution. Inspite of the limited availability of in being decided to license about 150,000 tonnes of further unserved/underserved States to meet local demands, sanctioned in each State. In accordance with this decision, adras, if of new re-rolling mills in Assam, Bihar, Gujarat, Kerala. Kash each Sanctioned during 1961. A further capacity of 15,000 tonnes of further 15,000 the Mayars was sanctioned during 1961. A further capacity of 15,000 tonnes of further 15,000 the Mayars was sanctioned during 1961. A further capacity of 15,000 tonnes of further unserved/underserved States to meet local demands, is not sanctioned during 1961. A further capacity of 15,000 tonnes of further unserved/underserved States to meet local demands, is not sanctioned during 1961. A further capacity of 15,000 tonnes of further unserved/underserved States to meet local demands, is not sanctioned during 1961. A further capacity of 15,000 tonnes of further unserved/underserved/un

The availability of re-rollable scrap for this industry has been limited, the left result that the faced with difficulty. with the availability of re-rollable scrap for this industry has been many the problem is being an any small scale units are faced with difficulty. The graph is being a small scale units are faced with the State Governments. problem is being examined in consultation with the State Governments.

In the Private Sector 7 firms have been given industrial licences for supplied iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 7 firms have been given industrial licences for supplied in pig iron plant 8 firms have been given industrial licences for supplied in pig iron setting the Private Sector 7 firms have been given industrial licences to the setting up pig iron plants for a total capacity of 541,000 tonnes (including 5 units with a plants for a total capacity of 541,000 tonnes has been (M/s with a plants for a total capacity of 541,000 tonnes has been (M/s with a plants for a total capacity of 541,000 tonnes has been (M/s with a plants for a total capacity of 541,000 tonnes has been given industrial licences and the setting the private section of 541,000 tonnes (including the private section of 541,000 tonnes). ing s up pig iron plants for a total capacity of 541,000 tonnes (mones been given industrial tonnes (mones only one units with a capacity of 100,000 tonnes each). So far only one been (M/s with a capacity of 100,000 tonnes each). So far only one capacity of about 30,000 tonnes Co. Let increase Kalingary of 100,000 tonnes about 30,000 tonnes in whit whits with a capacity of 100,000 tonnes each). So far only has been installed and industries) with a capacity of about M/s. Kalinga Industries) with a capacity of about M/s. Textools in the stalled and industries with a capacity of about M/s. Textools in Another unit (M/s. difficulties in another unit choical difficulties in another unit been (M/s. Kalinga Industries) with a capacity of 100,000 tonnes cach). 30,000 tonnes Co. Lid.) started and is in production. Another unit (M/s. difficulties in lonnes operation but later closed down due to technical of arriving in longes have reached. fun stalled and is in production. Another unit (M/s. difficulties in tonnace operation. A third unit (ACME) with a capacity of saling into production early in the Bree.

Besides, Jandhra Pradesh Indiana and is expected to go into a proposal from a proposal from the propos Andhra Government have also approved in principle a proposal up addition a capacity of 100 000 tensor of pig iron in Andhra with a capacity of 100 000 tensor of pig iron in a capacity of 100 000 tensor of and Anders. Government have also approved in principle a proputing upland addition. Pradesh Industrial Development Corporation Andhra with a capacity of 100,000 tonnes of pig iron in one unit sponge the Government to approved in principle a proputing upland Anders. Government have also approved in principle a proving the Government have also approved in principle a proving upland Anders. Government have also approved in principle a proving upland Andhra principle a principle a principle a principle a proving upland Andhra principle a principl addition, the Government have also approved in Progration Andra Praction in Andra Practical Development Corporation in Andra with a capacity of 100,000 tonnes of pig iron in one unit sponge the Government have approved in principle of sponge in O(0,000) to the manufacture of the steel W.

Steel Wire includes estimated total demand of about 470,000 tonnes wires, against the the 150,000 tonnes of high tensile and other special works. To fill the gap effective capacity already licensed is 130,000 tonnes. which the offective capacity already licensed is 130,000 tonnes.

To manganese.

Which the effective capacity already licensed is further capacity of wires during the capacity of wires during the capacity of tonnes.

Special Wires during the year. Fehro-Manganese Out the target for the Third Plan was 200,000 tonnes a capacity of the total capacity of 256,000 tonnes licensed, did not have their them. Out The target for the Third Plan was 200,000 tonnes capacity of effective been steps. Was revoked during the year, as the licensee to manufacture pig iron—an alternative the constant of internal demand, and prospects of large revokidation.

In the licensee to manufacture pig iron—an alternative the constant of substantial expansion of capacity is also under the production of capacity of substantial expansion of capacity is also under the production the production of capacity is also under the production of capacity of the production of capacity

103,587

Committee was appointed in November special reference industry with special reference industry with special reference industry with special reference industry with special reference industry. 1961 (Estimated)

1962 (Estimated)

1961 to effere to study to the ferro-manual study to stud

# Ferro-Chrome

The present target for production of Ferro-Chrome for the Third plants 35,000 tonnes her appears tonnes a capacity of 10,000 tonnes has been revoked during production of Perro-Chrome for the year tonnes a capacity of 10,000 tonnes has been revoked during prantal Further, a capacity yof 10,200 tonnes (Tatas 5,400 tonnes, total licenses) was licensed in Outside 10,000 tonnes to the total licenses to capacity. 4,800 tonnes) was licensed in October 1962, bringing the capacity to 16,200 tonnes. capacity to 16,200 tonnes. The question of licensing further capacity the Private Sector Public 6 the Private Sector/Public Sector is under consideration.

One unit was licensed for the manufacture of 100 tonnes per and Ferro-Molybdenum and 50 tonnes per of Ferro-Molybdenum and 50 tonnes per annum of Ferro-Vanadium Maharashtra State. The oction of the state of t Maharashtra State. The estimated demand for these items are 1,000 tonnes and 750 tonnes respectively by the and of the plan.

The Mysore Iron & Steel Limited, the major producer of installings by installings furnaces in the country, have completed their expansion scheme by The new furnaces for the product that the major producer of installing the country in the country i new furnaces for the production of Ferro-Silicon second furnace went into operation in D May 1962. The installed capacity is 20,000 tonnes per of 5,000 17,000 additional capacity of 12,200 tonnes licensed, a capacity of covered was revoked during the veer conness were auditional capacity of 12,200 tonnes licensed, a capacity of was revoked during the year. 2 new units for a total capacity tonnes were sanctioned during the year thus bringing the capacity by licensing to 44 200 was revoked during the year. 2 new units for a total capacity tonnes were sanctioned during the year, thus bringing the capacity by licensing to 44,200 tonnes per annum

# Ferro-Silicon

rro-Silicon 		Proc	luction	of Feri	o-Silico	etric tonnes	
Year						7,035 9,157	
1960		••	• •	• •	• •	11,678	
1961		• •	••	. •	···		. 1
1962 (estimated	)				_	.ie	il be

PROSPECTS FOR THE FUTURE and It is proposed to set up new steel plants at Bokaro only. It is project is expected initially to produce pig iron meli Iron ided to obtain It is proposed to set up new steel plants at Bokaro only. Irong the Neyveli Project is expected initially to produce pig iron decided to obtain a detailed project report for the work for Project. The report is expected to be ready by the work for interim report will be obtained for starting preliminary work over and location of the plant etc., so that the construction could be started as soon as the examination of the report in the short of the report is and location of the plant etc., so that the construction is short of the report is and location of the plant etc., so that the construction is short of the report is and location of the plant etc., so that the construction is an additional could be started as soon as the examination of the report is in coardinate.

To augment the production of pig iron which is in Goa-utilisms stion of setting up of a blast furnace complex in the mants low-shaft blast furnace complex in the mants are at a set of the construction work over.

Note that the construction work over.

Supplies the construction work over.

Supplies the construction work over.

Supplies the construction is over.

Supplies the construction work over.

Supplies the construction is over.

Supplies the construction is over.

Supplies the construction of the report is over.

Supplies the construct To augment the production of pig iron which is in Goa- utilise the question of setting up of a blast furnace complex Steel plants at other and low-shaft blast furnaces at the Hindustan coke are at present under consideration To consider the feasibility of setting up of a refractories for supplying refractories to the steel plants, a detailed project report from the Russians.

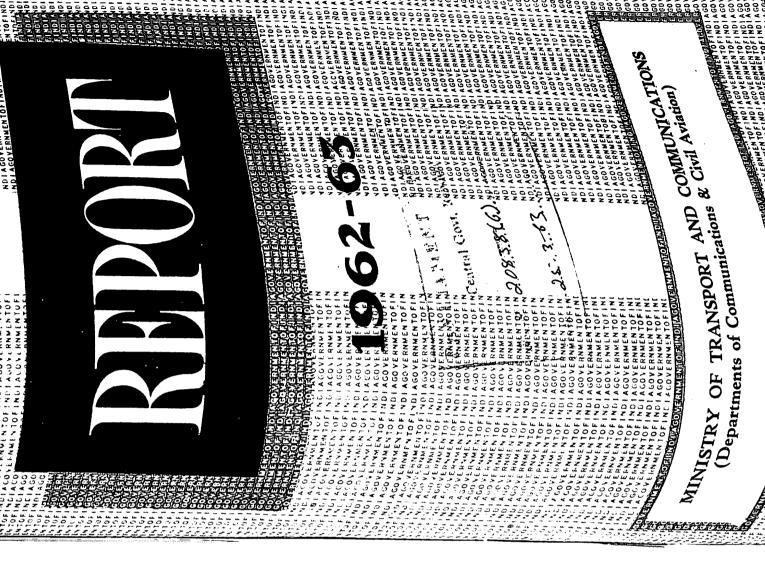
A Steering Group comprising the representatives of the Planning Commission, Iron and Steel industry both in the public and the private sectors the concerned of the private sectors has been set up to formulate the concerned of the public and the private sectors and the concerned of the private sectors and the concerned of the private sectors and the concerned of the private sectors are private sectors. and the concerned Government Departments has been set up to formulate the fourth five the fourth five year Plan for Iron and Steel. The Steering Group is expected to commendations for expected to complete its study and formulate its recommendations expansion in the study and formulate its recommendations. expansion in the Fourth Plan period by the end of 1963.

Demand studies are also being conducted through the National Council Applied Economic Paragraphics and Economic Paragraphi of Applied Studies are also being conducted through the National Conducted through through through the National Conducted through through the National Conducted through through through through the National Conducted through t now upto 1970-71, in order to determine the productmix for the increased the fact. To attain the fact. capacity. To attain this higher capacity, efforts will be made to utilise ing recibilities available the product in the next plan period. Have the facilities available in the existing plants in the next plan period. Having regard to the general policy of the Government about dispersal of Bailadin, two separate and being conducted for the Goa-Hospet and Bailadin, two separate and being conducted for the Goa-Hospet and plants in the made to the separate and being conducted for the Goa-Hospet and pailadin. industry, two separate studies are being conducted for the Gos-Hospet and new cta-Visakhanat Bailadilla-Visakhapatnam areas to ascertain the Goa-Hospet and new steel plants in the steel plants in the

new steel plants in these regions. The increased production in the Fourth Plan period would studies exploriside ration of the second transport problems. The increased production in the Fourth Plan period would studies for exploration of the raw materials and transport problems. Studies as exploration of the raw materials and transport problems. Studies in measuration of the raw materials and transport problems. for exploration of the raw materials and transport problems. Studies as measures for here and development of the existing one as well iron are for better and development of the like beneficiation of the single are for better and development of the existing and materials, like beneficiation and single are for better and development of the like beneficiation and single are for better and the raw materials, like beneficiation and single are for better and the raw materials. as exploration of the raw materials and transport string one as working measures for better utilisation of the raw materials, like beneficiation of sintering, coal limests. iron easures for hetter utilisation of the raw materials, like beneficiation and sintering of ores are less, use of fuel oil injection pelletisation.

of Studies are also being conducted to formulate the plan for production production, equipments for the steel plants as well as the cost indices of production. sintering of ores are being conducted. production.

<sup>1</sup>2D<sub>eptt.</sub> of HI/62—1,800—14-3-63—(Sec. I)—GIPF.



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<sup>144</sup> M. of T.C.-1.

# INTRODUCTION

The Departments of Communications and Civil Aviation in the Ministry of Transport and Communications are responsible for the administration administration of:-

- (i) Posts and Telegraphs;
- (ii) Wireless Planning and Co-ordination;
- (iii) Civil Aviation;
- (iv) Air Corporations;
- (v) Meteorology;
- (vi) Overseas Communications;
- (viii) Indian Telephone Industries Limited, Bangalore;
- (ix) Hindustan Teleprinters Limited, Madras. These subjects are administered through the undermentioned organions, the Head
- (i) Posts and Telegraphs Department (Director General, and Telegraphs Department (Director General, sations, the Heads of which are indicated against each:

  (Director C
  - (ii) Wireless Planning and Co-ordination Organisation (Wireless Advisor (Advisor (Wireless ))

  - Adviser to the Government of India);

    (iii) Civil Aviation Department (Director General of Civil Aviation)
  - Aviation);
    (iv) Air Corporations (Chairman, Indian Airlines and Chairman,
    Air-India)
  - Air-India);
    (v) India Meteorological Department
    Observatorias Observatories);
    (vi) Overseas Communications Service (Director General, Overseas Communications Service (Director General) (Director General)
  - Communications Service); (vii) Railway Inspectorate (Commissioner of Railway (Managing (Viii) Indian

  - (viii) Indian Telephone Industries Limited);

    Director Indian Telephone Industries Limited); Director, Indian Telephone Industries Limited);
  - Director, Indian Telephone Industries Limited);

    (ix) Hindustan Teleprinters Limited, Madras

    Hindustan Teleprinters Limited).
- Hindustan Teleprinters Limited)

  Report on the administration and activities of the posts and Teleprinters

  With the activities of the other services and organisations in the ments of Communications and Civil Aviation.

# SECTION I

# WIRELESS PLANNING AND COORDINATION

- 3. International Telecommunication Union and International Con-ences.—The Indian ferences.—The Indian Administration took an active part at International level in a tional level in the activities of the International Telecommunication
  Union (LTAL) Union (I.T.U.). India participated in the 17th session of the Administrative Council of all trative Council of the International Telecommunication Union.

  Special Working Communication Union to the International Telecommunication Union. Special Working Group which met in Geneva in October 1962 to consider possible revision. sider possible revision of Radio Regulations and Radio Conference structure.
- 4. Xth Plenary Assembly of the International Radio Consultative mmittee (C.C.I.R.) \_ TI. of the C.C.I.R. in New Delhi from 15th January, 1963 to 16th February, 1963 was cancelled in view 1963 was cancelled in view of the present emergency. However, of the participated in some of the participated in some of the interim meetings of the Study Geneva Geneva C.C.I.R. The Xth Planar C.C.I.R. The Xth Plenary Assembly of C.C.I.R. held in 15th January, 1963 to 16th T. 15th January, 1963 to 16th February, 1963 was attended by two members of the Indian Administration
- 5. Plan Sub-Committee for Asia.—The meeting of this Sub-committee, of held in New Ling ich India is the Chairman which India is the Chairman, was scheduled to be held in New of the meeting of this Sub-committee, in February 1963. Due to the in February 1963. Due to the present emergency the venue of with a one was changed to Geneva India. was changed to Geneva. India participated in this meeting with a member delegation.
- 6. International Regulations.—On 8th May 1962 India Regulations, reva. 1050 o. International Regulations.—On 8th May 1962 India Regulations, Regulations Regulational Radio Regulations and Additional Radio

On 2nd October 1962, the International Telecommunication of ratification, Geneva, 1959 was ratified and the sequently decreased and the sequen on 2nd October 1962, the International Telecommunication tion, Geneva, 1959 was ratified and the instrument Telecommunication of ratification of ratification.

Subsequently deposited with the instrument of the communication to the communication of the communication of the communication of the communication to the communica

continued as in the previous years. No Indian expert but extended to the experts are of the experts are continued as in the previous years. No Indian expert but extend to International Telecommunication Union during the year extend to Of the experts appointed last very a Continued Rangkok were I.T.U. International Telecommunication Union during the year but contract to the experts appointed last year at Congo and Bangkok by

Due to national emergency some analysis offered by Indian Experts were The experts appointed last year at Congo and Bangkok by

Due to national emergency some appointments

Indian Experts were not accepted.

A page.

A payment of Rs. 6,27,000 on account of India's share of estimates the I.T.U's budget for 1963 has been sometiments.

The budget mand No. 23-64 for I.T.U. continued to The budget mand No. 25-64 fo A payment of Rs. 6,27,000 on account of India's share of estima No. to the I.T.U's budget for 1963 has been made.

1963-64 for I.T.U. contribution. publication amount to Rs. 6,70 and or Rs. 6,27,000 on account of India's share of estimator.

The budget estimator.

The budget permand permand permand not permand permand not permand n

8. Frequency Management.—Work regarding the Frequency Management to be ment Procedure for High Frequency Broadcasting was continued to be executed executed. About 850 proposals for H.F. broadcasting were processed during the during the year. Over 160 broadcasts were also authorised in the shared broadcasts: broadcasting bands after necessary co-ordination. In addition to short wave broadcast wave broadcasting 265 frequency usages were also authorised to Indian; users and 100 lines are the second communication by the second communication systems. users and 130 proposals for Power Line Carrier Communication Systems were countries to all the were coordinated. Frequency assignments were also made to all the stations licensed during the year.

Apart from 487 notifications sent to the International Frequency Registration Board for securing registrations 294 notices were sent in the U.H.F./S.H.F. U.H.F./S.H.F. bands to the International Frequency Registration Board Preparatory preparatory to E.A.R.C. (Space) Conference to be held in 1963. Over 50 weekly circular Weekly circulars of the I.F.R.B. were examined and protests in respect of about 50 from about 50 frequencies were accepted by the Board. Also 190 enquiries from the LEDE from the I.F.R.B. of Indian Registrations were examined and necessary information

About 180 monitoring assignments were given to the Monitoring tions of the Monitoring assignments were given to the Monitoring assignments were given to the Monitoring to the Monitoring assignments were given to the Monitoring assignments were given to the Monitoring to the Monitoring assignments were given to the Monitoring assignments were given to the Monitoring to the Monitoring assignments were given to the Monitoring assignment with the Monitoring assignment as a sign of the Monitoring as a sign of the Monit information was furnished. Stations of the Ministry. On an international programme standard freals are monitored. Monitoring was Quency and tropical broadcasting bands were monitored. Monitoring was also undertaken also undertaken to assist other Administrations seeking assistance.

Several recommendations were addressed to users departments in the lucing the constitutions the constitutions were addressed to users departments for the lucing the constitutions were addressed to users departments. Problems arose in the lucing the constitutions were addressed to users departments. Several recommendations were addressed to users departments to reducing the congestion in the 4-27.5 Mc/s bands. These were expeditiously tacks to users departments. The problems arose in the utilisation of fermions and the second to users departments. The problems arose in the problems arose in the problems arose in the utilisation of fermions. utilisation of frequencies due to the emergency.

Problems arose in the 4-27.5 Mc/s bands.

These were expeditiously tackled and solve.

9. Licensing.—The Ministry as the Wireless Licensing authority issued in the wireless licenses. 462 Licensing.—The Ministry as the Wireless Licensing authority is stations in various licences to establish, maintain and work wireless stations during the year services tackled and solutions were found. Various services and also renewed licences used for communication purp. 1962-63 year 1962-63. The number of wireless channels used for communication of approach is increase. Purposes is increasing from year to year.

This covers practically all fields of application of realizations. such as point to point communications are cations. of application of radio communications, such as point to point communications, aeronautical application of radio communications, such as point to point communications, maritime and navigational facilities, maritime operations and broadcast operations and navigational communication and navigations operations. communication, aeronautical communication and navigational facilities, marumodor communication and navigational facilities, marumodor and navigational facilities operations and broadcasting, experimental and amateur wireless communication facilities continued to be specially communication facilities continued to be specially communication facilities. broadcasting. Special types of wireless communication and projects like pipelines (Oil and Cast). It is adopted by the second continued and amateur wireless continued to be adopted by the second continued and amateur wireless continued and amateur to be adopted by important industrial projects like pipelines continued (Oil and to be adopted by important industrial projects), Hydro-electric transport Gas), Hydro-electric systems, irrigation systems, steel factories such were at and electric systems, etc. A number of energencies such transport and electricity departments etc. A number of wireless such also utilised for an engage of the projects like projects l Were also utilised for carrying urgent messages, during emergencies invasions.

The work of issue of Duty Concession Certificates in respect of wireless eption apparatus and Theorems in respect of wireless transmission. The work of issue of Duty Concession Certificates in respect of wireless transmission apparatus and Import Licences in respect of wireless transmission apparatus was continued the previous year. apparatus and Import Licences in restriction apparatus and Import Licences in restrictions year.

Examinations for the award of Certificates of Proficiency for different poons, types of W/T licences were conducted at Bombay, Calcutta, Poona, Raikot Curred V Rajkot, Cuttack, Madras, Allahabad and Delhi. A total of 877 candidates appeared for all appeared for the various classes of examinations at the different centres and 178 candidates. and 178 candidates were declared successful. Certificates have been issued to the successful and 178.

The Indian Wireless Telegraphy (Experimental Service) Rules, 1962

1 the Indian Wireless Telegraphy (Experimental Service) Service and the Indian Wireless Telegraphy (Experimental Service)

Rules 1969 ...... effect fi Rules, 1962 were promulgated which came into force with effect from the 1st February. 1962

10. Monitoring.—The project of establishing a network of monitor frequency ing stations to assist in the Ministry's task of carrying out regular management and implant management and implementation of International and National Regula-

The Monitoring Stations at Delhi, Nagpur, Bombay and In addition, actioning round the clock and in additions. functioning round the clock at their permanent locations at Srinagar pending the construction. pending the construction of buildings, monitoring stations at Srinagar and Shillong are working in and Shillong are working in temporary premises.

The budget estimates for the year 1963-64 are Rs. 9,09,100 and revised imates for the year 1963-64 are Rs. 1,0 budget provision Estimates for the year 1963-64 are Rs. 9,09,100 and revision the budget provision of Rs. 5,64,000. Provision have of Rs. 5,64,000. Provision has been made for the barest minimum.

- 11. Radio and Cable Board.—The Radio and Cable Board was constituted by the Government of India in 1973 11. Radio and Cable Board.—The Radio and Cable Board was constituted by the Government of India in 1953 as a high-level interminister in the technical body to coordinate all the country. technical body to coordinate all the telecommunication activities Board wireless to the country. Before its establishment of the telecommunication activities and the telecommunication wireless to the country. country. Before its establishment the inter-departmental in the inter-departmental ments of wire in the country. Before its establishment the inter-departmental the inter-department in the Posts and Telegraphs Department was coordinating ments of wireless developments of country. ments of wireless developments of the various user department in the inter-department was coordinating the inter-department was coordinated to the various user department was country. As the inter-department was coordinated to the various which it is the inter-department was coordinated to the various which is the inter-department was coordinated to the various which is the inter-department was coordinated to the various which is the inter-department was coordinated to the inter-depa ments of wireless developments of the various user departmented user country. As the inter-departmental Wireless Board with its of the and tions, was not in a position to constitute the country. departments of the various user department user department user user department in a position to coordinate the growing needs of departments in respect of wireless department user department departments in respect of wireless, landlines, radio navigations the production of telecommunication accordance is used decided by the production of telecommunication accordance is used decided by the production of telecommunication accordance is used decided by the production of telecommunication accordance is used decided by the production of telecommunication accordance is used decided by the production of telecommunication accordance is used decided by the production of telecommunication accordance is used to be and the production of telecommunication accordance is used to be approximately accordance to the production of telecommunication accordance is used to be approximately accordance to the production of telecommunication accordance is used to be a production of telecommunication accordance to the production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production of telecommunication accordance is used to be a production accordance in the production accordance is used to be a production accordance in the production accordance is used to be a production accordance in the production accordance is used to be a production accordance in the production accordance is used to be a production accord departments in respect of wireless, landlines, radio navigational the production of telecommunication equipment, it was decided by the net that the Radio and Cable Board with the telecommunication production of telecommunication equipment, it was decided by the production and Cable Board with the technical respressions the telecommunication user Ministrical are required to be considered net that the Radio and Cable Board with the technical respress Ministries the telecommunication user Ministries be formed. The user Ministries are required to be unanimous and cable Board with the user the user Departments. auto and Cable Board with the technical respressed decision the telecommunication user Ministries be formed. The user Ministries are required to be unanimous and are binding on the user Departments. 12. Functions.—The functions of the Board are broadly as follows:

  (a) to review the --
- (a) to review the adequacy of both external and internal radio cable and other communications.

  (b) to ensure cable and other communication systems; of the communication systems utilization communication systems:

- (c) to coordinate the research, development, production and provision of equipment for radio, cable and other communication systems.
- 13. Composition.—The Board is composed of the technical representatives of the Ministries of Defence, Home Affairs, Information and Broad-casting, Device of Comcasting, Railways, Transport and Communications (Departments of Communications and Scimunications and Civil Aviation and Department of Transport) and Scientific Roard. The technical entific Research and Cultural Affairs, and P&T Board. The technical representations representative of the Ministry of Transport and Communications (Departments of Communications of the Departments of Communications of the Departments of Communications of the Department of the ments of Communications and Civil Aviation) is the Chairman of the Board.  $B_{oard.}$
- 14. Committees.—There are four Standing Committees under the Committee, Board at the Headquarters, viz., Research and Codes Committees and Lines Radio Committee, Traffic Procedure and Codes Committee and Lines nication problems. The composition of these Committees is determined on the Board on these Committees are represented on the Committee are represented are r by the Board. All the major user departments are represented on these Committees. Committees.
- 15. Regional Committees.—In addition to the six Regional Committees.

  Calcutta, Bombay, Nagpur Working under the Board at Delhi, Lucknow, at Jullundur, Shillong and Srin Madrae at Jullundur, Shillong and and Madras, three more Regional Committees at Jullundur, Shillong and Of Locar Were are Regional Committees at Jullundur, Shillong and Srinagar Were are Regional Committees at Jullundur, Shillong and Of Locar Were are the telecommunication problems. Srinagar were established for examining the telecommunication problems of local nature of local nature arising in their respective areas.

  of all the major of all the major user departments are represented on these committees.

  The regional The region The region The region The region The re
- 16. Subjects dealt with by the Board. 37 meetings of the Board The Board its The Board under review. its Committees were held during the period under review. The Board this Committees were held during the period under problems during and its Committees were held during the period under review. The during this Period: and this Committees dealt with several telecommunities period; and more important ones are given below:
  - (i) coordination of the requirements and rationalisation of standard. standardisation of the detailed technical specifications various with the detailed technical specifications various wireless and electronic equipment and its components. ents.

    (ii) standardisation of a Hindi Morse Code for use in the country.

    (iii) proced

  - (iii) Procedures for carrying out tests and field trials of the wire less south less equipment manufactured by the Bharat Electronics

    Ltd.
  - Ltd.

    (iv) review of the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for wire less and observed the procedure for the clearance of indepts for the clearance of the clearance of the clearance of the procedure for the clearance of the clearance of
  - less and electronic equipment.

    (v) study of existing techniques for single-side methods for its and recentions. y of existing techniques for single-side hand transmission and reception for recommending suitable methods adoption in India

(vii) siting of transmitting and receiving stations of the various

(viii) demarcation of important cities in the country into transmitting and receiving zones-

# SECTION II

17. Civil Aviation in India continued to make steady progress in the year 1962-63 as will 1 the year 1962-63 as will be evident from the information given in succeeding paragraphs.

18. Scheduled Air Transport Services.—The comparative figures 1946 nsport operations during 1946. transport operations during 1962 and during the past years are given onwards, in so far as scheduled operations are concerned, below:—

3010W.					a city	Revene tonne tonnetres
Year Hours	Kilo- metres flown	Passen- gers carried	Freight carried (kgs.)	Mails carried (kgs)	Capacity tonne/ kilometres offered	kiloint .co.977
1946 29,5 1947 59,3 1948 78,90 1949 93,94 1950 117,4 1951 118,60 1952 119,40 1953 114,70 1954 117,40 1956 136,8 1957 134,4 1958 135,0 1958 135,0 1959 131,3 1960 133,6 1961 138,4	15,065,740 120,355,658 1424,297,781 1230,409,556 1431,377,335 1031,481,556 1030,902,403 1031,861,366 1031,	254,960 341,186 357,415 452,869 449,462 434,480 403,992 431,595 468,894 558,625 615,321 696,175 736,160 855,203	5,430,719 10,203,936 36,284,243 39,757,473 39,019,322 38,467,157 39,190,433 44,534,986 43,642,216 38,862,147 42,467,081 33,504,081	6,171,047 6,825,047 6,816,897 7,533,853 7,533,703	13,950,451 30,409,451 43,038,559 43,038,459 85,442,250 85,442,250 92,471,392 92,471,392 92,435,070 122,425,070 122,425,070 151,741,766 151,741,766 151,741,766 151,741,766 151,741,766 151,741,766 151,741,766 182,958,669 182,958,624 197,758,574 242,868,574 242,864,058 313,694,058 313,694,058 313,694,058	31,576,856 38,014,302 56,274,702 63,749,502 61,249,502 60,384,702 60,384,702 67,348,354 99,086,852 \$107,610,607 \$117,277,773 \$125,066,208 \$140,249,368 \$150,249,368

the the the the control of purely non-scheduled air services.

During operators of the operations, the following seven other air services holding permits for the operation of purely non-scheduled air services.

(I) Airways (I- "

- (2) Air Survey Company of India Ltd.
- (3) Bharat Commerce and Industries Ltd.
- (4) Darbhanga Aviation.

(5) Kalinga Airlines.

(6) Jamair Company (P) Ltd.

(7) Aviation Service.

Seventeen Flying Clubs continued to have the non-scheduled permits during 1962. A non-scheduled permit was issued to the Wings India (P).

Ltd., on 1841. A non-scheduled permit was issued to the Wings. Ltd., on 15th December, 1962 valid upto 31st December, 1968.

During the year 1962, approximately 33,837 hours and 9,175,544 kilometres were flown on non-scheduled operations against the previous year's figures of 24 days of 24 figures of 34,443 hours and 9,567,228 kilometres. The number of passensers and 34,443 hours and 9,567,228 kilometres. The number of page 38,083,936 to the number of freight carried were approximately 105,293 and the nrevious year's figures of 38,083,936 kgs. respectively as against the previous year's figures of 109,808 passengers and 39,127,178 kgs. of freight. Note.—The figures for the year 1962 as given in the report are estimated.

AIR ROUTES AND AERODROMES 20. Aerodromes.—The number of aerodromes maintained by the Civil lation Departs. Aviation Department in the beginning of 1963 was 82, as shown in Plet:

Output

Department in the beginning of 1963 was 82, as nearing completed by the company of 1963 was 82, as shown in the plet. Appendix I. The new aerodrome at Raxaul (Bihar) is nearing completion. Pletion.

21. Works.—A new runway 10/28 3200 metres long and for use by the was constructed and opened for use by the was constructed and opened for use by the was constructed and opened for use by the way is wide was constructed at Delhi (Palam) Airport and opened for use by equin jet aircraft heavy jet aircraft with effect from the 5th April, 1962.

The runway is equipped with 9

equipped with 3 element high intensity runway lighting.

The main runway 09/27 at Bombay (Santacruz) Airport was further ended by 190 ... extended by 129 metres at the eastern end.

Clement nign intensity

Airport was running extended by 129 metres at the eastern end.

The total length of the running is 3329 metres.

Strengthening and extension of Instrument runway at Calcutta (Dumway is 3329 metres. Dum) Airport was completed and the runway was opened for use.

The The

The secondary runway 12/30 at Madras (St. with runway lighting. Was completed and the Mount) Figure Was extended to 1829 metres and was provided with runway lighting.

Let The ...

The development of Madras (St. Thomas Mount) Airport for Boeing aircraft, involving of more than a confidence of the main The development of Madras (St. Thomas Mount) Airport for rupees, is in progress, involving an expenditure of more than a crore of the main runway. The in aircraft, involving an expenditure of more than a crore of the main runway to 2818 meters.

runway to 2818 metres as well as its strengthening.

A new concrete runway 09/27 1097 metres × 30 metres, was commissioned for use at Aurangabad. 144 M. of T.C.-2.

The new terminal buildings at Baroda, Agra and Trivandrum are almost complete and are expected to be commissioned shortly. construction of new terminal buildings at Kumbhirgram and Mohanbari is nearing complete. is nearing completion.

Construction of a new freight Block at Bombay (Santacruz) Airport nearing completion of a new freight Block at Bombay (Santacruz) Airport is nearing completion. The building is intended to be used by the lines for storage of the stora lines for storage of freight etc.

Residential quarters of various types were constructed during the year the staff of Civil Vfor the staff of Civil Aviation Department at Bhavnagar, Jharsuguda, Kumbhirgram, Manner Kumbhirgram, Mangalore and Kamalpur aerodromes.

Community centres were constructed at Calcutta (Dum Dum) Bombay (Santacruz) Airports to be used for social, recreational and tural activities of the march tural activities of the residents working at these airports.

- 22. Runway Lighting.—Installation of high intensity pelhi (Paceshold lighting on 1) threshold lighting on the new 10/28 instrument runway at pelhi (Palam) and new instrument runway at place. and new instrument runway at Calcutta (Dum Dum) airports was completed. Installation of successful and new instrument runway at Calcutta (Dum Dum) airports was completed. new instrument runway at Calcutta (Dum Dum) airports was completed. Installation of runway lighting at Tiruchirapalli was completed. Temporary Runway lighting Temporary Runway lighting was installed at Patna by diverting Amrittings from Kotah. Installation tings from Kotah. Installation of runway lighting at Ahmedabad, sar, Kotah and Bhui is in
- 23. Aeronautical Information Publications.—During the year (Bhopal, Approach/Landing Charte in cangabat) Approach/Landing Charts in respect of 11 aerodromes

  Aurangabad, Vijayawada, Mohanbari, Kotah, Patna, Rajkot, Indore. Nagpur and Allahabadh

  Type 'A':-Indore. Nagpur and Allahabad) and 11 Aerodrome Madras. Truction Madras. Type 'A' in respect of 4 Aerodrome palli and Col Type 'A' in respect of 4 Aerodromes Delhi (Palam), the Civil Department Tiruchion Obstruction Tiruchion Aviation Aviation Palli and Calcutta (Dum Dum) were issued by the Department.
- year of the Third Five Year Plan, the work of modernisation of the Mark begun during of the Accommunication of the Telecommunications.—During 1962-63, improvement and reorganisation of the Aeronautical Telecommunication vement begun during the first year of the Aeronautical Telecommunication of radio aids to ment and reorganisation of the Aeronautical Telecommunication remembers the during the first year of the Plan. was continued to radio aids to navigation. introducing the state of the plan was continued to remember the plan was the Plan, was continue Radio Finder, was replacement of Manual Very High Frequency Directional Radio Washest By automatic types, provision of automatic speech Recorders and Radio Metro lation of additional Very High Frequency Speech Radio By attomation of additional Very High Frequency Speech Radio By attomatic speech Radio By a oy automatic types, provision of automatic speech Recorders and Range lation of additional Very High Frequency Omnidirectional Radio By automatic speech Recorders and By automatic speech Recorders and By automatic speech Recorders and By automatic speech Radio Rad were some of the important features. There are, at present navigant nautical Communication Stations providing 145 radio of the Department of the Samunication channels and 532 aeronautical communication channels are some channels of the nation of the nati nautical Communication Stations providing 145 radio of the and 532 aeronautical communication channels.

  Cal Communication Stations maintain the Civil Aviation ment is given in Approximately. and 532 aeronautical communication channels.

  Cal Communication Stations maintained by the Civil Aviation ment is given in Appendix II.

The old Non-Directional Beacon equipment at Aurangabad, Mohanbari and Port Blair was replaced by more modern equipment. Installation of low tion of low Power Non-Directional MF Beacons at Bellary, Guddapah and Ghazini Power Non-Directional MF Beacons with the Z. and Chaziabad was completed. The SRA Radio Range with the Z. Marker at D. Locator Beacon. Marker at Bombay was withdrawn and replaced by a Locator Beacon.

Installation Installation of the Very High Frequency Omnidirectional Radio Range Completed Completed Property Completed P Was completed at Lucknow and Belgaum. Installation of the Very High Frequency D. Completed at Belgaum. Frequency Directional Finders type AD-200 was completed at Belgaum and Ahmedal type AD-200 was completed at Belgaum type Decca 424 was install the Ahmedal type AD-200 was completed at Belgaum. and Ahmedabad. The Airfield Control Radar type Decca 424 was installed at Mad. talled at Madras Airport. The Airport Surveillance Radar (ASR-3) at transport was well as the surveillance Radar (ASR-3) at transport was well as the surveillance Radar (ASR-3) at transport was transported by the surveillance Radar (ASR-3) at transport was transported by the surveillance Radar (ASR-3) at transport was transported by the surveillance Radar (ASR-3) at transported Rombay was modified for circular polarisation to enable aircraft being tracked with tracked with ease during conditions of heavy precipitation. Instrument marker and the MF Locator which are part of the Standard Instruments Inc.

Inc.

The other components of the Inc. Landing System were installed at Nagpur. The other Components of the RDARA fre-Instrument Landing System are under installation.

Reco On 8020 Regumpet, Russian Research to the needs of domestic light. Russian Regumpet, Russian R Regumpet, Bangalore and Trivandrum to cater to the needs of domestic at N. The A.: llights. The Air/Ground VHF R/T facility on 118.1 Mc/s was introduced of Delhi. The Air/Ground VHF R/T facility on 118.1 Mc/s was introduced of the Air/Ground VHF R/T facility on 118.1 Mc/s at Delhi. The Air/Ground VHF R/T facility on 119.3 Mc/s was introduced at Passing at Passing P duced at Passighat. The Radio Teletype circuit between W/T circuit.

Altrachi was been depended on the Radio Teletype circuit between Manual W/T circuit. Rarachi was brought into operation to replace the Manual Simplex circuit between the equip. between Bombay and Beirut by a Radio Teletype Madurai has joined the has been in progress.

Madurai has joined Madurai has Join ment has been installed and tests are in progress.

The equation of the point-to-point and tests are in progress.

The equation of the existing was circuit. The equation of the point-to-point and tests are in progress.

The equation of the existing was circuit. The equation of the existing was proposed and the existing was proposed an the has been installed and tests are in progress. Madurai has June line Point-to-point fixed circuit as an additional correspondent. Safdar in pl. Peleprinter. line Point-to-point fixed circuit as an additional correspondent. A handling Teleprinter circuit was introduced between Bombay and Ahmedabad place of the Teleprinter circuit was introduced between leg of the Te in Teleprinter circuit as an additional control and Ahmeuta Safdar.

Jung Landline Telex circuit.

The receive leg of the Telex circuit.

The receive leg of the Aeronautical 108h place of the Telex circuit. The receive leg of the Palam so that messages for Palam exceived. A new Aeronautical logical munical Palam exceived. A new Aeronautical logical munical Palam exceived. Sages Landline Teleprinter circuit was extended to Palam so that communication Station

November 1 of the Telex circuit. The receive leg of Palam so that company to the Palam so that company the Palam so the Palam so that company the Palam so the Palam munication Station was established at Panagarh with effect during the was class clas November, 1962 and the Aeronautical Communication Stations in the emergent down Wember, 1962 and the Aeronautical Communication Force during the emergency, the account of assist the Indian Air Stations in the Assaum, t emergency, the aeronautical communication facilities at Stations in the Nuous L and area area. Assam area and at other locations were put into operation to the Indian basis. All nuous basis. All other assistance was also given to augment the au

AIRCRAFT

and overand overall of aircraft at maintenance to ensure
airwon.

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and overto ensure
to ens AIRCRAFT

haul of twenty four hour supervision on the maintenance and ensure.

the of aircraft at major aerodromes was continued in order operations.

During it worthiness of aircraft at major aerodromes was promote the safety 1963, 11 was promote the safety of aircraft was aircraft at major aerodromes promote the safety of aircraft was aircraft at major aerodromes promote the safety of aircraft was aircraft at major aerodromes promote the safety of aircraft was aircraft at major aerodromes promote the safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft are safety of aircraft at major aerodromes promote the safety of aircraft are safety of aircraft at major aerodromes are safety of aircraft at a the aircraft at major aerodromes was continued in of operations.

During the period formula aircraft and to promote the safety light aircraft are safety light aircraft and to promote the safety light aircraft are safety light aircraft and to promote the safety light aircraft are safety light aircraft and to promote the safety light aircraft and to promote the safety light aircraft are safety light aircraft and to promote the safety light aircraft and to promote the safety light aircraft are safety light aircraft and to promote the safety light aircraft and to promote the safety light aircraft and to promote the safety light aircraft and light aircraft are safety light aircraft are safety light aircraft and light aircraft are safety light are safety light aircraft are safety light aircraft are safety light aircraft are safety light are safety lig Of aircraft at major aerodromes was continued in order operations.

During the period from 1st April, 1962 to 30th January, one hum of the period from 1st April, 1962 to ownership cancelled. Wring the period from 1st April, 1962 to was cancelled.

Were registered, the change of ownership and the registered and the registered of 39 aircraft was cancelled. The period from 1st April, 1962 to 30th January, aircraft hung.

Were registered, the change of ownership and the registration of 38 aircraft was cancelled.

dred and eighty six aircrast were inspected for issue or renewal of oertificates of Aircrast. ficates of Airworthiness of which 8 aircraft were of foreign nationality.

tration and 209 aircraft held current Certificates of Airworthiness on January, 1968 January, 1963.

26. Aircrast Maintenance Engineers. During the period from 1st ril, 1962 to 2001. April, 1962 to 30th January, 1963, 14 fresh Aircraft Maintenance Engineers Licences was neers Licences were issued and 218 A.M.E.S. Licences were extended. The total number of The total number of Aircraft Maintenance Engineers' Licences on 30th January 1000 on 30th January, 1963 was 1201.

27. Flying Clubs.—At the end of January, 1963 there were Bombay, and Flying Clubs in 1-3. dised Flying Clubs.—At the end of January, 1963 there were Bombay, dised Flying Clubs in India with their headquarters at Delhi, Jaipur, Madras, Calcutta Pares. Madras, Calcutta, Patna, Bhubaneswar, Nagpur, Jullundur, Indore Lucknow (with Branch. Lucknow (with Branches at Allahabad, Kanpur and Varanasi), (with a Resource (with Branches at Allahabad, Kanpur and Varanasi), including the was in the way of the trivandrum and Barotte. Trivandrum and Barotte. Trivandrum and Baroda. An expenditure of Rs. 21,42,389/ 1961.62. curred on the payment of subsidies to the Flying Clubs during the 218 'A' and 9 'B' pilots were trained at the various Flying Clubs during the period from 1st Ianuar 1902. the period from 1st January, 1962 to 31st December, 1962.

In order to promote airmindedness among the youth of the country.

Government of India const. the Government of India sanctioned during 1962-63, 60 scholarships for the free flying training at the Florida

Zo. Gliding Centres/Clubs.—The Government Gliding New Poona, Allahabad and Bangalore, and the Delhi Gliding Club, rearly and the Birla Gliding Club Diller Continued to provide continued to prearly necessary training. and the Birla Gliding Club, Pilani (Rajasthan) continued were poons, loos there were poons, loos the poons and loos there were poons, loos there were poons, loo necessary training facilities. On 31st December, 1962, Centres at New Allahabad and Continued were nearly continued were propagations of there at propagations of the state of the s Allahabad and Bangalore, and the two subsidised Gliding Clubs and Delhi and Pilani. An expenditure of Delhi and Pilani. An expenditure of Delhi and Pilani. December: A property of the two subsidies and the two subsidies of the t Demi and Pilani. An expenditure of Rs. 52,037/- was incurred Clubs.

1961-62 on payment of subsidies and subvention to the two ment.

The running expenditure incurred.

Centres during 10 Centres during 1961-62 was of the order of Rs. 1,50,159/-

Grants-in-aid of Rs. 7,000/- and Rs. 5,000/- were given respectiving the order of India Limited during the variation of the desired der the auspice. Grants-in-aid of Rs. 7,000/- and Rs. 5,000/- were given respectively. Club of India Limited during the years 1961-62 and 1962-63 the Under the auspices of the Aero Club of Gliding Club. Under the auspices of the Aero Club of India a conference of 1962.

and Gliding Clubs was held on the 1962. and Gliding Clubs was held on the 12th and 13th December.

A grant of Re association of the property of the pr A grant of Rs. 80,000/- was sanctioned to the Aeronautical New Construction of an Administrative Ricch of the building in New Construction of an Administrative Ricch of the building in New Construction of an Administrative Ricch of the building in New Construction of an Administrative Ricch of the building in New Construction of the Administrative Ricch of the building in New Construction of the Administrative Ricch of the building in New Construction of the Administrative Ricch of the building in New Construction of the Administrative Ricch of the Building in New Construction of the Administrative Ricch of the Building in New Construction of the Administrative Ricch of the Building in New Construction of the Administrative Ricch of the Administrat

A grant of Rs. 80,000/- was sanctioned to the Aeronautical New Delhi eonstruction of an Administrative Block of its building in

The All-India Acromodellers' Association, Calcutta were also given Brants-in-aid of Rs. 2,000/- and Rs. 1,000/- during the years 1961-62, and 1962-63 respectively.

A Committee was appointed in May, 1962 under the Chairmanship of G. Naraway and Subvention Shri G. Narayanaswamy to review the Scheme of Subsidy and Subvention to Flying C. to Flying Clubs and Gliding Clubs. The Committee submitted its report to the Gaussian Gliding Clubs. to the Government on the 14th January, 1963 which is under considera-

29. Civil Aviation Training Gentre, Allahabad.—The Civil Aviation aining Con-Training Centre, Allahabad comprising of Flying, Aerodrome and Communication Science Allahabad comprising of werhaul organisation, continuous contraction Science and overhaul organisation, continuous contraction Science and overhaul organisation, continuous contraction Science and overhaul organisation, contraction Science and overhaul organisation, contraction Science and overhaultened and comprising of the contraction of the munication Schools, with an allied repair and overhaul organisation, School tinued to provide the control of the Engineering School of the Engineeri tinued to provide efficient training facilities.

The Flying School is being that the Centre at the Centre was closed from 1st May, 1962. The Flying School is being handed over to the contract of the con handed over to the Ministry of Defence.

During the period from 1st January to 31st December, 1962, 14 trainess completed the Accordance to 1962, 12 trainess completed the Accordance to 1962, Completed the Aerodrome Operators' ab initio Course, 1962; 12 trainees completed the Aerodrome Operators' ab initio Course, 12 trainees Crash Fire Rescue Con. pleted the Aerodrome Operators' ab initio Course, 12 trainees Course of the Airways Course, 13 trainees completed the Crash Fire Rescut Course and 44 m. Course and 44 Fire personnel underwent Refresher Course, at the Radio Radio School drome School. At the Communication School, 18 trainees completed the Radio Operator. Radio Operators Refresher Course, 34 trainees completed the Radio Technicians Advanced Refresher Course, 34 trainees completed the Radio Technicians Advanced Refresher Course, 28 trainees completed the Radio Technicians Course, 29 trainees completed the Radio Communication Radio Technicians Specialist Course and 24 trainees completed the Radio Assist.

Refresher Course, 34 trainees completed the Radio Communication Communication Course and Course Technicians Specialist Course and 24 trainees completed the Rause Assistants and 10 Tele-type Specialist Course and Refresher Course and Refresher Course and Tele-type Specialist Course Refresher Course for Schedul. Assistants and 10 Teleprinter operators underwent two Nepa-7 trainees completed the Radio Technicians ab initio Course two Nepa-lesse per Course operators underwent Refresher for Schedul.

10 Teleprinter operators underwent Refresher for Schedul.

11 trainees including two Nepa-lesse per Course operators ab initio Course. ed Caste/Tribe. At the Flying School, 17 trainees including lese nationals completed the Radio Technicians ab initio Course. lese Caste/Tribe. At the Flying School, 17 trainees including Course.

At the Commercial pilots Licence Course.

At the end of December, 1962, there were 59 training in different clivil Aviation Townson Countries and one Ceylor undergoing training in the rolls of training in different training in different training in training in and one Ceylor undergoing training in the rolls of the countries of the coun Civil Aviation Training Centre, undergoing training and one Ceylor Nese. This number included six Nepalese nationals, and Rules, 1987  $n_{686}$ 

30. Indian Aircraft Rules, 1937.—The Indian Aircraft Rules, Indian to personnel licensing in Personnel line with the wind to bring the state of the personnel to Were revised to bring the rules pertaining to personnel licensine.

Rules, 1944

Rules, 1945

Indian Aircraft Rules, 1937.—The Indian Aircraft in Indian Aircraft Rules, 1937.—The personnel licensing in Indian Aircraft Rules, 1945.

Licensine With the minimal and prescribed and Aviation. in line with the minimum standards prescribed in Aviation.

International Civil Aviation.

International Civil Aviation.

International Civil Aviation. line with the minimum standards prescribed in Aviation.

Sh. 31. b

31. Research and Development.—Design of the sign in the final April, locality completed and the Great prototype made in the final level protot 31. Research and Development.—Design of made is in the final phane is in the first prototype is in the single phane is in the first prototype is in the first phane is in the first prototype. Research and Development.—Design of the maiden test sail performance in April, 1962. The design of the first prototype is in the first prototype is Design of the final April, 1962. The design of the first prototype 'Kartik' has been completed and the first prototype and the first prototype is in the final prototype is in the final prototype is in the final prototype is in the first prototype is in the final prototype in the final prototype is in the final prototype is in the final prototype in the final prototype is in the final prototype in the final prototype is in the final prototype in the final prototype is in the final prototype in the final prototype in the final prototype is in the final prototype in the

stage of assembly. The third prototype Rohini glider incorporating certain interpretated and certain improvements and modifications was successfully completed and test-flown in N test-flown in November, 1962. Procedure of issue of Type Certificale for Civil Aircraft for Civil Aircraft' was prepared to serve as a guide to designers manufacturers in a manufacturers in the country. Detailed technical studies of particulars and BAC-111 and DH-121 were made. Work has been undertaken of design and construction design and construction of Low-speed wind tunnel for testing of glider and light aircraft .... and light aircraft models. Development tests on aircraft quality materials like steel materials. rials like steel, tubes, wood, plywood, glue, inclinometers, passenger seals etc. were underraken etc. were undertaken to determine their suitability for aeronautical purposes.

32. India-Italy Air Services Agreement.—An agreement between to air services vernment of India and the control of the services agreement. Government of India and the Government of Italy, relating to March which was signed at Roma. which was signed at Rome on July 16, 1959, came into force on between 1962, as a result of the Evolution of was signed at Rome on July 16, 1959, came into force on between 1962, as a result of the Exchange of Instruments of Ratification Giusti de Shri M. M. Philip, Communication Giardine Shri M. M. Philip, Communications Secretary, and Dr. Justo Giardino, the Italian Ambassarian in the State of the Italian Ambassarian in the Italian Italian Ambassarian in the Italian Italian Italian Italian Ita

33. India-U.A.R. Air Talks.—Discussions between the Arab Republications of India .... the Government of India and the Government of United Arab 12.106 were held in New Delhi from 25.10.00 were held in New Delhi from 26-3-62 to 31-3-62 and in Cairo from to 25-10-62.

The two delegations exchanged views on problems of mutual interlieur of in the field of air transport and approved the operating plans of through Cairo and of United And delegations of United And delegations of the operating plans o in the field of air transport and approved the operating India. Air services through Cairo and of United Arab Airlines through U.A.R. delegations also agreed to revise the text of the India-U.A.R. Agreement.

34. India-Lebanon Air Tatks.—Negotiations between the were negotiations between the Government of India and the German of Lebanon descriptions. Development the werd were the ment of India and the Government of Lebanon ment letter the state of the Annexe to the Agreement signed on March 13, 1958 and regarding associated therewith as also to review. associated therewith as also to review matters of both countries.

The T The Indian delegation was led by Shri M. M. Philip, Chader, retary and the Lebanese delegation was led by Mr. General of Transport the operation of the services by the airlines of both countries.

The Indian

Secretary and the Lebanese delegation was led by or General of Trans-

# INTERNATIONAL CIVIL AVIATION ORGANISATION.

35. Fourteenth Session of the International Civil Aviation Organisation Assembly and Fourteenth Session of Legal Committee of the International Committee of the national Civil Aviation Organisation.—India was represented at the Four-teenth services of the contraction of Legal Committee of the Fourteenth Session of the International Civil Aviation Organisation Assembly and the E and the Fourteenth Session of the Legal Committee of the International Civil Aviation Organisation of the Internation of the Internatio Civil Aviation Organisation held in Rome in August-September, 1982.

The Indian of the Legal Committee of the International Property Ministration Committee of the International Property of the International The Indian delegation was led by Shri Ahmed Mohiuddin, Deputy Minister in the land and included Shri ter in the Ministry of Transport & Communications and included Shri R. N. Kart. R. N. Kathju, Director General of Civil Aviation, Shri B. S. Gidwani, Director of D. Director of Regulations and Information, Civil Aviation Department and Shri S. C. D. Council of the Interna-Shri S. C. Bose, Representative of India on the Council of the International Civil Aviation Organisation.

At the Assembly Session India was re-elected as a member of the uncil of Council of the International Civil Aviation Organisation. India has been a month been a member of the Council of the International Civil Aviation Organisation of the Council of the International Civil Aviation Organisation Since nisation since its inception.

DEPUTATIONS

36. The services of Shri R. Prasada, Senior Aircraft Inspector, were Senior Aircraft Inspector, were Aircraft Inspector, were Senior Aircraft Inspector Aircraft placed at the disposal of the International Civil Aviation Organisation, with effect for with effect from the 2nd January, 1962, for appointment as Mechanic Increase. Mechanic Inspector at the Engineering Institute at Cairo.

The deputation with ICAO of Shri N.V.S. Iyengar, Controller of the lst nication was and the later of the late The deputation with ICAO of Shri N.V.S. Iyengar, Controller of the lst July, 1962, for July, 1962, for employment as Communication was extended upto the 3, Shri S N Property of Shr that of Shri S. N. Bahl, Controller of Communication was extended upto the 31st December 21 December 22 December 23 December 23 December 24 December 25 December 25 December 25 December 26 December 26 December 26 December 26 December 26 December 27 December 2 the 31st December, 1962 for continued appointment as Radio Organisation's Technical Assim Instructor with the International Civil Aviation Organisation's Trans-

The services of Shri Santokh Singh, Officiating Director of Air Transtt, were placed as the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Punjab for appoint the services of Shri Santokh Singh, Covernment of Shri Santokh Singh Shri Santokh Singh Shri Santokh S The services of Shri Santokh Singh, Officiating Director of Air Transport, were placed at the disposal of the Government of Punjab for appointment as Aviation Air Transport of Punjab for appointment of Punjab for appointment as Aviation Air Transport of Air Transport of Punjab for appointment of Punjab for appointment of the Government of the Governmen ment as Aviation Adviser for a period of one year with effect from the February. 1969

rebruary, 1962.

7. Assistance to Foreign Countries.—The services Centre, were A. Chief France Vartak, Chief Engineer, Civil Aviation Aircraft further period of Placed. K. Kappan artak, assistance to Foreign Countries.—The services of Allahapaut, were and A. Chief Engineer, Civil Aviation Training Inspectors, were placed at the disposal of S. N. Kohli, Senior Aircraft further period of one year the disposal of the Countries.—The services of Inspectors, were and S. N. Kohli, Senior Aircraft further period of placed at the disposal of the Countries.—The services of Inspectors, were Placed at the disposal of the Government of Iraq for respectively.

Vear with effect for the countries. Training Central Inspectors, were Insp one vear with effect from the 24th February, M. A. H. Senior All John Senior All Land for a further property of the Government of Iraq for a further property of the Iraq for a further property of the Iraq for a further property of Iraq for a further property of the Iraq for a further property of the Iraq for a further property of Iraq further property of Iraq further property of Iraq further property of Iraq further property 38. Training of Officers Abroad. Sarvashri N. Ninan, swiming the Shnaswamy, Assistance Officers, P. N. W. Swiming of Officers Abroad. Rrishnaswamy, Assistant Aerodrome Officer, K. B. Ganesan, Scientific Officer and C. V. Swamman, 1962, resp. 1962, Assistant Aircraft Inspector, were sent on deputation to U.K. for a period of six months for a period Organisa. of six months, for training under International Civil Aviation Organisation's Technical tion's Technical Assistance Programme.

Shri H. B. Singh, Aircraft Inspector, Inspection Office, Nagpur, was laced on demussion. placed on deputation to the United Kingdom for training in "Manufacture, maintenance" inder the facture, maintenance and overhaul of Conway engines.

Colombo Di Colombo Plan, with effect from the 24th September, 1962.

39. During the period from the 1st April, 1962 to the 31st January, 3 there were 13 major. d963 there were 13 major accidents involving 12 Indian registered in and one glider. Two of the state of the and one glider. Two of the Indian registered aircraft were accidents in a foreign accidents in a foreign country. In addition there was one accidents accidents in a foreign country. Indian registered aircraft was one accidents were and involving a foreign registered aircraft. Six of the accidents of the fatal resulting in the death of the sign. fatal resulting in the death of 117 persons (31 members of third party) including 10 members of aircraft. including 10 members of ejection party; 85 passengers and 1 third party).

In addition, one Indian registered aircraft was also involved in incident which is being incident which is being incident. addition, one Indian registered aircraft was also involved affire incident which is being investigated by a Committee of Inquiry appointed by the Government

Eight airmiss incidents involving civil and I.A.F. aircraft were 1963.

during the period from let A-12 1963. ed during the period from 1st April, 1962 to the 31st January,

Three of

Three of the Indian registered aircraft involved in major accidend re engaged on scheduled passance aircraft was and on non-school. were engaged on scheduled passenger services, one aircraft were engaged in on non-scheduled passenger services. non-scheduled passenger services, one aircraft was ged in engaged in engaged in engaged in engaged on non-scheduled passenger service and five aircraft were involved on non-scheduled freighter services. Of the remaining aircraft and one was major accidents, two were engaged miscellaneous of on non-scheduled passenger services, one aircraft was end on non-scheduled passenger service and five aircraft involved involved non-scheduled freighter service and five aircraft was end of the scheduled freighter services. miscellaneous flight. The only Glider involved in engaged on instructional fights accident miscellaneous flight. The only Glider involved in engaged on instructional flight. The foreign registered aircraft ed in major accident was engaged on instructional flight. mgaged on instructional flight. The foreign registered aircraft aircraft cd in major accident was engaged on international scheduled passenged service.

Eight accidents to the Indian registered aircraft were aircraft is being partmentally. The accident to the form Eight accidents to the Indian registered aircraft were investigated departmentally. The accident to the foreign registered by the investigated by a Court of Inquire. investigated by a Court of Inquiry appointed by India. The remaining accidents are investigation. India. The remaining accidents are under investigation

A Dakota aircraft VT-AYG, belonging to Darbhanga (E. ohter son) miles north of Talanda village in Raishahi Dist. (E. ohter son) the four

A Dakota aircraft VT-AYG, belonging to Darbhanga (E. Pakis service)

Mili miles north of Talanda village in Rajshahi Dist. freight destroyed at the 24th May, 1962, while engaged on a possible destroyed at the four persons. Aviation to pakistervied pakistervied and the aircraft was destroyed.

Aviation to pakistervied pakistervied to pakistervied to pakistervied to pakistervied to pakistervied the 24th May, 1962, while engaged in Rajshahi Distr. freighter was destroyed the 24th May, 1962, while engaged on a non-scheduled fire by impact and fire All the four persons on board were killed and the aircraft was destroyed.

All the four persons on board were killed and the aircraft was destroyed.

Fatal accident to Alitalia DC-8 aircraft I-DIWD took place about 25 les west at miles west of Junnar on Poona-Nasik Road on a hill on the night of 6th/
7th July 10000 7th July, 1962. The aircraft was on its way from Bangkok to Bombay, All the 85 All the 85 passengers and 9 members of the crew on board were killed and the and the aircrast was completely destroyed,

A Dakota aircraft VT-AUS belonging to the Indian Airlines Corporan, was his belonging to the Indian Lahore while tion, was hit by a bird approximately 30 to 40 miles from Lahore while operating a function. operating a freighter service from Kabul to Amritsar on the 15th July, 1962. The Communication operation of the 15th July, 1962. The Co-pilot was seriously injured and later died in Hospital.

A Dakota aircraft VT-DFZ operated by the Kalinga Airlines crashed one mile No. about one mile North of Loheshyphu Dropping Zone (Naga dropping the 16th Intra 1992) the 16th July, 1962. The aircraft was engaged in supply operations. operations. All the persons on board viz., 3 members of crew, 5 members of the cice. bers of the ejection party and one Supply Inspector, were killed. The aircraft was down

An Auster aircraft VT-CLO, belonging to and operated by Aviation Nainital, aircraft was destroyed by impact and fire, An Auster aircraft VT-CLO, belonging to and operated by Nainital, Services crashed on the 10th August, 1962, near Bazpur, Distr. Nainital, near Bazpur, Distr. Nainital, The Pilot, who was the sole while engaged in crop-spraying operations.

Occupant, was 1.217

was killed.

A Dakota aircraft VT-DGX operated by Kalinga Airlines and engage on NEFA area on supply draw. ed in supply dropping operations crashed at Sela Pass in NEFA area on the 21st September 1000 to the crew.

Airlines and supply dropping operated by Kalinga Airlines and supply dropping operations crashed at Sela Pass in NEFA area on the 21st September 1000 to the aircraft was crew. the 21st September, 1962. All the persons on board was comed and 5 members was comed at Sela Pass in NEFA area of the 21st September, 1962. All the persons on board was comed at Sela Pass in NEFA area of the 21st September, 1962. All the persons on board was comed at Sela Pass in NEFA area of the 21st September, 1962. All the persons on board was comed at Sela Pass in NEFA area of the 21st September, 1962. All the persons on board was comed and the aircraft was comed and 5 members of the 21st September, 1962. crew and 5 members of ejection party were killed and the aircraft was completely destroyed completely destroyed.

# SECTION III

# AIR CORPORATIONS

40. Financial Results.—The year 1961-62 ended with a net surplus of the 38.86 lakhs. According to the Rudget Estimates for On the basis Porat: Rs. 40. Financial Results.—The year 1961-62 ended with a 1962-63, the Corporation expected to make a profit of Rs. 54.00 lakhs. According to the Budget 54.00 lakhs. According to the Budget sprofit of Rs. 54.00 lakhs. Corporation expected to make a profit of Rs. 54.00 lakes. According to the provisional formula and expenditure and expenditure for the provisional formula for revenue and expenditure. of the provisional figures of revenue and expenditure the first seven months (Amil October, the the first seven months (April—October, the profit estimated for the year is likely to be more.

1962)

10. Cabitar months (April—October, likely to be more.

The profit estimated for the year is likely to be more.

The profit estimated for the year is likely to be more.

The profit estimates in the capital provided by year is likely to be more.

The profit estimates in the capital provided by year is likely to be more.

The profit estimates in the capital provided by year is likely to be more.

The profit estimated for the year is likely to be more.

The profit estimated for the year is likely to be more.

The profit estimated for the year is likely to be more.

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The profit estimated for the year is likely to be more.

The profit estimated for the year is likely to be more.

The profit estimates is likely to b

Profit estimated for the year is likely to be a governed by Governed to Revised for the year is likely to be a governed to Revised for the year is likely to be a governed to Revised for the year is likely to be a government financial provided by gear and the Revised Estimates.

In according to Revised for the year is likely to be a government financial provided by gear is likely to be a government financial provided by a provision of Rs. 151.43 lakhs has been made in accordance with the amangement agreed to and 50 per waived by an interpretation of the control of the contr amounted to Rs. 2520.46 lakhs.

In accordance with the arrangement agreed to apital. Payment of interest on the latter however for the current stimates.

For the the Revised 50 per the the Revised 50 per the current stop for the current stop for the current stop per the Revised 50 per the Revised Capital. Payment of interest on the latter however has been waited by the latter how by the latter h

144 M. of T.C.-3.

The total borrowing of the Corporation on account of dollar loans tained from the total borrowing of the Corporation on account of dollar loans. obtained from the World Bank and the 5 U.S. Commercial Banks has amounted to 8 on the amounted to \$ 20:404 million o. Rs. 971:23 lakhs. The Corporation has repaid upon 1 has repaid upto date from its internal resources an aggregate amount of 8.640 million and 5 \* 8.640 million or Rs. 411.27 lakhs against the U.S. Commercial Banks loan. With one first loan. With one further instalment of repayment before the end of the current financial the current financial year, the total repayments will amount to \$ 10.326 million or Rs 401.94 1 11 million or Rs. 491-24 lakhs leaving a balance of \$10.084 million or Rs. 479-99 lakhs.

The Corporation has paid, also from its own resources, as interest lincidental charges and incidental charges, an amount of Rs. 161.76 lakhs in connection with the above lower with the above loans upto 31st March, 1962. The expected payment on this account during a on this account during the current financial year is Rs. 32.57 lakhs. Super-Constellation

super-Constellant fleet.—The transfer of the Super-Constellant fleet and the DC 3 Freighter to the Defence Ministry for use of the Indian Air Force was constalled. Indian Air Force was completed by June, 1962. With the disposal of this piston-engined equipment this piston-engined equipment, the Corporation became the first The jet operator in the world with the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the disposal all the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the disposal all the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the first The jet operator in the world with the corporation became the corporation became the corporation the corporation became the corporation with the corporation became the corporation became the corporation with the corporation became the corporation became the corporation with the corporation became the corporation be jet operator in the world with a fleet of 6 Boeing 707 jet aircraft.

Corporation's proposal Corporation's proposal to go in for an additional Boeing Aircraft at a cost of Re Research Aircraft at a cost of Rs. 5:50 crores has been approved by the Government on the basic than a credity of the cr Government on the basis that the Corporation would secure necessary credits from abroad to finance. credits from abroad to finance the cost of the project.

On 1st December, 1962, one of the Boeing aircraft viz. The mapoorna' was seriously down 'Annapoorna' was seriously damaged as a result of an accidental fire. aircraft is insured against full. aircraft is insured against full risk for Rs. 292.00 lakhs. Its re-insurance has been arranged in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim, it would be paid in such a sum of a claim. has been arranged in such a way that in the event of a Boeing arranged in U.S. dollars. A team of a Company of the Boeing arranged in Such a way that in the event of a Boeing arranged in U.S. dollars. be paid in U.S. dollars. A team of experts from the Boeing it would be paid in U.S. dollars. A team of experts from the Boeing it company surveyed the damaged repairable. paid in U.S. dollars. A team of experts from the Boeing it alter alter alter alter alter and confirmed have will repairable. The Boeing partial arrival. repairable. The Boeing personnel entrusted with this job have will arrived in Bombay and started the back in service. arrived in Bombay and started the repair work, and the aircraft will back in service latest by April 1069 ing to \$ 2 900 back in service latest by April, 1963. The total cost of part will be ing to \$ 2.200 million, of which it is job man, will be service latest by April, 1963. and started the repair work, and the already amount per will be ing to \$ 2.200 million, of which the foreign exchange will be \$ 2.020 million (Rs. 96·15 labber)

Rs. 8·57 labber The total cost of part will will so \$ 2.200 million, of which the foreign exchange expenditure \$ 2.020 million (Rs. 96·15 lakhs) and the rupee company.

Rs. 8·57 lakhs, will be met entired. Rs. 8.57 lakhs, will be met entirely by the Insurance of the Corf.

As a result of the temporary loss of the above aircraft, the changing urranged their schedules but hard the minimum the ing winds rations. There? As a result of the temporary loss of the above aircraft, the changinter re-arranged their schedules but kept to the minimum during coperations. They firstly reduced the form 4 to 3 and form corrections the changes the changes the changes the changes the changes the change of the above aircraft, the change of the chan operations. They firstly reduced the Atlantic frequencies and the for the terminating services and the down the services and the services are services and the services and the services are services and the services and the services are services are services and the services are services are services and the services are services. for the terminating services and thirdly cut down the services and thirdly cut down the last two changes in the services and thirdly cut down the services are services and thirdly cut down times a week. between Bombay and Delhi from daily to 4 times March restored two changes indicated above will continue till 31st Meen since been restored to the times and the two changes indicated above will continue till 31st March restored to the times to the times have been restored to the times and the times are times to the times and the times are times to the times are times to the times are times are times are the times are times ar two changes indicated above will continue till 31st been restored daily frequency of the IAC charter services has since been 1963.

43. Workshop Programme.—The construction of the Jet Engine Ovenhaul shop and the Test House at a cost of approximately Rs. 52:00 lakhs was completed. was completed by October and was formally opened on 12th January, 1963. The 1963. The overhaul work will henceforth be done by the existing formally opened on 12th Jacksting the sexisting of the sexist Engineering staff and this facility is expected to result in a saving of foreign exchange. foreign exchange expenditure of Rs. 25.00 to Rs. 30.00 lakhs per annum.

44. Commercial.—With the introduction of the Boeings on the India stralia route. Australia route effective 7th May, 1962, the service which hitherto was Sir all through Parks and routed throuted through Parks and routed throuted through Parks and routed through Parks and routed through Parks and routed through Parks and routed through Parks and route routed through Madras and Djakarta was re-routed through Bangkok and response on the service which numerous and service which numerous and service which numerous and service which numerous service which numerous and service which numerou Singapore omitting Madras and Djakarta was re-routed through Bangaor is not yet ready for the L. ready for use by large jet aircraft and Boeings could not operate through to a without to a state of the stat Djakarta without an unacceptable loss of pay load. The work relating to lengthening. to lengthening and strengthening of the Madras airport is under prother. Effective of the Madras introduced perth on the Effective of the Madras airport is under prother. gress. Effective October, 1962, the Corporation introduced perth in merely a refuellthe Bombay/Sydney route omitting Darwin which was merely a refuelling station with

The working of the revenue pooling arrangements with BOAC and ntas, Aeroflot are a revenue pooling arrangements the year. ing station without any traffic potential. Qantas, Aeroflot and C.S.A. has been satisfactory during the year.

45. Industrial Relations and Welfare.—The average number of emyees in the Communication was 5877. ployees in the Corporation during the year was 5877.

The relations between the Management and the various intions continued to the management the year. The various settled The relations between the Management and the various important continued to be cordial throughout the year.

The various important continued to be cordial throughout the year.

The various important the various important continued to be cordial throughout the year.

The various important throughout the year. Portant matters raised by the several Unions the year the Management the Management and the various amicably settled to be cordial throughout the year amicably the several Unions were the Management the Management and the various amicably settled the Management and the various amicably settled the Management and the various amicably settled the were the Management and the various amicably settled the various amicable s

The Labour Relations Committee was reconstituted by the Labour lations. between the Management and the respective Unions. The Labour Relations Committee was reconstituted during Labour Relations so far held 3 meetings. Recommendations made holiday homes, the canteen of Committee was reconstituted during Labour Relations made by the homes, holiday homes, the canteen of medical facilities, holiday are in the committee. Relations Committee was reconstituted by the Laurence Relations of far held 3 meetings. Recommendations made by the homes, canteen facilities in the matter of medical facilities for the procanteen facilities for visitors etc. have either been implemented or are in process of implemented.

16. INDIAN AIRLINES

lines Financial Results.—For the third year in succession in the year

log Corporation — Indian

the financial results.—For the third year in succession in the year

log Corporation — Indian

the pear in succession in the year

log Corporation — Indian

the pear in succession in the year

log Corporation — Indian

the pear in succession in the year

log Corporation — Indian

log Corporation — Indian

the pear in succession in the year

log Corporation — Indian

log Corporation — Indian the process of implementation. Airlines Financial Results.—For the third year of Rs. 7.88 lakhs in prices and Corporation made a small profit of Rs. This prof.

This prof.

This prof. INDIAN And in succession the year 1961-62 Corporation made a small profit of Rs. 7.88 lakhs in prices and wages, increase the loss of a visional viscount at the wingles, increase the loss of a visional viscount of the wingles, increase the loss of a visional viscount of the loss of a visional vi and Wages, increase in taxation, the loss of a winter season. and the winter season. This profit was made despite the viscount at the new The wages, increase in taxation, the loss of a ditional viscount at the new the winter season, and the delay in obtaining additional story of the loss of a ditional viscount with the loss of a viscount viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not the loss of a viscount viscounts. It is not viscounts lakhs in 1960-61 while the earnings which in 1961-62. To lakhs rose to R 1700-98 lakhs in 1961-62. season, and the delay in obtaining administration at 1306. 27 lakhs rose to Rs. 1502.35 lakhs in 1961.62. Takhs rose to Rs. 1502.35 lakhs in 1961.62. Orporation have a stored a profit of Rs. 81.07 lakhs. The total capital advanced to the Government stood of Rs. 1961-62. For the properties of Rs. 1961-62. The total capital advanced to the Government stood of Rs. 1961-62. For the properties of Rs. 1961-62. For the properties of Rs. 1961-62. The total capital advanced to the Government stood of Rs. 1961-62. For the properties of Rs. 1961-62. The total capital advanced to the glass of Rs. 1961-62. The total capital advance the Corporation have estimated a profit of Rs. Corporation have estimated a profit of Rs. On glst M. The rose to Rs. 1502.35 lakhs in 1907 lakus. by the street of Rs. 1502.35 lakhs in 1907 lakus. by the corporation have estimated a profit of Rs. Corporation have estimated a profit of the 31st March 1968.

Central Government stood at Rs. 1921.99 lakhs as on 31st March 1968.

In accordance with the arrangement agreed to by Government capital, cent of this is treated cent of this is treated as equity capital and 50 per cent as loan Government of interest. Payment of interest on the latter however has been waived by ment up to 1st Occasional Contractions of the latter however has been waived by ment up to 1st Occasional Contractions of the latter however has been waived by the ment up to 1st Occasional Contractions of the latter however has been waived by the ment up to 1st Occasional Contractions of the latter however has been waived by the latter how by the latter ho ment up to 1st October, 1966.

48. Fleet.—On the 1st April 1962, the Indian Airlines Corporation 1962 it operational fleet of 60 an operational fleet of 69 aircraft, and on the 30th November, 1962 was 66 as detailed believe

was 66 a	s de	taile	d be	low:-					Operational File 1  As on 1-4-1962 30-11-1963 43
									45 5
Dakotas			•	•			•	•	. 5 13
Skymasters	•			•			•	•	. 14 5
Viscounts	•				•		•	•	. 5 66
Friendships			•		•	•	•	•	· 69
			7	TOTAL			•	•	· and

Two of the Skymasters were involved in accidents at been with the Haveri on 3rd and 7th May, 1962 respectively and had since which ten off. Two Dakota aircraft off. Two Dakota aircraft were sold. One of the Viscounts was written met with an accident at Colombon off. Two Dakota aircraft were sold. One of the Viscounts which met with an accident at Colombo on 14th November, 1961 was off.

The Viking aircraft, their engines and spares were disposed by the perons.

up for Rs. 3.00 lakhs. Out of the order. ne Viking aircraft, their engines and spares were by the Herons scrap for Rs. 3.00 lakhs. Out of the 8 Herons purchased by three to as tion in 1955, one had been disposed to their spare. tion in 1955, one had been disposed of in the year 1958 and three to their spare engines and spares were disposed of the year 1958 and three to one their spare engines and spares were disposed by the Herons purchased by the Herons tion in 1955, one had been disposed of in the year 1958 and the year Herons their spare engines and spares were disposed by the Herons purchased by the Herons tion in 1955, one had been disposed of in the year 1958 and the year Herons their spare engines and spares were disposed by the Herons purchased by the Herons tion in 1955, one had been disposed of in the year 1958 and three to one their spare engines and spares were disposed by the Herons purchased by the Hero in 1955, one had been disposed of in the year 1958 and three to one their spare engines and spares were disposed of during the year Herons their spare engines and spares were disposed of during the year Herons their spare engines and spares were disposed of during the remaining the year Herons their spare engines and spare engines. spare engines and spares were disposed of during takes, side parties for a total sum £ 36,000/-. The remaining 9.75 and spare engines and spares have been sold for Rs.

The Corporation had acquired five Friendships in April/May sector see were introduced in the Factors The Corporation had acquired five Friendships in April/May sect these were introduced in the Eastern region and on the regional section these were introduced in the Eastern region and on placed orders of the Calcutta/ Banaras/Delhi. Calcutta/ Banaras/Delhi. The Corporation had placed Three Janutional five Fokker Friendships Air Calcutta/ Banaras/Delhi. Ine Corporation had placed Three January 1961. 1962, 1962, 1963, 1964, 1965, 1963 and February, 1963 and the remaining two mostly mother 1963. These aircraft will be corvice mostly mother 1963. Coast and the Service Delbi March, 1963. These aircraft will be put into service mostly of Delhi-Ahmedal. warch, 1963. These aircraft will be put into service mostly odhpur Coast and the Southern Region and on the Delhi-Jaipur Jodh Delhi-Ahmedabad-Bombay routes

The programme for replacement of Dakotas, which been turbed highly uneconomic has acquired urgency. A provision dium the highly uneconomic has acquired urgency. In the Third Five Year Plan for the purchase of 30 metals of the propagation of the purchase of 30 metals. programme for replacement of Dakotas, which have traffic which been turbed which had size traffic A provision and the mighly uneconomic has acquired urgency. A provision the in the Third Five Year Plan for the purchase of 30 medium the prop aircraft for replacement of Dakotas On a study of the property of the property of Dakotas On a study of the property of the property of Dakotas On a study of the property of the p me for replacement of Dakotas, which is been turbed an economic has acquired urgency. A provision the In the Third Five Year Plan for the purchase of 30 medium the prop aircrast for replacement of Dakotas. growth, the Corporation, however, came to the conclusion that the re-equipment are equipment programme for the trunk routes was much more urgent. The traffic estimates traffic estimates indicated the need for a bigger and faster aircraft available, use on the trunk routes. After studying the various aircraft available, the Corporation the Corporation recommended the purchase of four Caravelles and their ancillary equipments. The proposal is ancillary equipment at a cost of Rs. 9.00 crores. The proposal is under considered. on the trunk routes during the winter of 1962-63, the Corporation made arrangements. arrangements with Air-India to operate a daily Boeing service on the Bombay (2) Bombay/Delhi/Bombay on a charter basis.

49. Route Schedules.—With effect from 1st October, 1962 when the Schedules.—With effect from 1st October, Air Mail Serser Schedules.—With effect from 1st October, he the Winter Schedules.—With effect from 1st October, 1962 Wall Services Was revised was revised was revised with the pattern of Night Air from the the pattern of Night Air from the Night Air vies Schedules.—With effect from 1st of Night Air Man the for was revised. The previous pattern provided for aircraft from the verse main centres. Madras and Calcutta to converse the previous pattern provided for aircraft from the pattern of Night Air Man the pattern of Night Air the pattern provided for aircraft non-verse at Nagram back Nagram and passengers properly the property of mails and passengers properly this Verge at Nagpur and after exchange of mails and passengers proceed to their recommendations. back to their respective bases. From the operational Point of with With Right. Was not a very satisfactory arrangement as a delay on any Nagpur.

Nagpur and after exchange of mails and point of view ard operational point of the outward operational point of view with Nagpur.

Nagpur Nagpur and after exchange of mails and point of view with the operational point of view with the operational point of view with the view was reflected to the point of view and point of view with the operational point of view with the operation with the operation of view with the operation of v flights was reflected on all the services returning from 1st October, Corpo a view to eliminating this defect and to provide additional later operated ly62. Corporation introduced the revised pattern with effect were operated between the capacity and capacity to be two many this defect and to provide additional capacity of the ca logo eliminating this defect and to provide audition list operated logo under which direct Viscount Night Air Mail Services were calcutta/
Madro Bombow Colours Night Air Mail Services which direct Viscount Night Air Mail Services were operated and Calcutta/
Calcutta/Delhi and through between Bombay/Delhi, Bombay/Madras, Was however routed Calcuttal

Nagn: The Deliver of Calcuttal

The Deliver operation with encount with encount with encount with encount with encount with encount of Calcuttal

Madras, Calcutta/Delhi and Calcuttal

Nagn: The Deliver of Calcuttal

Nag Madras. The Delhi/Madras/Delhi Service was however and interoperat. Similari Nagpur.

Nagpur.

Change, through Nagpur change, through Nagpur did not inter-Operated through Nagpur. These services via Nagpur did not inter.

Change loads at the

Due to various factors the revised pattern has been unable to attract herween Delhi and Corporation mbay change loads at that station. Due to various factors the revised pattern has been unable to attach Bombay and Bombay traffic. The night services between Delhi and Corporation between between between Wie how and Madrae to be suspended. Air Mail Services with the suspended between Bombay and Madrae to be suspended. Bombay and Madras had therefore to be suspended.

Nith eff. have now decided to revert to the old pattern of Night Air Mail Services here introduced to revert to the old pattern of here introduced here in the services here in the servic

Effective from 1st February, 1963, a Friendship service has been introced to operate on the part of th Effective from 1st February, 1963, a Friendship service has been must be the service has been must be t with effect from 1st March, 1963. Delhi. Friendships have also been introduced on the following with effect from 10th Indiana.

Friendships have also been in 1963.

With effect from 10th January, 1963.

th new service Delhi/Lucknow/Kanpur/Delhi has were from 1st Value. The Delhi/Chandigarh/Kulu and Delhi/Phoolbagh summer and abort fall guarantee The Delhi/Chandigarh/Kulu and Delhi/Phoolbagh arrangements during summer under short-fall guarantee

the Punjab and Uttar Pradesh Governments respectively. Also a service was introduced house was introduced between Hyderabad and Visakhapatnam via Vijayawads under short-fall amount of the Covernments respectively. Also a vijayawads was introduced between Hyderabad and Visakhapatnam via Vijayawads under short-fall amount of the Covernments respectively. Also a vijayawads under short-fall guarantee arrangements with Andhra Pradesh Government. A newspanier ment. A newspaper special service under a short-fall guarantee arrangement with the tributer of the service under a short-fall guarantee arrangement with the tributer of the service under a short-fall guarantee arrangement with the tributer of the service under a short-fall guarantee arrangement. ment with the 'Hindu' for the carriage of their newspapers was introduced on the Madron D. ed on the Madras/Bangalore/Coimbatore/Madurai route.

50. Traffic Trends.—The traffic has maintained an upward trend as will seen from the following. be seen from the following figures for 1961-62 and 1962-63 (9 months) ending December 1069. ending December, 1962:

11,30,49,520 12,07,91,515 9,27,78,99 8,31,99,107 8,74,24,015 6,47,68,094 1. Capacity tonne-Kilometres produced 2. Total revenue tonne-Kilemetres flewn 7,87,187 36,688 3. No. of Revenue passengers carried Cargo (including excess baggage) carried in 43,157 1436.18 of capacity for 6,107

During the peak periods, there was shortage of capacity be with freighter operations in Eastern India. Aircrast had also to ments a drawn from the freighter pool in C. i. drawn from the freighter pool in Calcutta to meet the requirements freighting between India and Academic Commission of capacity be who seems as the requirements of th Tawn from the freighter pool in Calcutta to meet the requirement freighting between India and Afghanistan, for which there skymaster heavy demand. In addition heavy demand. In addition to a Dakota from Amritsar, to stepling were used between Delhi and Value! were used between Delhi and Kabul as and when available in freight movement between Value of the state of the addition to a Dakota from Amritsar, to stepling to Airling to Airl was unable to provide adequate capacity 'No Objection' in Fastern given to Private operators to operate freighter flights in Fastern and on the India/Afghanistan route

51. Rates & Tarrifs.—The passenger fares were revised during the reliable.

Very tree of the period with the period were revised to the period with the period were revised to the period were revised to the period with the period were revised to the period with the period were revised to the view in the light of the increase in cost of operation as a TATP claim. Indian Airlines joined the Universal Air Travel plan as a TATP claim. Indian Airlines joined the Universal Air Travel Plan as UATP under which scheme Indian Airlines is required to accept cards and issue travel documents against such credit cards. 1 Issue travel documents against such credit cards.

52. Engineering.—The Engineering Workshops continued to autiful the craft and engines of the Corporation anded to provide (

oz. Engineering.—The Engineering Workshops continued during aircraft and engines of the Corporation. Facilities aircraft expanded to provide for the overly year. workshops continued that in the continued of the Corporation. Facilities aircraft expanded to provide for the overhaul of Friendship training train 53. Training.—Eighty engineering personnel were arrangements the works endship airframes and engineering personnel were arrangements the works arrangement to addition, at the works the works are the works.

53. Training.—Eighty engineering personnel were arrangements the Works are arrangements and engines. In addition, made for short term training of a number of engineers at

Amsterdam of the manufacturers of Friendship aircraft. One of the Chief Francisco Chief Engineers was deputed for training in Industrial Management at the Gradue Warvard University the Graduate School of Business Administration, Harvard University under the U.S.I.A.D. Fellowship programme.

Training facilities were provided in the Corporation workshops to students of 80 students from different Technological Institutes in the country. Two Engineers Engineers of M/s. Air Ceylon were given Training on Dakota Aircraft Overhaul Overhaul and repair, maintenance and overhaul of propellers.

A training programme under the National Apprenticeship Scheme has been introduced from January, 1963.

With the acquisition of Friendship aircraft arrangements were made the training of for the training of pilots on Friendships. In order to give synthetic training the Corporation of Friendships. Friendship Type Trainer. ing the Corporation proposes to purchase a Friendship Type Trainer.

To give intensive synthetic training on Viscounts to the pilots a count Type T. Viscount Type Trainer was installed at the training expenses, this the training the training expenses, the training the training expenses. ment, Hyderabad. While cutting down the training expenses, this gene: Trainer at Type Trainer was installed at the training expenses, Emergencies on Vices

54. Industrial Relations & Welfare.—Among the Corporation's welfare ivities are Holist gencies on Viscount type aircraft. activities are Holiday Homes established for its employees and their have a themselves at Museum themselves at Mus families are Holiday Homes established for its employees and Homes have been set up:

Mussoorie, Darjeeling and Matheran.

Charpe and set up: have been set up in pleasant surroundings and are well family per day.

The Court of the court o charge for the occupation of these Homes is Re. 1/- per family per day.

The Corporation 1 The Corporation has a proposal to open an additional Holiday Home.

Adea.

Adequate Medical facilities are provided by the Corporation and edical Officers have Medical Officers have been appointed at all stations of the dispensaries The dispensaries attached to the workshops are open round to the Corputation of the clock.

The The dispensaries attached to the workshops are open round to the clock.

The Corporation propose to construct houses for at least been plans sed at C vear plan. Land has allotted to The Corporation Propose to construct houses for Land has been placed at Calcutta and the Corporation of the Corporation propose to construct houses for Land has been the Calcutta and the Corporation of t chased at Calcutta and Delhi. Thirty acres of land has been got the Corporation at Delhi. The dras negotiations are being with Delhi at Delhi. the Corporation at Delhi. At Madras negotiations with private partice for the construct house. Land has been allotted to the private partice for the construct house. Land has been allotted to the private partice for the private partice particle particl

55. Advisory Committee.—The Advisory Committee of land.

Air Constituted Airlines, constituted by the Central Government under the suggestion for improving the other on the 18th January, and improving the Corporation's services and put into effect. were accepted and put into effect.

the Punjab and Uttar Pradesh Governments respectively.

Also a service
was introduced because the viiavawads was introduced between Hyderabad and Visakhapatnam via Vijayawadu under short-fall ..... under short-fall guarantee arrangements with Andhra Pradesh ment. A newspaper ment. A newspaper special service under a short-fall guarantee arrangement with the 'Hindu' to a short-fall guarantee arrangements with Andhra Pradesh or ment with the 'Hindu' to a short-fall guarantee arrangements with Andhra Pradesh or ment. ment with the 'Hindu' for the carriage of their newspapers was introduced on the Madrae Day. ed on the Madras/Bangalore/Coimbatore/Madurai route.

50. Traffic Trends.—The traffic has maintained an upward trend as will seen from the following. be seen from the following figures for 1961-62 and 1962-63 (9 months) ending December 1969.

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freighter operations in Eastern India. Aircrast had also to be drawn from the freighter periods, there was shortage of caput be in the periods of caput be in the periods of caput be in the periods. Aircraft had also directly been drawn from the freighter pool in Calcutta to meet the requirement of the periods and a caput to the requirement of the periods of the periods and a caput to the periods of the period of the periods of the period of the periods of the period of the periods of the periods of the period of the periods of the period of the periods reighting between India and Afghanistan, for which there skymasuf heavy demand. In addition to the skymasuf heavy demand. In addition to the skymasuf heavy demand. may demand. In addition to a Dakota from Amritsar, to step were used between Delhi and Kabul as and when available indian tes wife freight movement between the was unable to were used between Delhi and Kabul as and when available and where freight movement between the two countries.

was unable to provide adequate containing the containing the countries of the coun was unable to provide adequate capacity 'No Objection' in Fastern and on the Later to the countries of the capacity of the capacity in the capacity of the capacity in the capacity of the capacity in the cap was unable to provide adequate capacity 'No Objection' Fastern given to Private operators to operate freighter flights in Fastern and on the India/Afghanistan route

51. Rates & Tarrifs.—The passenger fares were revised during the start of the period ket trops.

v in the limb view in the light of the increase in cost of operation as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines joined the Universal Air Travel plan as a Indian Airlines plan a Indian Airlines on the state of the increase o indian Airlines joined the Universal Air Travel plan as UATP under which scheme Indian Airlines is required to accept cards and issue travel documents against such credit cards. Indian Airlines is required to accept to accep

oz. Engineering.—The Engineering Workshops continued aircraft and engines of the Corporation. Facilities aircraft expanded to provide for the overland to provide for the aircraft and engines of the Corporation. Friendship training expanded to provide for the overhaul of Friendship training 53. Training—Eighty engineering personnel were arrangement the endship airframes and engineering personnel were arrangement the endship airframes and engineering personnel were arrangement to addition, and the endship airframes and engineering personnel were arrangement to addition, and the engineering personnel were arrangement to addition to a second personnel were arrangement to a second

53. Training.—Eighty engineering personnel were arrangthe Works at the Works and engines. In addition, unade for short term training of a number of engineers

Amsterdam of the manufacturers of Friendship aircraft. One of the Chief Francial Management at Chief Engineers was deputed for training in Industrial Management at the Grad the Graduate School of Business Administration, Harvard University under the U.S.I.A.D. Fellowship programme.

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Type Trainer gives intensive training for Instrument flying and Emer.

gencies on Vice

54. Industrial Relations & Welfare.—Among the Corporation's welfare ivities are Holidare Homes 54. Industrial Relations & Welfare.—Among the Corporation's went their families are Holiday Homes established for its employees and Holiday Homes have a Museum Matheran. The furnished. The families at Mussoorie, Darjeeling and Matheran.

have been set up in the distance of the set and the s have been set up in pleasant surroundings and are well family per day.

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Adea.

Adequate Medical facilities are provided by the Corporation and dical Officers have Adequate Medical facilities are provided by the Corporation.

Medical Officers have been appointed at all stations of the clock.

The dispensaries attacks are provided by the Corporation. The dispensaries attached to the workshops are open round.

The The dispensaries attached to the workshops are open round.

The Corporation propose to construct houses for at least 25 per purity semployees during the Third Fine Year Plan. Land has allotted to the workshops are open at least 25 per purity semployees during the Third Fine Year Plan. The Corporation Propose to construct houses for Land has been got the employees during the Third Five Year of land has been granted the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation Propose to Construct houses for Land has been granted to the Corporation chased at Calcutta and Delhi.

On With the Corporation at Delhi. At Madras negotiations are being with private particular propose to construct Plan. Land has been allotted to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. At Madras negotiations are being capital to the Corporation at Delhi. The Corporation at Delhi capital to the Corporation at Delhi cap On Corporation at Delhi. At Madras negutiand.

With private parties for the purchase of land.

Private parties for the purchase of land.

55. Advisory Committee.—The Advisory Committee section June.

Air C. Covernment under the light land.

Air C. the Air Corporations Act 1953, held two meetings, most to passengers for impressions and the other terms of the Air Corporations and the other terms of the Isola The Advisory under set 15th June.

The Advisory und for improving the Corporation's services and were accepted and proving the Corporation's services and services accepted and proving the Corporation's services accepted accep

56. Technical Assistance. Technical assistance continued to be render; to Irani Assistance. ed to Iraqi Airways by the deputation of engineers, pilots and administrative and 31st March 1962, including the Financial Comptroller of the Corpora-

The Corporation has also extended technical assistance to Nigeria ways. The committee of th Airways. The services of the Corporation's Engineering Manager, were made available to the corporation's Engineering Manager made available to that airline for appointment as General Manager with effect from the Science of the Corporation's Engineering Manager with effect from the Science of the Corporation's Engineering Manager with effect from the Science of the Corporation's Engineering Manager of the Corporation of the Corporat with effect from 1st May 1962. In addition, 10 Pilots and five engineers were deputed to that airline.

57. Budgetary Position in respect of Civil Aviation and Air Corporations.—The table below gives the Budget Estimates for the Year 1962-68 and 1963-64:—

ante 1905-04 ;			
	Budget Estimates, 1962-63 Rs.	Revised Estimates, 1962-63 Rs.	Budget Estimates, 1963-64 Rs.
(i) Air Corporations:			
(a) Indian Airlines:— Purchase of Aircraft Buildings Miscellaneous Item of Capital penditure	. 1,82,50,000 . 63,00,000 Ex- . 18,00,000	2,00,00,000 57,52,000 18,00,000	 28,1 <sup>7,000</sup> 18,00,000
(b) Air-India:—  Purchase of Aircraft  Workshop expansion  (ii) Air Transport Council	. 1,81,78,000 . 15,50,000 . 2,000	1,51,43, <sup>000</sup>  1, <sup>000</sup>	0,000
<ul> <li>(iii) Civil Aviation Department:</li> <li>(a) Capital expenditure (including 'charged' expenditure)</li> <li>(b) Revenue expenditure</li> </ul>	. 3,97,76,000 5 . 5,65,42,000 5		3,59,00,000 5,51,38,000 5,51 at at at

and housing charges, leasing out of hangars, buildings and estimated

Rs 11740 The revenue likely to be derived by Jands and Jands and likely to be derived by Jands and Jands and Civil Aerodromes for the year 1962-63 and 1963-64 is

Rs. 1,17,42,000 and Rs. 1 17 07 000

58. Functions and organisation of the department.—During development department made good progress in implementation of the ment activities both in scientific and the continued to department activities both in scientific and service fields.

As usual of national ment continued to provide weather continued to pr ment made good progress in implementation of the department activities both in scientific and service fields. As usual of national ment continued to provide weather service to a large number

interests, such as civil and military aviation, mercantile and naval shipping.

Ports, again works, railways, Ports, agriculture and community project centres, public works, railways, Posts and Posts and telegraphs, industries, public health and the general public. In addition addition to meteorology and climatology, the scientific activities of the department. department included geophysics and the allied fields of Seismology, Geo-magnatism magnatism, Astrophysics, Astronomy, Atmospheric Electricity and Ionospheric Physics.

The department maintained two central offices, one at Delhi for administrative and technical control and the other at Poona for technical control. The control. The observational network and the provision of meteorological Crees to your services to various interests were in charge of five Regional Meteorological New Delhi. Centres located at Bombay, Calcutta, Madras, Nagpur and New Delhi.

On Service Service Centres are charge of five Regional Meteoroge and New Delhi.

On Service Service Central Weather Service Centra Weather service to various users was also provided by the Central Weather Control of the Central Weather Centr Office at Poona, the Meteorological Offices at Alipore (Calcutta) and Office (Bonda) (Bonda) (Bonda) of Bombay), six Main Meteorological Offices Iocated at the airports Nombay (Calculation) of Bombay), six Main Meteorological Offices located at the Nagour (Sonor Calcutta (Dum Dum), Madras (Meenambakam), Ilare (Sonor The Nagpur (Sonegaon), New Delhi (Safdarjung) and Gauhati (Borjhar) and a Cole number of number of the state of t large number of smaller meteorological offices and observatories and atmain and Alin (Santacruz), Calcutta (Dum Duin), Manual (Borjhar) and Cauhati (Borjhar) and Colaba and Alin (Borjhar) and Colaba and Alin (Borjhar) and Colaba and Alin (Borjhar) and Colaba and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Colaba and Colaba and Cauhati (Borjhar) and Colaba and Colaba and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Colaba and Colaba and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Cauhati (Borjhar) and Colaba and Cauhati (Borjhar) and Cauhati (B Colaba and Alibag Observatories dealt with terrestrial magnetism and majoritic plants. The atmospheric electricity and had two field magnetic observatories. Astromalainagar (Madras) and Trivandrum (Kerala) under its control.

Phys.: Phys.:cal Co Astrophysical Observatory at Kodaikanal continued the study of astronomy and spectroscopy, radio-Physical Observatory at Kodaikanal continued the study of radio-astronomical observatory at Kodaikanal continued the study of radio-magnetic and magnetic and sets of the study of radio-radio-magnetic and sets of the study of radio-the study of radio-radio-magnetic and sets of radio-magnetic and radio-magneti astronomical observations and ionospheric work besides magnetic was the was the was the work observations and ionospheric work observations and ionospheric work besides was the was the was the was the was the work observations and ionospheric work observatory at Shillong was the was th Seismological observations and ionospheric work besides was the co-ordinary and seismological observations. The Seismological observations of data from various seismic static. was the co-ordinating centre for the collection of Meteorological Ephemeris

Calcons in India stations in India. A section of the Regional Of the Indian also issued and N was room. Calcutta, was responsible for the compilation of the Indian and Nautical Alman and Nautical Almanac. The offices at Bombay and Calcutta Analysis try and so for the analysis for the companion of the telegraphic system in the country and the companion of the Indian also issued the signals for the companion of the Indian also issued the signals for the companion of the Indian also issued t time signals for the use of ships at sea, the telegraphic system in the countre of the use of ships at sea, the Northern and of weather data the Dublic of the Dublic of the Northern and the N try and the public. A new unit, the Northern Study of Centre through being was set was Centre, was set up during the year for analysis and study Centre through Delhi-M being received in the Northern Hemisphere Exchange Institute

Tropics, was set up during the year for analysis and study of weather up of the Northern Hemisphere Exchange Institute

Tropics, was set up during the year for analysis and study of weather up of the Northern Hemisphere Exchange Institute

Tropics, was set up during the year for analysis and study of weather up of the Northern Hemisphere Exchange Institute

Tropics, was set up during the year for analysis and study of weather up of the Northern port of the Northern po Delhi-Moscow and Delhi-Tokyo RTT channels, research Meteorola Tropical Meteorology, a Unit which would be started.

No uning the year 101

Tropical Meteorology, a Unit which would be started.

The devoted to the Northern Hemisphere Exchange Institute to the Meteorology devoted to the Northern Hemisphere Exchange Institute to the Meteorology devoted to the Northern Hemisphere Exchange Institute to the Northern Hemisphere Institute to t

59. Observational Organisation.—5 Surface Observational Organisation.—5 Surface of down.—10re.

vin Observational Archiver closed down.—10re. was also established during the year.

59. Observational Organisation.—5 Surface Observatories Radiosonde and the year and 4 observatories were closed down.

Rawin observatories observatories observatories observatories Srinagar and Bangalore. Rawin observatories were started at Srinagar and Bangalore.

The and 4 observatories were closed Bangalore.

The observational organisation at the end of the year (as on 1963) consisted of the contraction of the contraction of the servational organisation at the end of the year (as on 1963).

Surface observatories—443; Hydrometeorological observatories—443;

Pilot Balloon Observatories- 52; Radiosonde observatories-14;

Rawin observatories-14 besides other types of special observatories.

60. Meteorological Service to Aviation.—During the year, several steps were taken for the introduction of chart form of documentation for high level aviation. level aviation as recommended by the International Civil Aviation of starting nisation. For this purpose, preliminary action was taken for starting Extended Analysis Extended Analysis and Prognostic Centres at the Main Meteorological Offices Santacrus and the Main Meteorological Actions and Prognostic Centres at the Main Meteorological Actions and Offices Santacruz and Dum Dum catering to international aviation, memorandum memorandum on "Techniques of High Level Analysis and Prognosis" under preparation under preparation. For improving Met. Services to international aviations the scheme for exchange the scheme for exchange of Upper Air Data was extended to cover nost of the Middle East and all the cover air Data was extended to cover air of the Middle East and all the cover air Data was extended to cover air of the Middle East and all the cover and the cover are covered to the Middle East and all the covered to the Middle East and all the covered to the cover of the Middle East and the Far East. Action was taken for quicker semination of the Indiana. semination of the Indian Met. Data to foreign countries.

At the end of the year, the Meteorological Organisation for aviational and international national and international, consisted of 6 Main Met. Offices 8 Dependent Met. Offices, 17 Supplement Met. Offices, 17 Supplementary Met. Offices and 44 Current Weather Observatories along air remarks and the content of the cont Observatories along air routes. Weather reports and forecasts were broadcast from R.T.F. Volmor Dec. cast from R.T.F. Volmet Broadcast Centre at Calcutta and 35 Aero broadcast stations.

61. Meteorological Service for the Defence Services.—The reciprocal angements under which the Defence Services.—The reciprocal angements of the Defence Services. arrangements under which the Department meets the requirements of the Meteor reports.

Indian Air Force were continued. Indian Air Force were continued as in previous years.

upper air temperature. upper air temperature, pressure and humidity data were supplied fring Army, whenever required for a practice. Army, whenever required for anti-aircraft and special equipment practices.

62. Service to Shipping, Ports and Fishing Crafts.—A scheme for broadting of weather forecasts for soiling the was casting of weather for exacts for sailing and fishing crafts was introduced casting the year. Two routing was and "Special" during the year. Two routine weather bulletins and "extra", disturbed and "Special" weather bulletine and "Special" weather bulletins continued to be issued to ports for being the seas. Warning to ports for being the seas. Warning to ports for being the seas. weather in Indian Seas. Warning messages were continued to Mysofts to ports for hoisting signals and to Till Of Madras, or crafts Kerala and Angle weather in Indian Seas. Warning messages were continued to Mysoft to ports for hoisting signals and to Fishery Officials of Madras, Kerala and Andhra Pradesh States to before they are ports for hoisting signals and to Fishery Officials of Madras, Kerala and Andhra Pradesh States for transmission to small fishing before they are put out to sea

Ships of Indian Voluntary Observing Fleet number 117 were made 1962. "Excellent Awards" in the first of 10 chiral of the first of the first of 10 chiral of the first of the f onips of Indian Voluntary Observing Fleet number 117 at the made of 1962. "Excellent Awards" in the form of Scientific books to officers of 10 ships and 16 ships. to officers of 10 ships and 16 ships were issued certificates of weather

63. Inland

63. Inland warnings.—The issue of warnings for adverse pepariment ued to be one of the principal warnings of the principal lware. o3. Inland warnings.—The issue of warnings for adverse peparials of tinued to be one of the principal responsibilities of the Among the warnees were district and responsibilities. Railways, Telegraph anued to be one of the principal responsibilities of the officials Among the warnees were district and police authorities. Railways, Telegraphs, Public Works among the warnees were district and police authorities Railways, Telegraphs, Public Works, Agriculture, Irrigation,

Central Water and Power Commission, River Valley Projects and several other Commissions. other Government Departments and public organisations.

64. Service to Agriculture and Community Project Centres.—Farmers. Weather Bulletins containing forcasts for the next 36 hours with "further outlook" for outlook" for subsequent 2 days continued to be broadcast in different regional land regional languages. These Bulletins were also published in the daily newspapers newspapers.

About 390 community Project Centres were telegraphically informed important of monsoon rain, heavy rain on important occasions like the first burst of monsoon rain, heavy rain fall, strong with monsoon rain the monsoon rain etc. fall, strong winds cyclonic storms, breaks in the monsoon rain etc. and a close liaison a close liaison was maintained with the Community Development Blocks.

65. Weather Service to the Public.—The issue of All-India Reports ather Reports Weather Service to the Public.—The issue of Weather Reports from Poona and Regional Daily Weather Tel Bombay Co. from Bombay, Calcutta, New Delhi, Nagpur and Madras Weekly Weather Relegraphic supports from Poona and Regional Daily Weather Weekly Telegraphic support Regional Daily Weather Reports from Poona and Regional Daily Weather Weekly Weather The Weekly Weather Regional Daily Weather Regional Daily Weather Reports from Poona and Regional Daily Weather Regional Daily Weat Telegraphic summaries were supplied to subscribers. Annual Summary of Ind:

Reports, the Manual Summary and the Annual Summary of Scheme of Ind: Reports, the Monthly Weather Review and the Modified scheme to Monthly Weather Review and A modified scheme to Monthly Weather Review and A modified scheme to Monthly Weather Review and A modified scheme to Monthly Weather Review and A modified to Monthly Weather Review and A modified scheme to Monthly Weather Review and Monthly Weather Rev India continued to be issued from Poona.

Weather broadcasts

Which Weather broadcasts was introduced from lst July, Weather Warnings Which the main which the main weather bulletins, including special from 24 All India Radio statio. for public services, are broadcast at fixed times from from government stations during the official stations during the mid-day transmissions. Requests for weather forecasts and Calcuttantinform. officials and private Organisations for weather formation were controlled to the control officials and private Organisations for weather formation were controlled to the control of the c omcials and private Organisations for weather forecasts and Calentta, information were catered to. Telephone Weather by which local forecasts Casts Co. and private Organisations for weather service at Calculus

Delhi, Bombay, Madras, Begumpet and Lucknow,

Casts can be obtained casts can be obtained over phone was continued.

Weather bulletins were issued from the Meteorological through darjung Air Port Weather bulletins were issued from the broadcast through All India Radio for the broadcast through India Radio for the b India Radio for the benefit of 9 Himalayan Expeditions at

66. Meteorological Training.—The Training Departmental and to provide to provide to provide to provide to provide to provide to the provide to 66. Meteorological Training.—The Training Section at mental residence to provide training in Meteorology Intermediate their residence course less than the section of the section at poons and provide the section of th Annued to provide training in Meteorology Intermediate their course levels. During the rear of candidates at levels. Training.—The Training to the Department Advances to provide training in Meteorology Intermediate their training course levels. During the year, 94 candidates completed their training training training the year, 94 candidates completed their training trainin rels. During the year, g4 candidates completed their during of candidates completed was started ear.

Training in Radio-sonde/Rawin and radar work were trained during year at New Delhi Three hatches During the year, 94 candidates was started was started was the Training in Radio-sonde/Rawin and radar work during for pilots awing and radar were trained during awing a started was star

Addo-sonde/Rawin and radar work during pilots at New Delhi. Three batches were trained the pilots and Special courses in Meteorology were aircrew of the Indian Airlines Meteorological Offices. A Meteorologist of the Meteorological Offices.

Pilot Balloon Observatories-52; Radiosonde observatories-14;

Rawin observatories-14 besides other types of special observatories.

60. Meteorological Service to Aviation.—During the year, several steps were taken for the introduction of chart form of documentation for high level aviation. level aviation as recommended by the International Civil Aviation of documentation of the International Civil Aviation of the Internationa nisation. For this purpose, preliminary action was taken for starting Extended Analysis and Prognostic Centres at the Main Meteorological Offices Santagement Offices Santacruz and Dum Dum catering to international aviation, memorandum on "T" memorandum on "Techniques of High Level Analysis and Prognosis" is under preparation. under preparation. For improving Met. Services to international aviations the scheme for and of the Middle East and the Far East. Action was taken for quicker semination of the tail. semination of the Indian Met. Data to foreign countries.

At the end of the year, the Meteorological Organisation for aviation, tional and interpolicies. national and international, consisted of 6 Main Met. Offices 8 Dependent Met. Offices. 17 Summer Met. Offices, 17 Supplementary Met. Offices and 41 Current Weather Observatories along air Observatories along air routes. Weather reports and forecasts were broadcast from R.T.F. Volmor Dec. cast from R.T.F. Volmet Broadcast Centre at Calcutta and 35 Aero broadcast stations.

- 61. Meteorological Service for the Defence Services.—The reciprocal angements under which the D arrangements under which the Department meets the requirements reports, Indian Air Force were considerated and the second reports and the requirements of the second reports. Indian Air Force were continued as in previous years. Meteor reports, upper air temperature upper air temperature, pressure and humidity data were supplied for ing Army, whenever required for anti-aircrast and special equipment practices.
- 62. Service to Shipping, Ports and Fishing Crafts.—A scheme for broadting of weather forecasts for and casting of weather forecasts for sailing and fishing crafts was introduced during the year. Two routing and fishing crafts was introduced during the year. during the year. Two routine weather bulletins and "extra", disturbed and "Special" weather bulletine and "Special" weather bulletins continued to be issued to weather in Indian Seas. Warning messages were continued to ports for hoisting signals and to be issued during be issued to ports for hoisting signals and to be issued during be issued to to ports for hoisting signals and to Fishery Officials of Madras, crafts

  Kerala and Andhra Pradech State

  before the Warning messages were continued Mysol Madras, Mysol Madras, or Madras, Officials of Madras, Crafts Kerala and Andhra Pradesh States for transmission to small fishing before they are put out to see

Ships of Indian Voluntary Observing Fleet number 117 at the made 1962. "Excellent Awards" in the following fleet number books were made officers of 10. of 1962. "Excellent Awards" in the form of Scientific books were to officers of 10 ships and 16 ships. to officers of 10 ships and 16 ships were issued certificates of merit.

63. Inland warnings.—The issue of warnings for adverse weather of ued to be one of the principal and the warnings for adverse beginning the warnings for adverse per partials of the principal and the warnings for adverse per partials of the per pa os. Inland warnings.—The issue of warnings for adverse weather of tinued to be one of the principal responsibilities of the officials Among the warnees were district and risheries and officials Railways, Telegraphy. Among the warnees were district and police authorities and Fisheries Railways, Telegraphs, Public Works among the warnees were district and police authorities and Fisheries.

Railways, Telegraphs, Public Works, Agriculture, Irrigation,

Central Water and Power Commission, River Valley Projects and severaling Other Government of the Commission of the Commi other Government Departments and public organisations.

64. Service to Agriculture and Community Project Centres. Farmers, ather Bulle. Weather Bulletins containing forcasts for the next 36 hours with "further outlook" for outlook" for subsequent 2 days continued to be broadcast in different periodic land. regional languages. These Bulletins were also published in the daily newspapers newspapers.

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a close liaison a close liaison was maintained with the Community Development Blocks.

65. Weather Service to the Public.—The issue of Weather Reports

ather Reports for the Public.—The parional Daily Weather Reports

The property of the Public.—The issue of Weather Reports

The property of the Public.—The issue of Weather Reports

The property of the Public.—The issue of Weather Reports

The property of the Public.—The issue of Weather Reports

The property of the Public Public Property of the Weather Service to the Public.—The issue of Weather Reports from Bombay Co. from Bombay, Calcutta, New Delhi, Nagpur and Madras Weekly Weather Reports from Poona and Regional Daily were continued.

Telegraphic summary for Reports from Poona and Regional Madras were continued. Telegraphic summaries were supplied to subscribers.

Reports, the Market New Delhi, Parism and the Annual Summary for India. Reports, the Monthly Weather Review and the Monthly Weather Re India continued to be issued from Poona.

Weather broadcasts was introduced from Ist July, Weather Radio Special Weather Radio Special Radio S which the main weather bulletins, including from Public services

Which the main weather bulletins, including from Government Government Grand times from Government for public services, are broadcast at fixed times from services and weather officials.

Warning Warning Warning From 1st July, Weather Warning Radio Special 24 All India Radio Requests from 24 All India Radio Requests from Government Stations during the services are broadcast at fixed times from Requests and weather officials. stations during the mid-day transmissions.

Officials and Drivets of the station officials and private Organisations for weather Service at local fore Delhi De information were catered to. Telephone Delhi, Bombay Male Droaucast at the Requests and Galentes, weather forecasts and Calentes, weather forecasts and Calentes, weather forecasts and Calentes, weather forecasts and Calentes, and Lucknow, by which local forecasts of the casts o Delhi, Bombay, Madras, Begumpet and Lucknow, by which local casts can be obtained.

Weather bulletins were issued from the Meteorological through all darjung Air Port Weather bulletins were issued from the broadcast through India Radio for the broadcast of a Himalayan Expeditions. India Radio for the benefit of 9 Himalayan Expeditions at

66. Meteorological Training.—The Training Departmental candidates at Elementary, Interned their course level. 66. Meteorological Training. The Training Section at mental and to provide to Meteorological Training.—The Training beat the diate their scourse levels. During the mean of the mean Training to provide training in Meteorology Intermediate their training course levels. During the year,

Training to pepartmund Advances

Training the Training to the mediate their training to the mediate their training to the completed their training to the mediate their training training to the mediate their training traini -vels. During the year,

Training in Radio-sonde/Rawin and radar work during the year at New Delhi

Three hatches Training in Radio-sonde/Rawin and radar work during pilots

the Year at New Delhi. Three batches were trained during minuted by the specific policy of the specific pilots.

. Kadio-sonde/Rawin and radar work duning pilots at New Delhi. Three batches were trained wain continued and aircrew of the Indian Airlines Corporation deposits of the Meteorological Offices. A Meteorologist of the Meteorological Offices.

to be posted as Instructor in Meteorology at the Civil Aviation Training Centre, Bamrauli,

Examinations in Meteorology for New Aircrew Licences were introduced in September, 1962. 8 examinations for various licences were conducted during the period and 80 candidates appeared at these examinations minations.

67. Meteorological Telecommunications. The Sub-continental broadcasts from New Delhi were radiated on high power transmitters by Morse and Radio teletype. Trial transmission of weather charts by facsimile was commenced on a routine basis from November, 1962.

Three charts Three charts were transmitted daily, viz. two analysed upper air charts for 00 CMT and for 00 GMT and one prognostic chart valid for the next 24 in the These charts were intercepted by all main meteorological offices in the country country.

To ensure saisfactory reception of basic data by forecasting offices.

Assam a school of the said and and and are school of the said are school in Assam, a scheme for utilising the Civil Aviation Department, and Posts and Telegraphy Posts Posts and Telegraphs R.T.T. channels in Assam has been approved for early implementation early implementation.

68. Hydrometeorology.—Service in the field of hydrometeorology the idered to the Central W rendered to the Central Water and Power Commission and projection of projections and projection of the commission engineers connected with various river valley and flood control projects.

Hydrometeorological units Hydrometeorological units continued to work for this purpose at New Delhi, Poona and Calautte Delhi, Poona and Calcutta. Monthly rainfall data of some 104 hydrometeorological observatoria. meteorological observatories in Nepal for the period 1957-61 supplied to the Sala D supplied to the Sub-Regional Office, Food and Agriculture Organisation of the United Nations N of the United Nations, New Delhi, for use by their Survey Water stationed in Nepal. Under all stationed in Nepal. Under the provision of article VI(2) of Indus periods

Treaty, 1960, rainfall aggressive. Treaty, 1960, rainfall associated weather conditions and storm periods from 1893 to 1929 in respect of the storm of the storm periods from 1893 to 1929 in respect of the storm of the stor from 1893 to 1929 in respect of 10 stations now in Pakistan, were supplied to the Government of Pakistan to the Government of Pakistan, through the Ministry of Irrigation and Power.

69. Agricultural Meteorology.—The collection and study of the ather data on paddy where weather data on paddy, wheat, jowar, cotton and sugar-cane under the All-India Co-ordinated Cropment All-India Co-ordinated Crop-weather Scheme was continued.

The number of crop-weather stations was 57 during the year. es these, agricultural sides these, agricultural meteorological stations for meeting the specifications for meeting the specific interest. stations for meeting the specific needs of the local agricultural and interests including Soil Conservations observations on incidence of pests and diseases were recorded on one 300 work of about 120 stations and -1 work of about 120 stations and phenological observations at about more of four trees (viz. mange needs). of about 120 stations and phenological observations at about more of four trees (viz. mango, neem, tamarind and babul) at about

stations. A revised edition of the pamphlet, "Weather and the Indian Farmer" and the Indian World. Farmer" which was brought out on the occasion of the Second World Meteorological and the second world distributed to various. Meteorological Day on 23rd March 1962, was distributed to various agricultural. agricultural and allied interests. The Crop-Weather Diagrams for the year 1957.50 year 1957-58 were printed and distributed to the various agricultural interests and all interests and the preparation of the diagrams for subsequent years was on hand. What on hand. Work was in progress on the following two schemes sanctioned.

Fig. Devol.... under Developments in Agricultural Meteorology during the Third. Five-Year Plan:-

- (i) Preparation of Agroclimatic Atlas of India

70. Seismology.—The Central Seismological Observatory from data and eine de the many continued the work of determination of earthquake epicentres from data received from Levi Coner construction of special types of Seismographs was done as usual at the Shills workshope local workshops. Seven persons were trained in Seismology and Shillong, during all gical was shifted Shillong, during the year. The scrutiny and compilation was shifted to H of the scruting and complete the scruting and compilation was shifted to H of the scruting and compilation was shifted to the scrut gical data and issuing of the monthly Seismological bulletin was shifted to H.Q. Office from O. W.

In connection with the determination of ground coefficient for the struction of Bene Dated by Director, in September, In connection with the determination of ground coefficient for participated in the owner.

In connection with the determination of ground coefficient for participated at the Dam site in September.

In connection with the determination of ground coefficient for participated at the Dam site in September. ticipated in the experiments conducted at the Dam site in September, and

Besides the construction of usual Electro-magnetic Seismometers ampli-for per new per reconstruction of usual Electro-magnetic with a transistorised pelhi. Resides the construction of usual Electro-magnetic Seismometers amplifier for use with the recording seismometer, with a H.Q. at New pen-recording seismometer, and the H.Q. at New pen-recording seismometer, and and recording seismometer, and recording seismometer, with a H.Q. at New pen-recording seismometer, and recording seismometers and recording seismometers. fier for use with the recorder, was constructed at New Delhi.

Por Ma.

vise with the recording seismometer, was the H.Q. at t with the recorder, was constructed at New Delhi and New number of New number of a large number of number o Surface and upper air instruments.

Over 1,000 plied to vanes, were actively engaged in the manufacture of supplied to vanes, were and upper air instruments.

In addir: per and upper air instruments. Over 1,000 wind wind vales, were actively engaged in the manufacture of a large teorographis.

In month were manufactured, calibrated and meters, wind sauges, k.

Bauges, k. radio meters actively engaged in the manufacture of The Hydrogen are instruments and supplied to vanes, were addition, several instruments such as an emometers, accessories and sugges, barometers, radiation instruments, pilot balloon factory tallows the continued at Poons and Delhi. were manufactured, calibrated and neters, wind Agra Agra anemometers, barometers, radiation instruments, pilot balloon factory at observant continued at Poona and Delhi. Vatories, of the manufactured at Poona and Delhi. several instruments such as anemound access at observants, barometers, radiation instruments, pilot balloon factory at observants, barometers, radiation instruments, pilot balloon factory at observants and pelhi. The Hydrogen to departmental in the Vatories and to manufacture and supply hydrogen tific institutions country, for ometers, radiation instruments, pilot war factory all observations in the Hydrogen to departmental in the Vatories defence establishments and other scientific instruments, pilot war factory defence establishments and other scientific institutions in the country, for research and observations.

The

The Decca wind finding radar (WF-2), installed at Agartala airponts.

New Delhi, was put into regular use from the delay are airponts.

The Decca wind finding radar (WF-2), installed at Agartala airponts.

Rendix Wes The Decca wind finding radar (WF.2), the beginning A Rendix weather radar type WTR-1 was installed at January, 1962.

Further progress was made in development and designing of the instruments:-

- (i) A special radiosonde equipment for use of INS Vikrant was designed and installed.
- (ii) An intensity raingauge, using the photo-electric principle, was developed in the laboratory and put under field test. The results have been satisfactory.
- (iii) C-type meteorographs, with double-spring clock mechanism, were designed. The tests have shown that the clocks run continuously for time durations lasting between 90 and 180 minutes.
- (iv) A mechanical valve has been designed for use with high-level balloons to regulate the inflation of the balloons and conse-The device is under quently improve the heights reached. field test.
- (v) An interim reference precipitation gauge, according to the specifications recommended by the World Meteorological Organisation, was constructed.
- (vi) Work is in progress on the construction of a transmissometer for continuous recording of visibility.
- (vii) A radiosonde meteorograph, using rolled hair as its humidity element, was developed in the laboratory.

72. Geomagnetism, Atmospheric Electricity, Radiation and other servations.—The owing Observations.—The primary magnetic observatory at Alibag and the other magnetic observatories at Minimum and Minim magnetic observatories at Kodaikanal, Trivandrum and Annamalainagar to continued their activities continued their activities in geomagnetism. Information relating magnetic disturbances as and when they occur were disseminated parties concerned a second out parties concerned. Special magnetic observations were carried out the a number of places in South a number of places in South India in connection with location of Rocket Base at the magnetic Rocket Base at the magnetic equator and also at Marmagao, in cooperation with the Geological Services ration with the Geological Survey of India.

Observations of the surface electrical potential gradient were were ed at New Delhi, Calcutta nued at New Delhi, Calcutta and Poona. Observations of sferics and continued at Sriniketan (West De variable) continued at Sriniketan (West Bengal) and New Delhi and a new and was established at Nagpur Tarwas established at Nagpur. Warnings of anticipated magnetic ionospheric disturbances ionospheric disturbances were issued, whenever necessary, to the and the other interested incient

Radiation observations were continued at 8 stations in the observa-two more stations were opened in the observaand two more stations were continued at 8 stations in the observa-tions of atmospheric ozone were photometer. two more stations were continued at 8 stations in observations of atmospheric ozone were made with the Dobson Ozone spectro-photometer, at New Delhi and V-1.

73. Astrophysics and Astronomy.—The Astrophysical Observatory, daikanal Rodaikanal, continued its work in the fields of Solar Physics, Stellar Physics and Physics Physics and Radio Astronomy. The modification of the solar telescope and tower, to facility the solar telescope was completed and the facility to facility to facility to facility to facility the solar telescope. tower, to facilitate observations soon after sunrise, was completed and instrument.

A second Babcock grating the instrument was re-erected and adjusted. A second Babcock grating Palomar Observatories. Was received on loan from the Mount Wilson and Palomar Observatories.

Tess this grating is in progression of the grating is in progression. Construction of a 21-foot solar spectrograph using this grating is in prog-field the word. fields. The workshop for use in routine observations of sunspot magnetic frace. The company of the workshop for use in routine observations of sunspot magnetic frace. The company of the sunspot magnetic for use with the sunspot magnetic for use in routine observations of sunspot magnetic fields. fields. The workshop for use in routine observations of sunspot magnetic fractor, was community was common of a photometer, for use with the 8" Madras resulting, was common of a photometer, and the sunspot magnetic astronomy, regular recordings of sol, was common of a photometer, and the sunspot magnetic astronomy, regular recordings of sol, was common of sol, was common of sunspot magnetic astronomy, regular recordings of sol, was common of sunspot magnetic astronomy, regular recordings of sunspot magnetic astronomy, regular recordings of sunspot magnetic astronomy. fractor, was completed. In the field of radio-astronomy, regular recordings loins noise of of solar noise flux, on a frequency of 100 mc/s were continued. Under a logs Rodaikanal Transfer and the field of radio-astronomy, regular recording to the flux of the field of radio-astronomy, regular recording to the flux of the field of radio-astronomy, regular recording to the flux of the field of radio-astronomy, regular recording to the field of radio-ast loint Rodaikanal-Yale University project, Jupiter radio radiost 1962, using phase a frequency of 100 mc/s were continued. Ings at a frequency of 22.2 mc/s were commenced in August 1962, using phase switching. phase switching interferometer.

74. Indian Ephemeris and Nautical Almanac.—The printing of the year 54 we of the result of the Almanac. 8eventh issue of the Indian Ephemeris and Nautical Almanac.—The printing of the year log was nearing.

The printing of the year and Nautical Almanac.—The printing of the year log was nearing.

The printing of the printing location of the Indian Ephemeris and Nautical Almanac. Inc. I for the Was nearing completion, and the computational work of the Noon is the Year 1968. Tor the year 1965 was commenced. The tables of sunrise, Sunset, Moons from Moons of Moons (which constitute a reprint the from Moons of Moons (which constitute a reprint the from Moons of Moon the year 1965 was commenced. The tables of Sunrise, Sunset, were Rashtre: Indian F. Almanac) was published. From the Indian Ephemeris and Nautical Almanac) was publication)

Publish Pancha-Rashtriya Panchangs for 1884 S.E. (sixth year of published in two-Published in twelve languages. The English edition for that year were under preparate was published to the languages. last shed in twelve languages. The English edition for that year were under preparation. preparation.

75. Overseas Training Programme.—Shri H. M. Chaudhury, under in Seismology under Colom, was on down in for training in Seismology and the colombia to India de the colombia de training in Seismology under training in Seismology under the colombia de the colombia de the colombia de training in Seismology under the colombia de the colo logist, Overseas Training Programme.—Shri H. M. Chaudhury, under in the Colombo Was on deputation to Japan for training in Seismology under training in Seismology in the Physics of the Plan training and returned to the physics of t the Nho was on deputation to Japan for training in Seismology under the Colombo Plan completed his training and returned was on the Plan Completed his training and returned the Colombo Plan completed his training the Colombo Plan comp April, 1962. Shri A. J. Shirgaokar, Assistant Meteorologist, under the Colombo, from Japan for training and returned was on the Plan, from Japan for training and returned was on the Plan, from Japan for training and returned was on the Colombo, the Colombo, the Colombo, from Japan for the Colombo, the Colombo, from Japan for the Colombo, the Colomb Pril, 1962 Plan completed his training and returned was on deputation to Japan for training and returned was on deputation to Plan completed his training and returned was on deputation of training and returned was on deputation and returned was on deputation and returned was on deputation and returned was on deputation. Shipsandar, Assistant Meteorologist, and colored the Colombia and returned was on deputation to Japan for training and returned was on deputation. Plan in the Colombia and returned was on deputation to Japan for training and returned was on deputation to Japan for training and returned was on deputation. Plan in the Colombia and returned was on deputation to Japan for training and returned was on deputation. Plan in the Colombia and returned was on deputation to Japan for training and returned was on deputation. Plan in the Colombia and returned was on deputation to Japan for training and returned was on deputation. The Colombia and the Colombia

76. Advisory Committees, Scientific bodies, officers functioning in Ceonagnetism, The Direct Ceneral of Observation of the other officers functioning functioning in Ceonagnetism, The Direct Ceonag Plan, from May to November, 1962. tor 6. Advisory Committees, Scientific bodies, Symposia etc. The present other pated in the participated i Participated in the meetings of advisory committees, scientific departments of the meetings of advisory committees, senior mittees, senior mittees, scientific departments of advisory committees, functioning under scientific departments.

The Director General of Observatories and two National the Department were constituted by the Indian inted by the Department were constituted by the Indian inted by the Department were constituted by the Indian inted by the Department were constituted by the Indian inted by the Indian interded by the Indian i The Director General of Observatories and two National the Department were nominated to the Atom of At departments or institutions.

The Director General of Observatories and two National the Department were nominated to the Indian National the Of Atomic Energy Comment of India.

The The Director General of Observatories and two National the Department of Atomic Energy Comment of India.

were nominated to the constituted of Atomic Energy, Government of India.

The Conference of Directors of the India Meteored by Minister of Minister of Manager 1069 and was inaugurated. Atomic Energy, Government of India.

The Conference of Directors of the India Meteorology, Minister for Transport and Communications.

Atomic Energy, Government of India Meteorology, Shrift Raminant, Meteorology, Meteorology,

77. International Collaboration.- The department continued to take active parties of an active part in the activities of the World Meteorological Organisation and the International Civil Aviation Organisation. Necessary facilities and co-operation and co-operation were extended to an ICAO team which visited the Meteorological Con Meteorological Offices at Bombay, Calcutta, Delhi and Poona. A number of senior officers for of senior officers from the department participated in the International Conferences of the two bodies mentioned above.

Shri C. Ramaswamy, Deputy Director General of Observatories, and the Dr. S. N. Sen Director, represented India, at the Third Session of Commission for Synoptic Meteorology of the World Meteorological Organisation, held as to the second organisation of the World Meteorological Sen was nisation, held at Washington (USA), in March/April, 1962. Dr. Sen was elected President of the Science of the S elected President of the Commission. Shri A. K. Mallik, Deputy Director General of Observations General of Observatories, attended the Third Session of the Commission for Agricultural Material for Agricultural Meteorology of the World Meteorological Organisation (as India's delegate) by 1 (as India's delegate) held at Toronto, Canada, in July, 1962.

The Third Session of the Regional Association II for Asia of the orld Meteorological Organization World Meteorological Organisation was held at Bangkok, Thailand, in October 1962. India was October 1962. India was represented at the Session by a delegation ries sisting of Shri P. R. Krishan 2 sisting of Shri P. R. Krishna Rao, Director General of Observatories (Leader) and Shri C. Ramer (Leader) and Shri C. Ramaswamy and Dr. R. Ananthakrishnan, peputy Directors General of Observation Directors General of Observatories-

The department was in close touch with the U.S. Weather Weather arding developments in cotall Bureau, at our request, arranged special programming of their weather satellite for making photogram! satellite for making photographic scan from space, of tropical storms of the Bay of Bengal and the A. T. the Bay of Bengal and the Arabian Sea. Regular cloud observations from "TIROS", the U.S. World a world-wide exchange scheme for satellite meteorological information.

A number of officers of this department have been nominated ted to serve as expert --elected to serve as expert members of the technical commissions and Working Groups of the World and International Working Groups of the World Meteorological Organisation and International Organisations

78. Collaboration with and technical aid to neighbouring countries.

c department continued to the technical on the technical The department continued to participate activity in the experts operation activities of the HN technical activity in the technical activity in the technical activity in the technical activities of the HN technical activities operation activities of the U.N. and W.M.O., by deputing technical assistance mission to war.

A Supplementary Meteorological Office of this Department Office was function at Kathmandu in Nepal feed from the India. A Supplementary Meteorological Office of this Department Office was to function at Kathmandu in Nepal. During the year that shifted from the Indian Embassy Community Couchar Airfield. shifted from the Indian Embassy Compound to Gauchar Airfield.

Mr. T. K. Sengdara of Laos underwent training in Agricultural training in Agricultural training in Agricultural training in Agricultural Meteorology at the Meteorological Office, Poona, under U.N. Fellowship, from July, 1962.

79. International Indian Ocean Expedition.—During the year, the teorological Meteorological programme of India relating to the International Indian Ocean Expedition.—During the Judian Ocean Expedition. Ocean Expedition was commenced with the starting of a meteorological observatory at P observatory at Port Okha (Gujerat), from 12th December, 1962 and parti-lipation by cipation by meteorological personnel in the cruises of the two ships participatine all the cruises of the two ships participatines. In all the cruises of INS Kistna, which is one of the International Indian ing in the cruises of INS Kistna, which is one of the two ships partial Indian Ocean Experimental Experiments of the Indian meteorological programme of the International Indian Meteorological Programme of the In Ocean Expedition, meteorological personnel were deputed for recording surface and of surface and aerological observations. Dr. A. A. Rama Sastry, Meteorologist, was desurface and aerological personner was A. Rama Sastry, was deputed for training in sea air interaction in some oceanographic institute Interaction in some oceanographic institute. with the International Indian Ocean Expedition in some oceanographic Sentes/laborate institutes/laboratories in U.K., U.S.A., and Japan, Meteorologist, Water Description of the Period Assistant Meteorologist, Water Description of the Period Meteorologist, Wa September-December, 1962. Shri C. P. Rao, Assistant Was deputed to during the Post of the was deputed for training aboard the Russian Research from July to Septe its cruise during its cruise from Jakarta (Indonesia) to Madras, from July to September, 1969. September, 1962.

The International Meteorological Centre, organised for carrying out meteorological Meteorological Centre, organised for carrying out meteorological meteorol The International Meteorological Centre, organised for carrying in the meteorological programme of the Expedition, commenced functioning tion lst January 1999 is principally devoted to investigation, and the principally devoted to investigate the state of the Expedition, commenced functional tional state of the Expedition, commenced functional tional state of the Expedition, commenced functioning the state of the Expedition, commenced functioning the state of the Expedition, commenced functioning the state of the Expedition of t from 1st January, 1963. The Centre is principally devoted to investigational work and investigation. tional lst January, 1963. The Centre is principally devoted to investion and processing of basic meteorological data.

The Centre is principally devoted to investigation of basic processing of basic principally devoted to investigation and principally devoted to investigation of basic principally devoted to investigation of basic principally devoted to investigation and principally devoted to investigation of basic principal meteorological data over Indian Ocean and adjoining areas, preparation and analysis of work and ordeorological data over Indian Ocean and adjoining areas, preparation and analysis of weather charts extending well into the processes of the indian hemisphere. southern hemispheres and interpretation of weather processes of interpretation of weather charts extending of weather processes of interpretation of who arrived in the processes of interpretation of weather processes of interpretation of who arrived in the processes of interpretation of weather processes of interpretation of whom arrived in the processes of interpretation of the processes of the processes of the processes of interpretation of the processes of th Indian monsoon area. Dr. C. S. Ramage, Scientific Director arrived in India in the nonsoon area. Dr. C. S. Ramage, Scientific Director for Meter Plots arrived in Monsoon area. Dr. C. S. Ramage, Expedition, who activities at India in August 1000 in August 1000 in Monsoon area. monsoon area. Dr. C. S. Ramage, Scientific Directory who arrived at India in August, 1962, has been planning the international forms of the instrumentations.

Weather with the contraction of the instrumentation of the instrumentation. Weather experts, one communication expert under the international from the instrument.

The department forms the internation of the department forms the instrument forms the instrument forms the perts, with the active co-operation and two The Centre request the part of the arrived from the U.S.A. response to the perts of the per the International Indian Ocean Expensional action the international action of the international action weather, with the active co-operation of two instruments perts. I experts the experts of two instruments of the instruments of the instruments of the instruments of two instruments. perts, have arrived at the Centre from the Institute of t the active co-operation of two instruments forms to a specific experts, one communication expert and two The Centre request The Art of the Institute of Tropical Meteorology and in response to a specific from India for aid to control Institute of Tropical Meteorology Tropical Mass approved that Institute of Tropical Meteorology India for aid to control Institute of Tropical Meteorology Institute of Tropical Meteorology Institute of Tropical Meteorology Institute of Inst from India for aid to set up the Institute of Tropical Meteorological Meteorological Fund Meteorological Meteorological Fund Institute of Tropical Fund Meteorological Meteorological Fund Meteorological national Meteorological Centre, the U.N. Special Fund Meteorological Centre Fund Meteorologic

1963, a grant of 8,78,500 dollars.

Meteorological Information and Publicity the department theme as presure function to agriculture and condition production and publicity as the second was relation to agriculture and condition production and publicity as the second was relative. Meteorological Information and Publicity. The in relation to agriculture and food production was held at the Meteorological for by Shri S. K. Patil, Union Minister functions were held at other department when was not a specific production was held at the Meteorological for the production was held at other department when was not apply the interest and food production poor and observation was held at the Meteorological for the production was held at other department of the production when the production were held at other department of the production when the production were held at other department of the production when the production was not apply the production when the production was not apply the production when the production was not apply the production was not apply the production when the production was not apply the production was not

81. Scientific Publications. "The Indian Journal of Meteorology and Geophysics" was published regularly every quarter from the headquarters office at New Day of the second of the headquarters office at New Delhi. The publication of the Kodaikanal Observatories, Bulletin, the Annual Volume of the Colaba and Alibag Observatories, the Seismological 1 ... the Seismological bulletin, Indian Ephemeris and Nautical Almanac, Rashtriya Panchangs, Indian Daily Weather Reports, Monthly Weather Reports, and Journal of the Reports Reports, and Indian Weather Review (Annual Summary) was continued.

82. Investigation and Research.—As in the previous years, considerable ention was devoted. attention was devoted to the promotion of research both at the official level and by encourage level and by encouragement of individual workers. The first biennial award for the best room award for the best research paper, published in the Indian Journal of Meteorology and Goodway. Meteorology and Geophysics in 1960 and 1961, was presented to Dr. M. Sivaramakrishnan. Sivaramakrishnan, Meteorologist, Poona.

The Northern Hemisphere Analysis Centre, set up earlier in the year, perimented with different experimented with different techniques for preparation of prognostic weather charts. Suitable and used weather charts. Suitable graphical techniques were developed and are on a routine basis for faccionit on a routine basis for facsimile transmission. Further experiments in progress to develop more and transmission. in progress to develop more refined techniques for giving better indication of weather development

The Institute of Tropical Meteorology, two divisions of which were ctioned during the year will consider the department of the department sanctioned during the year, will function as a separate unit of the Institute ment devoted wholly to research. ment devoted wholly to research. Pending its full growth, the Institute is currently engaged in compiling is currently engaged in compiling a Manual of weather for students the Himalayan Region. The Transition as a separate unit of Institution as a separate unit of the Institution as a separate unit of Institution as a separate unit the Himalayan Region. The Institute is also guiding research students on meteorological problems of Attack of Attack

Research in other branches of meteorology and allied fields such in ophysics and Astronomy was a such in ophysics and offices, and o Geophysics and Astronomy was carried out in departmental offices, addition to normal work

83. Staff welfare, Canteen and Recreational facilities for senting welfare of staff, such as a senting senting for the welfare, such as recreational clubs with facilities, screening and outdoor games, small libraries and state of popular en wentare of staff, such as recreational clubs with facilities, screening and outdoor games, small libraries and reading room facilities, Calcuted of popular films etc., were provided and poona, actioned Bombay, Made popular films etc., were provided at New Delhi, Bombay, Madras and at a few other places. The grant-in-aid to various clubs during 1962-63 Canteen run by departmental staff themselves, on a 'no profit no joss' is, functioned at several offices of the

Co-operative societies for the benefit of the departmental personnel st at New Delhi, and Poona at present basis, functioned at several offices of the department.

exist at New Delhi, and Poona at present.

84. Budget. A sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided under Capital ants during the sum of Rs. 11.72 lakhs has been provided und Grants during 1962-63 for the purchase of Capital Equipment in connection with the tion with the implementation of various development schemes.

The Standing Charges of the Budget for 1968-64 were reviewed by Internal Barrier and the budget provisions the Internal Economy Board of the Ministry and the budget provisions proposed by proposed by the Department were suitably modified keeping in view the general need for economy.

The table below shows the Budget and Revised Estimates for 1962-63 and the Budger Estimates for 1963-64:-

the Budget Estimates	for	1963-6 <del>4</del> : 	Budget   Bstimates   1962-63.	Estimates 1 1962-63 Rs.	1903-04 Rs.
(a) Revenue Demand (b) Capital Demand (c) Contribution to the W.M.O.	• •		2,12,00,000	11,22,000	7,05,000

# SECTION V

OVERSEAS COMMUNICATIONS SERVICE 85. The Overseas Communications Service is responsible for handling overseas Telegraph Toward Telegraph Telegraph Toward Telegraph Telegraph Toward Telegraph of overseas Communications Service is responsible for named of overseas Telegraph, Telephone, Radiophoto and Telex Services between is the responsible for named to responsible for named is responsible for named to responsible for named is responsible for named to respons Overseas Communications Service is response Services Deliverseas Telegraph, Telephone, Radiophoto and Telex Services Deliverseas Telegraph, Telephone, Radiophoto and the department is the Director Communications Service is response to the department and foreign countries. The administrative head of the department is the Director Communications Service is response to the department and the department is the Director Communications Service is response to the department and the department is the Director Communications Service is response to the department and the department is the Director Communications Service is response to the department is the Director Communications Service is response to the department is the Director Communications Service is response to the department is the Director Communication is is the Director Co is the Director General with his headquarters at Bombay.

The Service has I gate-way Centres for handling of international com-linications at Roman Delhi and Madras, unications Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate-way Centres for handling of internations Service has I gate had the service The Service has 4 gate-way Centres for handling of international The overseas The overseas communications at Bombay, Calcutta, New Delhi and Madras.

Vice, Co. communications at Bombay, Calcutta, New Delhi and Madras.

Vice, Consists of submarks, operated by the Overseas Bombay and Madras.

The overseas Ser.

The overseas S vice, consists of submarine telegraph cable systems from and waintained by the Overseas Gommunications and Wireless telegraph cable systems from and maintained by the Overseas Bonbay and the four and Wireless telegraph cable systems from an maintained by the Overseas Bonbay and the four and Wireless telegraph cable systems from an maintained by the Overseas Bonbay and the four telephone systems from an analysis of submarine telegraph cable systems from an analysis of submarin and Wireless telegraph and Radio telephone systems and maintained by the Cab.

The submarine telegraph are owned and maintained the Cab. Centres. The submarine cables as such are owned and maintained by Cable & Wireless The Submarine cables as such are owned and radio

86. The following direct and switched telegraph, telephone, communication and telex services are specified by the Overseas Communication and telex services. Photo and telex services are now operated by the Overseas Communications Service:— Direct Wireless Telegraph Service.—India has with the following countries.—

The following countries:

Afghanistan, Australia, Britain (I France, Federal France, Philippines, Poland, Many, Hanoi, Indonesia Iran, Iraq, Italy, Japan, Iraq, Italy, Italy many, Hanoi, Indonesia, Iran, Iraq, Italy, Japan, paint independent independent independent Republic poland, France, Federal Republic poland, Iraq, Italy, Japan, philippines, poland, Iraq, Italy, Ital

Roumania, Saigon, Singapore, Switzerland, Thailand, U.S.A. (2 independent circuits), ILCON dent circuits), U.S.S.R. and Yugoslavia.

Telegraph service with all other countries of the world is also provided, through our direct links with the international Networks.

Direct Radio Telephone Service. India has direct Radiotelephone vice with the follows Service with the following countries:-

Aden, Afghanistan, Australia, Bahrain, Britain (3 circuits), Burma, China For Acc China, East Africa, Egypt, Ethiopia, Federal Republic of Germany Francisco, Laly, Germany, France, Hongkong, Indonesia, Iran, Gritzerland, Japan, Malaya Balana, Santana, Gritzerland, Japan, Malaya, Poland, Singapore, Saudi Arabia, Switzerland, U.S.S.R. and Vices U.S.S.R. and Vietnam (South).

Switched Radiotelephone Services. - Radiotelephone Service via our ect connection with Interest. direct connection with International networks is available:-

(a) with the following countries:—

Abadan, Algeria, Argentina, Asmara, Austria, Balearic Bul-Barbados, Belgium P Barbados, Belgium, Bermuda, Brazil, British Guiana, Garia, Canada. Canama Tanama Guiana, Gostarica, Garia, Canada. Canama Tanama Guiana, Garia Gostarica, Garia, Canada. garia, Canada, Canary Islands, Ceuta, Chile, Cuba, Faroe Cyprus, Czechoslovalia Islands, Finland, French Sahara, Frobisher Bay (Canada), Greece, Ghana, Gibralian Ghana, Gibraltar, Goosbay Labrador (Canada), Irish Regulater Gautemala, Hawaii, Honduras, Hungary, Iceland, Lebanon, Dublic (First) public (Eire), Israel, Jamaica, Jordan, Kuwait, Morocco, Leeward Islands. Lebands, Luxembourg, Manila, Mexico, Zealand, Muscat, Nairobi. Netboria Muscat, Nairobi, Netherlands. Newfoundland, New Ryukyu Nicaragua, Nigeria Novalands. Newfoundland, New Ryukyu Nicaragua, Nigeria Novalands. Nicaragua, Nigeria, Norway, Panama, Rhodesia, South Islands, Spain, Spanish N. West. Islands, Spain, Spanish North Africa, South Africa, West Africa, Sudan Swad United States of America, Vatican City, Windward and Yugoslavia.

America, Athlone Castle, Capetown Castle, Caronia, England, Constitution, Edinburgh Castle, Capetown Castle, Caronia, England, Castle, Caronia, Castle, Castl (b) with a number of Ocean Liners at sea, including: Corintal Caronia, Corintal Constitution, Edinburgh Castle, Empress of England, press of Britain, Eastriver Maasdam Danstitution, Edinburgh Castle, Empress of England, press of Britain, Eastriver, Israel. Ivernia.

Maasdam, Mauretania Name Castle, Caronia, Caronia, press of Britain, Eastriver, Israel. Ivernia.

Maasdam, Mauretania Name Castle, Caronia, principle of England, pri Maasdam, Mauretania, Nevasa, Nieuw Amsterdam, oslowing Market Orion, Orcades. Oronzala Oronza Jord, Pretoria Castle, Pendennis Castle, Queen Mar, Stirling Castle, Queen Mar, Ostordani, Ostordani, Ostordani, Ostordani, Oxfordshire, Oxfordshire Queen Elizabeth, Queen Mary, Reina Del Mar, Stirling Castle, Sylvania

Direct Radiophoto Service.—Radiophoto Services are available directly h the following With the following countries through each of the three Gateway Stations from India from India 11/2. Bombay, Calcutta and New Delhit-

Britain, France, Federal Republic of Germany, Italy, Japan and

Additionally, from New Delhi only: with China and Poland.

Switched Radiophoto Services.—Radiophoto Service via our direct connections with international trunk routes is available with the following countries: countries:

Australia, Belgium, Canada, Czechoslovakia, Denmark, Egypt, Finland, Germany, Greece, Ghana, Kingston, Jamaica, Switzer Norway, Portugal, Singapore, Sweden, South Africa, Switzer

Multi-Address Press Broadcast (Telegraph).—Overseas Communications

Vice Provides Press Broadcast (Telegraph) by Radio Telegraph Service Provides simultaneous news-transmissions by Radio Telegraph on Behalf of the Mr. behalf of the Ministry of External Affairs, to about 39 Indian Consular around it.

Programme Transmissions.—Facilities are offered for programme their principal live despectations. Posts around the world.

Leased Telegraph channels.—Leased teleprinter 1957, were extended ther on rental hards. Customers on rental basis, introduced during the year 1957, were extended teleprinter on rental basis, introduced during the year of telegraph compared telegraph.

Twenty on the compared telegraph compar further. Twenty-one such channels are in use at present by business of munical Government of the such channels are in use at present by business of the such channels are in use at present by business continuous and Government of the such channels are in use at present by business continuous and Government of the such channels are in use at present by business continuous and Government of the such channels are in use at present by business continuous and Government of the such channels. cerns Twenty-one such channels are in use at present by business communication directly.

The communication directly of the co

International Telex Service.—The International to 42 countries medaha in India in 1920 was further extended to 42 countries. International Telex Service.—The International From Bombay,

Ahmedabad to seven I But I is now available to 42 countries.

International Telex Service.—The International from Bombay,

Viz. Arm.

It is now available Brazil,

Reput.

Reput.

Reput. Ahmedabad to several more countries.

Bulgaria.

Aliced from countries.

Regenting.

Annel of the service of th nonedabad to several more countries. It is now available Brazil, Bulgaria, Canada Cana Rulgaria, Canada, Czechoslovakia, Denmark, Democratic Republic, Israel, Israel blic of Germany, Finland, France, Republic, Islands, Finland, France, Republic, Islands, Finland, France, Republic, Islands, Rederal Republic, Islands, Faroe Islands, Islands Greece, Hongkong, Hungary, Iceland, Malaya, Malaya, Malaya, Pol.

Way, Pol. Renya-Uganda-Tanganyika, Luxemburg, Malaya, Singapore, Switzerland, Republic, Republic Way, Poland, Republic of Sudan, Roumania, Singapore, Manada, Republic of Sudan, Roumania, Systematical and, U.S.A. U.S.A. Vigoslavia.

Republic of Sudan, Roumania, Sub-1

and, U.S.A., U.S.S.R. and Yugoslavia.

87. General.—The Service has kept abreast with of telegraphic been in the field of the tries in adopting modern technique, in the field of plans for extensive latest electronic systems of automatic error circuits. The latest electronic systems of automatic error circuits on several maior with cher advantations with other advantations with other advantations in the field of telephase for extension the latest electronic systems of automatic error circuits automatic error circuits. Telegraph Circuits on several maior whireless the latest electronic systems of automatic error correction on several major Wireless Telegraph Circuits.

88. India is a member of the Commonwealth Tele-communications Board. The contributions by the Overseas Communications Service to the C.T. Board for office expenses during 1961-62 and 1962-63 Rs. 36,000 and Rs. 58,000 respectively.

89. Budgetary position.—The net profit for 1961-62 amounted to Rs. 99,66,036 against Rs. 69,32,066 for 1960-61. The net profits for the two years are also approximately the profits are also profits. two years are shown below in terms of percentages. Increase in profit is due to the increase. is due to the increase in revenue and decrease in certain items of expenditure, particularly diture, particularly due to ad hoc remission of a portion of Overseas Communications Services wavleave liability. -060-61

				195!-62	28.42
Not profit as percentage of Government capital	•		•	37·05 42·30	$\frac{32.30}{32.27}$
Net profit as percentage of traffic revenue	•	•	•	41.9	- 68
Net profit as percentage of total revenue	•	•	•	-7	r 1962-63

The Budget Estimates and the Revised Estimates for the year 1962-68 the Budget Estimates for the vear and the Budget Estimates for 1963-64 are given below:-

and the panger Estil	iates i	O1	1105-04	Budget Estimate, 1962-63 Rs.	Estimate, 1962-63 Rs.	1963 Rs.
<ol> <li>Revenue Expenditure</li> <li>Capital Expenditure</li> </ol>			·	. 1,49,94,000 48,21,000	1,29,64,000	10,00

# SECTION VI

- 90. The duties and functions of the Addl. Commissioners of Railway ety, as laid down in section 4. Safety, as laid down in section 4 of the Indian Railways Act of 1890, are:

  (a) hold:
  - (a) holding of enquiries into serious Railway Accidents;
  - (b) inspection of new railway lines prior to their opening passenger traffic.

  - (d) recommendations with regard to the running of new types of block instruments locations.
  - sanction to the opening for passenger traffic of new installar such as deviation lines, bridges, signalling and the level; installations, stations as deviation lines, bridges, signalling and the level; installations, stations, junctions and crossings on litions, alternia
  - (f) additions, alterations and reconstructions materially directly the character of works. the character of works which form part of. or are

connected with the working of Railways already open for

- (g) sanction to the movement of over dimensional consignments;
- (h) disposal of applications relating to intringements of standard
- 91. During the nine months ended 31st December, 1962, the Railway spectorate committee months ended 31st December, 1962, the Railway accidents to Inspectorate carried out Statutory enquiries into 12 serious accidents to passenger trains Passenger trains on Indian Railways. These included 5 collisions and derailment. derailments, apart from one accident resulting in serious of a train running three to pilgrims. due to pilgrims travelling on the roofs of coaches of a major accident occurs a basis through a bridge. Besides these serious accidents, a major accident occurred during these serious accidents. Besides these serious accidents, a court Judge, for the court functions accidents. occurred during the year at Dumraon in Bihar, on High Court Judge, which a Court occurred for which a Commission of Inquiry, consisting of a High Court Judge, appointed at Inwhich a Commission of Inquiry, consisting of a High Court Judge at Umeshnagar. On 4th January, 1963, another serious accident Commissiones at Umeshnagar in Katihar District, North Bihar, for which the commissioner of Railway 1963, another serious accident occurs and the commissioner of Railway 1963, another serious accident occurs and the commissioner of Railway 1963, another serious accident occurs and the commissioner of Railway 1963, another serious accident occurs and the commissioner of Railway 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission of Inquiry 1963, another serious accident occurs and the commission o sioner of Railway Safety himself held the inquiry.

92. During the period April to December, 1962, 510 kilometres of traffic, after becti. new lines, including doublings, were opened to passenger traffic, after were opened to passenger traffic, after were opened to passenger traffic, after allows pection by the Allows were opened to passenger traffic, after the period April to December, passenger traffic, after the period April to December, passenger traffic, after the passenger traffic, after the period April to December, passenger traffic, after the period April to December, passenger traffic, after the passenger traffic the passenger inspection by the Additional Commissioners of Railway Safety.

93. The Commissioner of Railway Safety and his personnel assisted
Opin:

Railway Accidents C the Railway Accidents Committee with detailed information and technical opinion, as and opinion, as and when required.

94. The following table shows the Budget and Revised Estimates for the Inspectorate:

12-63 and the Budget Transport of the Inspectorate: 1962-63 and the Budget Estimates, 1963-64 in respect of the Inspectorate:

1968-63 and the Budget Estimates, 1963-64 in respect of the Inspectorate: 1962-63 Estimates, 5,27,100 1962-63 5,08,600 2,85,000 General Administration and 2,42,100 4,92,000 2,85,000 Establishment Railway Board's contribution towards the cost Incidence on Contribution towards 2,73,600 2,85,000

Incidence on General Revenues SECTION VII

SECTION VII

SECTION VII

BANGALORE

The property of the property SECTION VI. BANGALU.

95. The progress of the factory has been maintained during the progress of the factory has been maintained.

2,07,000

96. Production.—In respect of the main items of production, the achiments evements during 1961-62, the targets for 1962-63 and the achievements upto the end of December, 1962 are given below:-

						Achieved during 1961-62	Targets for 1962-63	Achieved upto 31-12-62
Telephones Multiple Racks	•					1,16,701	1.30,000 865	90,503 511* 422*
Misc. Racks		•	•	•	•	614 532	622	422° 726 26
Small Exchanges 8 Channel Systems					•	781	1,240 50	235 330 79
3 Channel Stackable Cl F.M.V.F.T. Channels	hanne	Is				35 303	400 630	33° 19
12. Channel Bays						.450 105	151	c the

During the period under review, the Pilot Production Department of the factory took up 19 = " factory took up 12 pilot projects. Among new items for which production was taken we for the production between the production was taken we for the production between the production be production was taken up for the first time are: Monitoring Equipment for A.I.R., Test Sets for A. for A.I.R., Test Sets for Auto Telex, Digit Key, Bank Screw Extractor, Inter-2-Home Position Unicela 2-Home Position Uniselector, Monitory Display Buzzar, 20-Way Cables, communication Equipment communication Equipment and 8-Channel System for working on the Development of as property of the property of Development of as many as 50, items was also completed developed period. Several precision measures period. Several precision measuring instruments have been psopho and gone into production. and gone into production. These are, Selective Level Meter, Oscillator, Cathode Ray Oscillator meter, Cathode Ray Oscilloscope, Channel Synchroniser, Ringer Ringer, V.T.V.M. (10) c/s 10.4 V.T.V.M. lator, V.T.V.M. (10 c/s to 4 Mc/s), Frequency Counter, Megger, 11, 18
& Tone Generator for Talanham 11, 18 & Tone Generator for Telephone Exchanges, Headgear Set No. 10, 11, 18 and 15, Field Telephone for the second secon and 15, Field Telephone for the Army and Flasher Unit.

97. Exchanges Installed or Maintained.—The total number of private tomatic Exchanges installed. Automatic Exchanges installed and maintained in the five principal of grand viz. Bangalore, Bombay. Calculations and maintained in the five principal and viz. viz. Bangalore, Bombay, Calcutta, Delhi and Madras was 311 and respectively during the period and maintained in the five principal of 311 and respectively during the period and madras was 311 and The following are and any of the period and madras was 311 and 31069 The following are any ing are some of the large automatic exchanges installed by the Company during the period under review.

1. Hindustan Machine Tools Ltd., Bangale	ore 300 line Auto Exchange.
2. A.P.V. Project, Durgapur .	ore 300 line Auto Exchange.  . 200/600 line Auto Exchange.
3. N.F. Railway, Pandu 🖟	200/600 line Auto Exchange.
4. Rourkela Auto (P&T)	1,800 line Auto 2
98. Finance & Accounts.—In t	he Statement of Accounts for Rs.

ended 31st March, 1962, the Company showed a net profit of

lakhs. Adding the amount brought forward from the previous year's account a mount brought forward from the previous year's Adding the amount brought forward from the previous account, a total sum of Rs. 64.81 lakhs was available for distribution.

After make: After making provision for taxes (Rs. 39.5 lakhs) and reserves (Rs. 10.9 lakhs), the C lakhs), the Company declared a dividend at 3½% during the year 1961-62, the Government of the Rs. 14 lakhs the Government of India's share of dividend out of a total of Rs. 14 lakhs being roughly Rs. 12.55 lakhs.

The authorised capital of the Company which is fully paid up con-ued to be D tinued to be Rs. 4 crores. The total amount of loans granted by the central Government of the Rs. 1,91,84,200 at the end Central Government to the Company stood at Rs. 1,91,84,200 at the end of December, 1962. Interest on all the loans is being paid by the Company regularity Pany regularly.

99. Sales.—The value of sales during the year 1962-63 is anticipated of the ord to be of the order of Rs. 700 lakhs. Upto the end of December, 1962 goods worth Rs. 462.85 lakhs were sold.

Continued attention was paid to the promotion of export trade.

ders worth Re 4 700 to be Orders worth Rs. 4.72 lakhs for RAXs. and Automatic Exchange to be ship have be ments worth Rs. 4.72 lakhs for RAXs. and Automatic Exchange Exchange Shipped to Could be received from Ceylon and the goods are expected to be value to Could be considered to the considered to Could be considered to the shipped to Ceylon by March, 1963. Upto the end of October, 1962 the value of sales in ( Value of sales in foreign countries amounted to Rs. 35,343:70 nP.

The Company also participated in the International Trade Fair Lagos igeria), the Tourist Trade Fair Lagos (Tunisia) and the India Show (Nigeria), the Tunis International Fair (Tunisia) and the India Show Room-Beirut (Lebanon).

100. Labour Relations.—Labour relations continue to be cordial.

101. Wage Structure.—The wage structure was further revised from January, 1969 D. The wage structure review, non-operative An agree. 101. Wage Structure.—The wage structure was further revised staff also were made allowed the period under review, non-operative signed.

Nember of made allowed the period under review, normal rate.

Nember of made allowed the period under review, normal rate.

Nember of made allowed the period under review, normal rate.

Nember of made allowed the period under review, normal rate. also were made eligible for over-time payment at normal rate. Was signed in Non-the production of the Ment on the production bonus and incentive payment at Employees' Union.

This are local are waged under review, An agree was signed under made eligible for over-time payment at normal rate. Was signed under review, An agree was signed.

An agree was signed under review, An agree was signed under review. in November, 1962 between the management at notation the list April, agreement is a specific of three years from the suppose of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, and the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, and the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from the list April, agreement is a specific of three years from t This agreement is valid for a period of three years from the 31st

102. Personnel.—The total staff strength of the factory as on the 31st cember, 1962 was 2005 December, 1962 was 8,965.

THE HINDUSTAN TELEPRINTERS LIMITED, MADRAS.

O3. The --HINDUSTAN TELEPRINTERS LIMITED, MADE as registered as Covernment Company on the 14th December, 1960.

<sup>\*</sup>Composite racks which were included under Misc. Racks during 1961-62 have included under Multiple Racks.

at present located in temporary premises in the Industrial Estate at Guindy, Madras. Land for the construction of the factory buildings was handed over by the Government of Madras free of cost in April, 1962, and the construction of the factory building 1962. and the construction work is in progress. It is expected that the entire factory building will be ready by about the end of March, 1964.

104. Production.—The production target of the Company is fixed for iods of but the periods of half years may to November and December to April. For the period May 1000 period May, 1962 to April, 1963 the Company is expected to assemble 850 Teleprinters. 850 Teleprinters. They had actually assembled 510 Teleprinters upto the 31st December 1999 the 31st December, 1962. Practically all the machinery required for the factory has been and factory has been ordered and about 80% of it has been received tooling for the tooling for the manufacture of Teleprinters has also been ordered and about 25% has been ordered. about 25% has been received. The indigenous manufacture of components is being progress. ents is being progressively increased. At present, about 20% of the components are being manufacture of components are being manufacture. ponents are being made indigenously.

105. Finance.—The Company is being run as a Private Limited Company, fully-owned by the C pany, fully-owned by the Central Government, with an authorised capital of Rs. 3 crores. The paid of Rs. 3 crores. The paid up capital of the Company as on the March, 1962 was Rs 50.9 1211 March, 1962 was Rs. 50.2 lakhs. During the year 1962-63, the Government have invested Do 17. Government have invested Rs. 17 lakhs and propose to invest another sum of Rs. 7.8 lakhs by purchase of 1 of Rs. 7.8 lakhs by purchase of shares of the Company.

The total amount of share capital of the Company.

The total will be to share capital of the Company. of share capital of the Company at the end of the year 1962-63 will be Rs. 75 lakhs. During the year 1962-63 will be far sanctioned a loan of Rs. 15 lakhs and propose to sanction a loan of Rs. 13.2 lakhs before the loan of Rs. 13.2 lakhs before the end of the financial year to the Central During 1963-64, the fund record During 1963-61, the fund requirements of the Company from the Government have been estimated. Government have been estimated as Rs. 38 lakhs, the entire being provided in the shape of 1

In the first Statement of Accounts covering the period ending March, The Company 1962 the Company showed a nett loss of Rs. 1,91,590. The Company was not expected to make a m

106. Personnel.—The staff strength of the Company as on the 1st Jan, y, 1963 was 163 which included a recommendation. uary, 1963 was 163 which included 8 Italian experts.

# SECTION IX

MISCELLANEOUS

Ministries

107. O. & M. Activities.—The O. & M. activities of the Ministries

tinue to be governed by the "YAT".

1 was paid: continue to be governed by the "Work Study" approach the special attention was paid to identify and sund attention from tion was paid to identify and study sectors of administration of the attention from the point of view of important study. important studies carried out by the two Air Corporations

Indian Telephone Industries and the results achieved by them during the year are as follows:-

> Results achieved Field of Study

(a) Air India Corporation:

(i) Control over fuel and oil sumption—Contract for supplies of fuel and oil.

con- A saving of Rs. 1.50 lakhs per annum on fuel bill oplies is expected by adopting long range cruise technique wherever possible, by avoiding dead flying

As a result of a fresh contract for supply of fuel to the Boeing aircraft at Delhi on an annual be reduced basis, expenditure on fuel is likely to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply of the supply of fuel to be reduced by about Rs. 3 10 lakhs per annumber of the supply o

A contract for supply of fuel at Tokyo is under negotiation with a Japanese Company likely to result in a saving of Rs. 1.70 lakhs per annum

Similar enquiries regarding alternate sources of supply, with a view to save on fuel bill particularly in Italy, are being made. It is also proposed to maintain close liaison and collaboration with the Indian Oil Company.

(ii) Engineering man-power utilization and enhancement in the engines

The periods of overhaul of Boeing 707 aircraft.

The periods of overhaul of Boeing 707 aircraft.

This is likely the been substantially increased. This is likely to result in significant saving both in regard to result in significant and labour.

material consumption and labour.

As a result of the increase in the periods of overhaul of Rolls-Royce conway likely to come down by on engine overhaul is annum of which Rs. 0.60 about Rs. 2 lakhs per annum foreign exchange. 1 lakh will represent savings in foreign exchange.

Arrangements have been made for the Overhaul of the Conway Jet Engines at Corpor The lakhs. Rolls Workshop recently cost of Rs. 52 lakhs. Rolls at a total capital thitherto being overhauled a contract a total capital thitherto being overhauled workshops in U.K. on a contract and their Workshops in U.K. on a manual serious at their workshops these arrangemis exposes at their saving of these annum is exactly assis. As a result of lakhs per annum is exactly of the saving of Rs. 25 to 30 lakhs per annum of the pected.

Arrangements have also been made Speed the jet Constant Speed the jet Constant Speed the jet inted accessories of United accessories of United accessories of United accessories of United accessories in the major accessories in Engine to Engine the Mingdom, Santa Criz, Re. 2:50 lashs per service and Works at saving of Re. 2:50 lashs cange.

Works at saving of Re. 2:50 lashs cange and including Rs. I oo lash in foreign carpets are including Rs. I of aircraft canges.

Development indigenous

Indigenous procurement of aircraft a Rs. 1.00 lakh in foreign excususes of carpets of carpets of aircraft a Rs. 1.55 lakhs per annunt including Rs. 1.56 lakhs per exchange.

- (iz) Crew accommodation cost in Crew accommodation costs at New York have been U.S.A. reduced by approximately Rs, 13,000 a quarter effective control of the second second when reflective only during the summer season when the frequency. the frequency across the Atlantic would be on a daily bacis
- (v) Technical handling in Bangkok.
- With effect from 1st September, 1962, the poration board technical poration have started doing their own Airport handling of their poration have started doing their own Airport handling of their services at Bangkok This which was hitherto being done by KLM. arrangement will result in reduction of expenditure of approximately Re 2 labba per annum in foreign of approximately Rs. 2 lakhs per annum in foreign exchange.
- (vi) Introduction of budgetary con- A beginning has been made by introducting trol at out-stations. beginning has been made by introducing budgetary control of expenditure of out-stations of over some specified and controllable items of expenses.
- (b) Indian Airlines Corporation:
- (i) Optimum utilisation of man power covering such matters as job evaluation, methods of work, training and incentive schemes.
- (ii) Use of accounting as a tool of management-Speeding up accounting procedures, setting up of standard costs etc.
- The services of a foreign expert were end obtained end to study the Indian Airlines Corporation has gineering set-up with a view to expert suitable incentive scheme The expert serious services of the expert serious serious end of the expert serious end of the end o suitable incentive scheme. The expert sing since submitted a preliminary report suggest a complete study of the optice engineering helps since submitted a preliminary report suggesting a complete study of the entire engineering up. According to the suggested years, the the study will take a period of 2 yidering pert the study will take a period of considering pert Indian Airlines Corporation are of an endown under the securing the services Indian Airlines Corporation are considering pert question of securing the services of sed study under the Colombo Plan for the proposed The study will also include an examination and (a) optimized (a) optimum utilisation of man power, and (b) use of accounting as a tool of ment.
- (iii) Improvement of stores provisioning and inventory control.
- This will also form part of the study of the matter the expert referred to above expert referred to above. Airlines methods is also receiving Indian attention separately and improved methods under study.
- (iv) Improvements of decision making process with special reference to delegation of powers and definition of responsibilities.
- Adequate powers have been delegated matter of to to to matter of matter of the matter
- (c) Indian Telepone Industries THE PERSON OF MESSAGES
- () Sales Billing Group Project
- Savings in staff, forms, operations and with and of documents and higher product the 22,770 increase in output of saving of method. A total annual saving is expected on these counts. The existing procedures have been saving simplified which will to the Rs. 14,000 per annum to the simplified which will be simplified w
- (ii) Purchase Organisation

108. Other O. & M. Activities.

- (a) Compilation of Codes and Manuals.—The Overseas Communications Service have revised the Manual of Local Traffic Orders for Bombay and Made. and Madras Centres. The compilation of a Manual of Technical Instruc-tions for On tions for Observatories by the India Meteorological Department and the revision of a Manual of Technical Department and the India Meteorological Department and India Meteorological Department India Mete revision of the Overseas Communications Service Handbook of Departmental Office Overseas Communications Service Aircraft Rules are also mental Office Procedure is in hand. The Indian Aircraft Rules are also being review to the Country of the Overseas Communications Service Handbook of the Aircraft Rules are also being review to the Country of the Overseas Communications Service Handbook of the Overseas Communication Service Handbook of the Overseas Communication Service Handbook of the Overseas Co being revised by the Civil Aviation Department.
- (b) Records Management.—About 19,000 files which had out-lived Ministry their usefulness were weeded out during the year by the Overseas Comand the offices of the Civil Aviation Department and the Overseas Communications Service. The periods of retention prescribed for the preservation of service. The periods of retention reviewed. Service. The periods of retention preserved.

  Various types of records are also being reviewed.
- (c) Weekly Arrears Statement.—A revised form of Weekly Arrears Statement Weekly Arrears Statement.—A revised form of Weekly Arrears Statement.—A revised form of Weekly Ministry as introduced last year in certain Sections of the Main the Stry as introduced this year in all introduced this year in the stry form has Ministry as an experimental measure, was introduced the new form has the Sections of the Ministry. The introduction of the new form has served the true of the Ministry. The introduction of the make and of knowing at a server of the Ministry. served the twin object of effecting economy in paper and of knowing a half object of effecting economy in the performance of at a glance improvement or deterioration, if any in the performance of perioricular deterioration, if any in the performance a perioricular deterioration as a whole over a particular dealing hand as well as of the Section as a whole over a beriod of time.

log.

cted in the No. Forty six inspections as shown below were condition the during the ducted in the Ministry and the Civil Aviation Department during the

	ary and the Civil 12	
		erly and half
	Annual Inspections Quart yearly conducted by officers of the rank of Deputy of the received the	inspections of officers of
		ank of Order
Minio	of the lam. Secretary	
Avior		26 11
Ministry Civil Aviation Department	$\vdots$	37
Total		he notice
of the defects observed the Second of the defects observed the second of	9 grand inspections were brought t	o the
Sector Observed	inspections Well a	

Observed in these inspections were Sections observed in these inspection.

110. Concerned for remedial action.

respect of the wee of Hindi.—The position in this regard

Min. of the wee of Hindi.—Summarised below: in 110. Progress made in the use of Hindi.—The position in the use of the various organisations is summarised below: Ministry (Main). (Deptis, of Communes, & Civil Aviation).

111. A Hindi unit under the charge of a gazetted Hindi officer has been ablished in the Mini established in the Ministry (main) to deal exclusively with Hindi Work.

Besides this the Besides this, the services of Hindi knowing officers and staff are also utilised as and subutilised as and when necessary.

In accordance with the instructions issued by the Ministry of Home airs, necessary roses. Affairs, necessary rosters in respect of non-Hindi knowing staff have nearly prepared and the course. prepared and the staff is deputed for training in Hindi, Hindi stenography and Hindi typewriting and Hindi typewriting.

All communications received in Hindi are invariably replied to in andi Orders, Circulare and in Hindi are invariably replied to in the invariable replied to invari Hindi Orders, Circulars and reports etc., which are of a general nature and those relating to Clarester. and those relating to Class IV staff, are issued in Hindi.

There is sufficient number of Hindi typewriters to meet the present needs.

112. Civil Aviation Department.—The Department continued to sponsor Hindi Ployees for training in TV: employees for training in Hindi medium including training in Hindi typewriting and Hindi store. typewriting and Hindi stenography as per requirements of the Teaching Scheme.

As a step towards the translation of Departmental literature for ndi language during the partial ded at Hindi language during the period under review, this Department warded the entire manuals and under review, this Department of non-statuding the period under review. warded the entire manuals, codes, rules and regulations of non-statutory nature with which this Department of Depa nature with which this Department is concerned to the Central Directorate for translation into III.

A more significant event of the year has been the introduction ting and drafting in Hind: 1 more significant event of the year has been the introduction of the noting and drafting in Hindi language in a number of sections its have quarters office. Hindi Section has in Hindi language in a number of section has in Hindi language. quarters office. Hindi Section has been permitted to carry out its have in Hindi language while all other manifestations. in Hindi language in a number of sections its have have in Hindi language while all other sections/Units at Headquarters been permitted to correspond with Trial Countries Hindi language. The number of been permitted to correspond with Hindi Section in Hindi Ingual Orafting in IV. The number of such Sections which have accordingly started thirty of drafting in Hindi language is seven sections/Units sections/Units. Out of these 34 sections 10 sections have more than per cent of their staff already trained.

Supply orders have been issued for purchase of Hindi Delhi use of the regional staff posted at B for use of the regional staff posted at Bombay, Calcutta and Training addition Hindi Section at Handi Aviation, wperfile Centre at A. audition Hindi Section at Headquarters and Civil Aviation typewrite Centre at Allahabad have also been provided with one Hindi each.

A Senior Departmental Expert is being nominated who will be extinted to Central Hindi Directorate for constitution /advice in the translation of il Andrew in the constitution of the translation of the constitution of the translation of the constitution of the consti A Senior Departmental Expert is being nominated who will be at a will

113. India Met. Department.—In pursuance of the Presidential Order of 1960, the programme of in-service training in Hindi under the Hindi Teaching a departmental staff Teaching Scheme was intensified. Members of the departmental staff at all important stations, excépt at Kodaikanal, availed of the Hindi Training to the department of such classes Training facilities provided under the Scheme. Starting of such classes at Kodaikanal was under consideration.

Arrangements were continued for sending replies in Hindi to all letters received in Hindi wherever replies were called for. In order to make full utilisation of the persons trained in Hindi, their services were utilised in a limit wherever replies were called 101. .... utilised in drafting/translating letters in Hindi. Purchase of Hindi typewritere r typewriters for use by persons trained in Hindi typewriting was also sanctioned for use by persons trained ...

e circle of the departmental once.

Letter-heads and office name boards in all the circle offices have already been or are being printed in the bilingual Co. Hind: form. Hindi typewriters were purchased by the offices of the Additional the missioner and Western Circles, during Commissioner of Railway Safety, Eastern and Western Circles, during circles, To the Mark Safety of the Mark Safety of the Safety the year. To start with arrangements have been made in two of the five Ada. Offices Circle Offices of the Railway Inspectorate, namely in the offices of the Railway Inspectorate, namely in Circle, Lucknow, Additional Commissioner of Railway Safety, Northern Circle, Lucknow, received Western Circle Railway Inspectorate. and Western Circle, Bombay, for replying in Hindi communications also led in the Railway Inspector. Received in that language. In the latter office, notings in some cases are being written in Hindi.

Three departmental forms which are in use in the Circle Offices were spin into it. translated departmental forms which are in use in the Circle Unice in the Circle Unice in the Circle Unice is also departmental during the year. The annual report of the Combination of Recipion of Recipion departmental missioner of Railway Safety on the working of the Railway Inspectorate manning being room to the working of the Railway Insp is also her of Railway Safety on the working of the Railway Inspectorate, which are required to be translated in the Railway Inspectorate, which are required to be translated into Hindi.

the Wireless Planning & Co-ordination Organisation.—Forms pertaining ecessar Monitor:

Nonitor: Forms pertaining and translated into Hindi and trans to the Wireless Planning & Co-ordination Organisation.—Forms pertained Monitoring Organisation have been translated into Hindi and hindi instructions of Home Affairs hecessary instructions and orders to Class IV staff are being issued in The Oth Page 18 by the Ministry of Home Affairs in the Radio The other instructions issued by the Ministry of Home Radio being followed. The form used for application in the Radio being been Board orders. has been rendered. The form used for application in the kannel been rendered. been rendered in Hindi and English.

26. Gaya 27. Indore 28. Jaipur 29. Junagadh (Keshod) 30. Kailashahar 31. Kamalpur 32. Kandla 33. Khowai 34. Kumbhirgram 35. Lucknow (Amausi) 36. Madurai 37. Mangalore (Bajpe) 38. Mohanbari 39. North Lakhimpur (Lilabari) 40. Passighat 41. Patna 42. Phoolbagh 43. Porbandar			
S. No. Name of Aerodrome  I—International Aerodromes  1. Bombay Airport (Santa Cruz) 2. Calcutta Airport (Dum Dum) 3. Delhi Airport (Palam)  II—Major Aerodromes  4. Agartala 5. Ahmedabad 6. Begumpet 7. Delhi (Safdarjung) 8. Gauhati 9. Madras (St. Thomas Mount) 10. Nagpur 11. Tiruchirappalli  III—Intermediate Aerodromes  12. Amritsar 13. Aurangabad 14. Baghdogra 15. Balurghat 16. Baroda 17. Belgaum 18. Bhavnagar 19. Bhopal 20. Bhubaneswar (Cuttack 21. Bhuj 22. Bhuntar (Kulu) 23. Bombay (Juhu) 24. Coimbatore 25. Cooch-Behar 26. Gaya 27. Indore 28. Jaipur 29. Jaingur 29. Jaingur 29. Jaingur 30. Kailashahar 31. Kamalpur 32. Kandla 33. Khowai 34. Kumbbirgram 35. Lucknow (Amausi) 36. Madurai 37. Mangalore (Bajpe) 38. Mohanbari 39. North Lakhimpur (Lilabari) 40. Passighat 41. Patna 42. Phoolbagh 43. Porbandar		Appendix I	THE CIVIL
S. No. Name of Aerodrome  I—International Aerodromes  1. Bombay Airport (Santa Cruz) 2. Calcutta Airport (Dum Dum) 3. Delhi Airport (Palam)  II—Major Aerodromes  4. Agartala 5. Ahmedabad 6. Begumpet 7. Delhi (Safdarjung) 8. Gauhati 9. Madras (St. Thomas Mount) 10. Nagpur 11. Tiruchirappalli  III—Intermediate Aerodromes  12. Amritsar 13. Aurangabad 14. Baghdogra 15. Balurghat 16. Baroda 17. Belgaum 18. Bhavnagar 19. Bhopal 20. Bhubaneswar (Cuttack 21. Bhuj 22. Bhuntar (Kulu) 23. Bombay (Juhu) 24. Coimbatore 25. Cooch-Behar 26. Gaya 27. Indore 28. Jaipur 29. Junagadh (Keshod) 30. Kailashahar 31. Kamalpur 32. Kandla 33. Khowai 34. Kumbhirgram 35. Lucknow (Amausi) 36. Madurai 37. Mangalore (Bajpe) 38. Mohanbari 39. North Lakhimpur (Lilabari) 40. Passighat 41. Patna 42. Phoolbagh 43. Porbandar	LIST	OF AERODROMES IN INDIA MAINTAINED B AVIATION DEPARTMENT AS ON 1ST JANUAR	Y 1963
1. Bombay Airport (Santa Cruz) 2. Calcutta Airport (Dum Dum) 3. Delhi Airport (Palam)  II—Major Aerodromes  4. Agartala 5. Ahmedabad 6. Begumpet 7. Delhi (Safdarjung) 8. Gauhati 9. Madras (St. Thomas Mount) 10. Nagpur 11. Tiruchirappalli  III—Intermediate Aerodromes  12. Amritsar 13. Aurangabad 14. Baghdogra 15. Balurghat 16. Baroda 17. Belgaum 18. Bhavnagar 19. Bhopal 20. Bhubaneswar (Cuttack 21. Bhuj 22. Bhuntar (Kulu) 23. Bombay (Juhu) 24. Coimbatore 25. Cooch-Behar 26. Gaya 27. Indore 28. Jaipur 29. Junagadh (Keshod) 30. Kailashahar 31. Kamalpur 22. Kandla 33. Khowai 34. Kumbhirgram 35. Lucknow (Amausi) 36. Madurai 37. Mangalore (Bajpe) 38. Mohanbari 39. North Lakhimpur (Lilabari) 40. Passighat 41. Patna 42. Phoolbagh 43. Porbandar	S. No.	Name of Aerodrome	Kemas
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13. Aurangabad 14. Baghdogra 15. Balurghat 16. Baroda 17. Belgaum 18. Bhavnagar 19. Bhopal 20. Bhubaneswar (Cuttack 21. Bhuj 22. Bhuntar (Kulu) 23. Bombay (Juhu) 24. Coimbatore 25. Cooch-Behar 26. Gaya 27. Indore 28. Jaipur 29. Junagadh (Keshod) 30. Kailashahar 31. Kamalpur 32. Kandla 33. Khowai 34. Kumbhirgram 35. Lucknow (Amausi) 36. Madurai 37. Mangalore (Bajpe) 38. Mohanbari 39. North Lakhimpur (Lilabari) 40. Passighat 41. Patna 42. Phoolbagh 43. Porbandar		••	
45. Rajkot	13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 31. 32. 33. 34. 35. 37. 38. 39. 41. 42. 43. 44.	Aurangabad Baghdogra Balurghat Baroda Belgaum Bhavnagar Bhopal Bhubaneswar (Cuttack Bhuj Bhuntar (Kulu) Bombay (Juhu) Coimbatore Cooch-Behar Gaya Indore Jaipur Junagadh (Keshod) Kailashahar Kamalpur Kandla Khowai Kumbhirgram Lucknow (Amausi) Madurai Mangalore (Bajpe) Mohanbari North Lakhimpur (Lilabari) Passighat Patna Phoolbagh Porbandar Port Blair	

g. No.	47	
47. 48. 49. 50.	Name of Aerodrome Rupsi Trivandrum Tulihal Udaipur Varanasi Visakhapatnam	Remarks
	IV—Minor Aerodromes  Akola Behala Bilaspur Chakulia Cuddappah Donakonda Jhansi Jharsuguda Jabalpur Kanpur (Civil) Khandwa Kolhapur Kotah Lalitpur Malda Muzaffarpur (Rewaghat) Palanpur (Deesa) Panagarh Raipur Rajahmundry Rajahmundry Satna Shella Sholapur Vellore Vijayawada Warangal	
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APPENDIX II

LIST OF AERONAUTICAL COMMUNICATION STATIONS ON BY THE CIVIL AVIATION DEPARTMENT AS 1ST JANUARY 1963 W Jodhpur Kailashahar Agartala 44. Ahmedabad 2. Kamalpur Akola Kandla 46. 4. Allahabad 47. Kanpur Kathmandu Amritsar 48. 6. Aurangabad Keshod 49. 7. Baghdogra Khowal Kotah 50. 8. Balurghat Kumbhirgram 9. Bangalore Banihal 10. Lalitpur 53. 11 Baroda Lilabari 54. 12. Lucknow Baruipur 55. 13. Belgaum Madras. 56. 14. Bellary Madurai 57. Mandasor 15. Berhampore 58. Mangalore Bhatinda 16. 59. Mohanbari 17. Bhavnagar 60. Nagpur Panagarh Bhopal Bhubaneswar 18. 61. 19. 62. Passighat Bhuj 20. 63. 21. Pataudi Bhuntar (seasonal station) 64. Pathankot **2**2. Bombay 65. 66. 23. Calcutta Patna Phoolbagh Chakulia 67. Porbandar 25 Chandernagore 68. Port Blair Qazi Gund 26. Cochin 69. 70. Coimbatore Raipur 71. 72. 73. 74. Rupsi (Sarsawa) Saharanpur (Sarsawa) Taharanpuli Trivandri,m Cooch-Beher Cuddappah 30. Delhi 31. Gaya Gauhati 32. 75. Trivandrum 33. Ghaziabad 76. 77. 34. Gwalior Ūdaipur, 35. varanasi Vijayawada Visakhapainan Visakhapainan Hyderabad (Begumpet) 78. Imphal 79. Indore 80. 38 Jabalpur 81. Warangal 39. Jaipur 40. Jammu 41. Jamnagar Jamshedpur GMGIPND—DME—144TC) (JC 6123)—23-2-63