

The
Economic Life
of
Hyderabad



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CONTENTS

CHAPTER I.

Natural Resources.

	PAGE
1. Physical Features	1
2. Mineral Resources	5
3. Forest Resources	8
4. Animal Resources	12
5. Water Power Resources	18
6. Population	21

CHAPTER II.

Agriculture.

1. Land Tenure	25
2. Agricultural Conditions	28
3. Research, Experiment, Demonstration and Propaganda.	34
4. Marketing of Agricultural Produce	40
5. The Co-operative Movement	43
6. Rural Reconstruction	51
7. Rural Development Centre at Patancheru	58

CHAPTER III.

Industries and Trade.

1. Large Scale Industries	61
2. Cottage Industries	81
3. H.E.H. the Nizam's Mint Workshop Department	89
4. Trade	94

CHAPTER IV.

Communication and Transport.

1. H.E.H. the Nizam's State Railway	97
2. Road Communications	109
3. H.E.H. the Nizam's Postal Department	115

	PAGE
CHAPTER V.	
<i>Public Works.</i>	
1. Irrigation—Its Development and Present Position ..	117
2. The City Improvement	121
3. The Drainage System	124
CHAPTER VI.	
<i>Finance and Currency.</i>	
1. The Financial System	128
2. The Currency System	136
CHAPTER VII.	
<i>Public Health and Sanitation.</i>	
Health and Medical Services	142
Health, Curative and Preventive Activities	144
Rural Reconstruction and Collaboration of the Population ..	144
Sanitation and Sanitary Engineering	146
Medical Examination of School Children	148
Anti-Rabic Centres	148
Infant Welfare Centres	149
Measures for Combating certain diseases in Rural Districts ..	150

PREFACE.

The object of this book is to give a picture, in broad outline, of the economic life of the people of Hyderabad as it is lived at the present time. We could hardly make a more fitting present to the members of the Indian Economic Association who have gathered here from all parts of the country to hold their Twenty-first Annual Conference. The book has been prepared somewhat in a hurry and the picture therefore is not quite as complete as it could have been. It is however comprehensive enough to fulfil the purpose for which it was undertaken.

Thanks are due to the Departments of Government without whose co-operation the Reception Committee would not have been able to prepare this book.

MAHDI YAR JUNG,
CHAIRMAN,
Reception Committee.

ALL-INDIA ECONOMIC CONFERENCE,
Twenty-first Session,
HYDERABAD-DECCAN,
28th December, 1937.

THE ECONOMIC LIFE OF HYDERABAD.

CHAPTER I.

NATURAL RESOURCES.

(1) PHYSICAL FEATURES.

The Dominions of His Exalted Highness the Nizam form the eastern portion of what is generally called the Deccan; and, if we exclude Berar*, they lie between $15^{\circ} 10'$ and $20^{\circ} 40'$ N. and $74^{\circ} 40'$ and $81^{\circ} 35'$ E. covering an area of 82,698 sq. miles, *i.e.*, more than the area of England and Scotland put together.

A very large part of the area of the Dominions consists of an extensive plateau of an average elevation of about 1250 feet above the sea level, with certain eminences rising to 2500 feet and in one instance to 3500 feet. There are no 'hills' worth the name, although there are certain undenuded portions of a series of flat-topped plateaus appertaining to the great tableland, which might be called 'hill ranges.'

The State is endowed with some of the most important rivers in India. Its river system consists of two great basins, that of the Godavari and the Krishna. The Godavari enters the Dominions in the Aurangabad district and, after forming the boundary of eight districts and the Hyderabad-Bastar frontier, leaves the Dominions and flows out into the great tract of the Northern Circars like the sister river Krishna. While making its progress of more than 600 miles through the Dominions it attracts a number of tributaries, chief of which are the Painganga, the Wardha and the Parentha from the north and the Manjira and Maner from the south.

*Berar, although administered jointly with the Central Provinces, is under the sovereignty of H.E.H. the Nizam who receives an annual rental of 25 lakhs of rupees from the British Government. The territory has close geographical affinity with the adjoining parts of the Dominions. The area of Berar is 17,710 square miles, *i.e.*, slightly larger than the area of Switzerland.

The Krishna is the other great river of the Dominions. Rising near the famous Bombay hill-station, Mahabaleswar, it passes through the State, forming the boundary of a number of H.E.H. the Nizam's districts and also part of the southern frontier of the Dominions, falling into the sea near Masulipatam after its 700 odd miles of progress. Among its tributaries the most important are the Bhima, well known to all students of Mahratta history, the Musi, on which the capital of the Dominions stands, and the Tungabhadra which forms the southern boundary of the Raichur-Mudgal Doab, once the scene of incessant struggles between the Bahmani and the Vijayanagar Empires.

Artificial Lakes:—The Dominions, specially the Telangana region, abound in tanks and artificial lakes constructed mainly for purposes of irrigation. Some of these lakes are historically interesting, while most of them considerably add to the varied and delightful scenery of the Dominions. Among the historical lakes may be mentioned the Pakhal lake in the Warangal district which goes back to the Andhra dynasty of the Kakatiyas, the Naldrug tank of the time of Ali Adil Shah of Bijapur, the Husain Sagar between Hyderabad and the Secunderabad Cantonment, built in the time of Ibrahim Qutub Shah, and the Mir Alam tank, about four miles from the city, perhaps the first attempt at providing the population of the city with fresh water in large quantities, constructed by the prime minister of Asaf Jah III. Two remarkable modern tanks near the capital—they are really too large to be called tanks—have been constructed during the reign of the present ruler, one to ward off the recurrence of the floods of the Musi which have played havoc so many times in recent history, and the other mainly for purposes of agriculture. These lakes, called the Osmansagar and the Himayatsagar, form two of the most beautiful sights in the vicinity of the capital, the former, 18 sq. miles in area, serving at the same time as the great reservoir of drinking water for the city and suburbs of Hyderabad. But even these lakes are small compared to the great Nizamsagar which has recently been constructed by damming the river Manjira by an embankment more than two miles long and covering an area of

more than 50 sq. miles. The lake has been constructed for irrigation purposes, and it is estimated that it will eventually be able to irrigate an area of nearly three lakhs of acres, at the same time forming one of the beauty spots of the Dominions.

Geology:—The geological formations of the Hyderabad State are the recent and ancient alluvia, laterite, Deccan trap, Gondwana, Kurnool and Cuddapah, and Archaean. Those most largely developed are the Deccan trap and the Archaean, covering immense areas in the north-western and south-eastern portions of the territory, respectively. The Gondwana rocks extend for a distance of nearly 200 miles along those portions of the valleys of the Godavari and the Pranhita which form the north-eastern frontier of the State. The Cuddapah and Kurnool formations are found in the valley of the Krishna along the south-eastern frontier for about 150 miles, and again in the valleys of the Kistna, the Bhima and their tributaries in the south-west.

Regions:—The Dominions may be divided into two fairly definite regions; the western, generally called the Marathwada and the eastern which is called the Telangana although it contains a good bit of Canarese-speaking population as well. If a line were drawn from the confluence of the Tungabhadra and the Krishna in the south to the confluence of the Manjira and the Godavari in the north, and extended right up to the Hyderabad-Berar boundary, this would serve as a good demarcation of the two tracts. These regions differ not only in their radical characteristics but also in their physical formation; for the Marathwada is covered by trappean rock while the Telangana has granitic and calcareous formation. The western trap or black cotton soil region (which is continued northwards in the Berar) is the land of wheat and cotton, while the granitic Telangana is the land of rice and jawar. Moreover, the former is covered with luxuriant vegetation, cliffs, crags and undulating hills, while in the granite and limestone region the hills are bare of vegetation, and the land is covered with huge fantastic tors and boulders apparently piled one over the other. While in the west the soil resulting from the decomposition of the trap is dark and fertile, that in the

east is formed mainly from the granite and is sandy, with the result that here rivers dry up in hot weather, necessitating the storage of water in tanks and artificial lakes for purposes of irrigation.

Climate:—The climate of the Dominions is pleasant and agreeable during the greater part of the year. There are three marked seasons, the winter from the beginning of October to the end of January, summer from February to June and rains from June to September. The mean temperature of the Dominions is about 89°, the hottest parts being situated in the south-east and the coldest in the north-west. The climate of Marathwara is generally hot and dry from March to the end of May and temperate during the rest of the year, while that of Telangana is hot and damp from March to the end of September and temperate during the remaining months.

Rainfall:—The annual rainfall is estimated at about 31 inches, Telangana receiving about 33 inches and Marathwara 29 inches. A large portion of the rain falls during the south-west monsoon. The north-east monsoon brings in on an average only about 5 inches of rain.

Average Temperature for the Capital and the Headquarters of the Eastern, Western and Southern Divisions.

(Calculated from 1933-1935)

	Hyderabad.	Warangal.	Aurangabad.	Gulbarga.
	Max. Min.	Max. Min.	Max. Min.	Max. Min.
May.	103.4 79.7	105.7 82.7	102.1 76.21	105.5 79.1
Nov.	84.8 60.8	85.5 63.7	85.1 59.0	86.4 61.2

Average Rainfall in Inches (Calculated from 1935-37)

1934-35, 1935-36 and 1936-37.

	Hyderabad City.	Warangal.	Aurangabad.	Gulbarga.
Annual.	29.91"	43.40"	30.87"	26.63"
June to Sept.	19.46"	32.79"	24.44"	20.00"

(2) MINERAL RESOURCES.

The mineral wealth of a country is its greatest national asset, and the Hyderabad State has long been noted for its mineral resources. Gold, diamond, iron and copper are some of the more important minerals that were exploited in the state in the past.

The important minerals in the State and their economic prospects are indicated below.

Gold:—Modern gold mining operations were initiated in 1891 and continued until 1920. A recent departmental survey in the western parts of the State has revealed encouraging prospects for its revival and the present enhanced value of Gold should give a fresh impetus to the gold mining industry. A sum of Rs. 8 lakhs has been sanctioned this year to meet the cost of preliminary survey.

Coal:—Coal is now being mined at Singareni, Tandur, Sasti and Kothagudam and there are good prospects of its discovery in the south Godavari valley. Coal at present being mined is used almost exclusively for steam-raising purposes, but its possibilities for the production of gasoline, coal-tar and the associated by-products still await investigation.

Diamond:—The famous Parital group of diamond mines lie on the north bank of the Krishna. Some of the most celebrated diamonds of the world are reputed to have been found in these mines whose possibilities are still not exhausted. The diamondiferous quartzites as well as the Krishna alluvials require careful examination and exploitation with modern machinery and suction dredges capable of handling huge quantities of material. The bigger diamonds can be readily disposed of for purposes of jewellery and the smaller diamonds and those of an inferior quality will find an easy market for industrial purposes. The exploitation of the diamond fields south of the Krishna by recent European enterprise has proved such a possibility.

Iron:—Iron ores occur extensively in various parts of the State in varying quantity and quality, distributed in almost all

the geological formations. Time was, when the world famous Damascus blades were fashioned out of steel manufactured in Hyderabad State. Though outside competition has given a set back to this industry, yet it is possible to revive iron smelting on a commercial scale with suitable protection and encouragement.

Copper:—Surface indications for copper minerals have been reported from several localities and their possibilities await detailed exploration. There are in existence old workings for copper in some localities in the Raichur Doab and even in recent times copper ore was mined in parts of Nalgonda District.

Manganese:—Stray occurrences of manganese have been reported from parts of Bidar and Nizamabad Districts and their economic possibilities have to be carefully explored.

Mica:—Mica, in marketable sizes, has been noticed in the Warangal District, but in several other places books of smaller dimensions are met with which are used in the making of micaite and dry lubrication products.

Garnets:—Garnets collected in large quantities near Paloncha and Garibpet in Warangal districts were exported up to 1929. The area has given encouraging results for further exploitation. Precious garnets are also reported from the same area.

Graphite:—Graphite exists in Warangal district along with garnets and is being mined and exported. Small deposits are also reported from Karimnagar district. As manganese and graphite are both available within the State, the possibilities of manufacturing dry batteries should be considered.

Galena:—Galena is known to exist in Nalgonda district and its exploitation is awaiting investigation. A sample from the area is said to have assayed a high percentage of silver. It is also reported to exist in Warangal and near Hyderabad.

Clays:—Clays suitable for ceramic industry are found in considerable thicknesses at Chintrala in Nalgonda district as well as at Kamthana near Bidar. These are regarded as superior to high grade foreign kaolin.

In association with pegmatites good potash feldspars suitable for the ceramic industry are found in various parts of the Telangana and Karnatic districts.

Fire Clay:—Fire Clay of good quality is found abundantly in association with coal measures. This can be utilised for furnace construction in metallurgy.

Aluminous Boles :—Aluminous boles are known to exist in Deccan Trap country and their suitability and extent as ores of Aluminium await investigation.

Shales:—Some soft siliceous shales available near Gogi, Gulbarga district, are suitable for the manufacture of metal polish.

Materials for Glass manufactures:—The materials used in glass manufacture are abundantly available in various parts of the State. There is a wide distribution of quartz veins and river sand. Soda ash can be made from the saline efflorescence which is widely distributed in the State. The prospects for a glass industry are thus assured in such areas.

Salts:—Hyderabad is unique in not having any laws prohibiting indigenous salt manufacture and this industry has been in existence in the State from time immemorial. Edible and tanning salts are still produced by methods of Lixiviation of saline earth or by direct solar evaporation of brine from wells. Improved methods of manufacture by stack-evaporation and fractional crystallisation for recovering different kinds of salts are engaging the attention of the Government.

Ochre:—Ochres of various colours and shades are available in different parts of the State suitable for the manufacture of silicate paints.

Semi-precious Stones:—Agate, carnelian, plasma, blood-stone and other varieties of hydrated silica are widely distributed in Marathwada districts and can be fashioned into attractive semi-precious stones by the skilful hand of the lapidary. Seolites are also found in the Marathwada districts and with their increasing utility in water softening, should find an easy market.

Pyrites:—Pyrites occur disseminated in the gold bearing rocks, in the Bhima limestones in Gulbarga district and also as nodular concretions in coal seams. This is a valuable raw material for the chemical industry, specially in the manufacture of sulphuric acid.

Soap Stone:—Soap stones are reported at a few places in the State and are locally made into stone ware.

Corundum, Stibnite:—Rare occurrences of corundum and stibnite are reported, but there is no information as to their economic possibilities.

Building Stones:—The State abounds in building stones of excellent quality. Granites from Lingampalli, Raichur and Munirabad have been found to be superior to the famous Aberdeen granites. Unlimited quantities of different building material, suitable for heavy construction and decorative purposes, are available in the State. Limestone slabs locally known as Shahabad stone for flooring and roofing are extensively quarried and marketed. Limestone with the associated shales supports a prosperous cement industry. Marbles of different colours are quarried near Yellandu, some of them being of very good quality.

(3) FOREST RESOURCES.

In an agricultural country, with the increase of population and expansion of cultivation, the protection of forests in the interests of the public is a most important administrative measure.

Apart from the production of timber, firewood and minor forest produce, to meet the increasing demand of the country, the protection of forests is necessary for the prevention of erosion and denudation of land and for the preservation of the water-supply.

The total forest area of the State is unfortunately inadequate for meeting the requirements of the country. It is less than 12 per cent. of the total area, whereas 15 per cent. is generally accepted as the minimum required for an agricul-

tural population. The distribution of the forest areas is also very uneven.

The Forest Department was created in 1867. During the first 25 years, its energies were chiefly devoted to the protection and disposal of the more valuable species of timber; in the next 17 years organised exploitation and demarcation of forest areas were attempted and some form of regular management was taken in hand. It is, however, only in the last 25 years that progress in the systematic development of the forests has occurred.

The forests of Hyderabad may be described as varying from good in the East to practically non-existent in the west. The principal forests of the Dominions are situated in the districts of Asifabad, Warangal, Karimnagar, and Amarabad taluq of Mahbubnagar district. Forests capable of producing big timber are confined to the eastern parts of Asifabad, Karimnagar and Warangal districts along the river Godavari. These forests are not being worked for lack of means of communication because of the long lead to the markets.

The remaining forests are of the fourth quality, fit for supplying fuel and small timber for agricultural requirements. The total area under systematic working is 26,88,000 acres.

Major Forest Produce:—With the exception of a few *coupes* that are worked departmentally for the supply of agricultural requirements to the local ryots and timber to the two saw mills, forest produce is generally sold to be exploited by the Contractors, wherever demand exists and labour is available. *Tectona Grandis* (teak) is the principal marketable species and this finds its way to the chief and distant markets of consumption such as Hyderabad and Secunderabad. The other *Irsali* species such as *Terminalia tomentosa* (Nallamaddy), *Acacia Catechu* (Sundra), *Pterocarpus Marsupium* (Bija Sal), etc., are locally consumed and are not exported to the abovementioned markets either because of heavy Railway freights or for want of popularity.

Saw Mills:—There are two saw mills in the State which are supplying material for building purposes. There is a

great scope for these in the State and attempts are being made to put a number of kinds of wood on the market for this purpose.

Sleepers:—In 1921, 3 logs of Nallamaddi were supplied to the N.G.S. Railway for trial as ‘sleepers’ and these have proved quite suitable for the purpose. Eppa ‘sleepers’ were also supplied to the Railway this year from Asifabad division.

Charcoal:—Charcoal is indispensable for a number of purposes and can advantageously be made in areas far away from centres of consumption, where due to long distance, the cost of transport of fuel becomes prohibitive. Similarly, charcoal briquettes are being placed on the market and these can be sent to longer distances at lower cost.

Match Factory:—Some soft wooded species that are useful for match making are classed as “Gairee” timber. In 1928, a Match Factory was started at Mahbubabad and the following soft wooded species are being used for making matches:—

(1) Anduk (2) Burgu (3) Chedippa (4) Kumarpunki (5) Tella-punki (6) Gumpani (7) Tapsi.

Bombax Malabaricum is popular for making splints and is preferred to the other species. Besides this, there are two Match Factories, one at Musheerabad and the other at Vijapur in Aurangabad division.

Packing Cases:—*Gyrocarpus Jacquini* (Kumarpunki) is being tried for packing cases, and if successful will be largely used.

Bamboos:—The most important item in the minor forest produce is bamboo. The bamboo areas are being worked systematically with a rotation of 4 to 5 years. Bamboos are found in abundance in the North-Eastern districts, Warangal, Kareemnagar, and Amarabad hills of Mahbubnagar district. The *Dendrocalamus Strictus*, a variety of bamboo, being a fibre-yielding material is found to be most useful raw material for paper pulp. It is found in large quantities in Adilabad district. To explore the possibilities of an adequate and sustained supply of bamboos for the requirements of a paper mill,

a detailed and systematic enumeration survey was carried out and a report on the prospect of paper manufacture in Hyderabad was drawn up and published which will be of help to persons wishing to establish a Paper Factory in the State.

Tanning:—The bark of *cassia auriculata*, *cassia fistula* and *acacia arabica*, Myrobalan fruit is largely used for tanning material. Owing to the opening of local tanneries in many of the districts, the demand for the tanning bark is increasing annually.

Gums and Resin:—Gum from wounds in the bark of *Boswellia Serata*, is used for incense and possesses an agreeable scent. *Acacia arabica* and some other species are useful for the production of gum.

Ebony Leaves:—One of the important items of the minor forest produce is ebony leaf for 'beedi' making. Apart from local consumption a large quantity of these leaves is exported to Madras for the above-mentioned purpose.

Lac:—The production of lac was being extended, but lately its price has dropped to a great extent as a result of the appearance of rival substitutes. It is, however, cultivated in a number of districts and the produce sold locally, chiefly for the manufacture of bangles. A small Factory has been started in which sealing wax and varnish are made from lac and an attempt is being made to put them on the market.

Tassar:—There are many Nallamaddy crops in the State within the Godavery basin. A few are taken up for Tassar silk industry at Mahadeopur.

Gulmowha:—Another good revenue yielding produce is Gulmowha which is collected in the forest areas by the Excise Department in large quantities for making country liquor.

Sandalwood:—There are scattered and compact sandalwood areas in the Marathwara districts. But to make up for maltreatment in the past, sandal has been given complete rest for some years past and when the present crop attains a suitable size, the areas will be systematically worked.

Medicinal Plants:—The seeds and fruits of quite a number of plants such as *Strychnos potatorum*, *Helicteres isora*, etc., are used for making medicines. There is a great demand for medicinal plants from Unani Hakeems.

Ropes and fibre from the bark:—*Hardiwickia binata* and some other species are used for making ropes, etc., and the industry is being carried out systematically in Nalgonda Division.

Besides there are some varieties of grasses from which fibre is extracted and some species are used for thatching purposes.

Honey and Wax:—Honey and wax are collected in some divisions such as Nalgonda.

Manufacture of Katta:—Bark of *Acacia Catechu* (Sundra) produces "Katta" and if this industry is taken up on a large scale it should prove successful.

(4) ANIMAL RESOURCES.

The number of livestock in the State according to the Cattle Census of 1935 is 22,578,315. This figure includes 13,008,282 oxen and buffaloes, 5,936,400 sheep and 3,373,363 goats in addition to horses, camels and donkeys. Sheep and goats, horses and poultry, are all very valuable and necessary. Hyderabad is second in India only to the Punjab and Madras in the number of horses and sheep. The area under farming is calculated at 18,620,358 acres under Kharif and 9,994,754 acres under Rabi. All this vast area is farmed by bullock power. 5 per cent. of the gross area under cultivation is under irrigation, 32 per cent. of which again is under well irrigation. Cattle form the chief means of transport for the cultivator and others in rural areas for general transport and the marketing of farm produce. The ordinary cultivator is very poor and finds it economical to use bullocks for transporting his produce to the market. Well irrigation is done by bullock power as well as cane-crushing. Against 108 power cane-crushers there are 8065 worked by bullock power. Besides labour, cattle give the cultivator the necessary manure which ensures the fertility of the soil and a satisfactory return

from agricultural operations. Milk and other dairy products are a universal necessity and the demand for these would further increase as the benefits of such produce for the proper maintenance of human health are more commonly understood. It is truly said that cattle form the villager's principal, if not the only capital. When there is a depression in the trade of agricultural produce, it is to his cattle that he should turn for maintaining his family by the sale of dairy produce which has a ready sale and brings in an immediate return. As an example of the value of livestock to the State, it may be stated that the total cash value of the produce from cattle, etc., approximately amounts to:—

				<i>Crores.</i>
Cattle labour in agriculture	..	..	..	25.5
Cattle labour other than in agriculture			..	7.5
Dairy products	..	..	..	33.75
Manures	..	..	..	11.25
Other products	..	..	..	1.8
Trade	..	..	..	.28
			Total ..	80.08

Exports in 1936.

Ghee	..	..	..	1,18,000
Sheep and goats	..	..	..	15,15,000
Horned cattle and other animals			..	11,53,000
Poultry	..	..	..	3,20,000
Raw hides and skins	..	..	..	6,07,000
Bone meal	..	..	..	1,51,000
Tanned hides and skins			..	35,17,000
Leather manufactures			..	16,000
Boots and shoes	..	..	..	6,000
Income from grazing fees in State forests			..	4,35,000

The State has very good indigenous types of cattle:—

Malvi Type.—This medium breed of cattle is to be found in most of the Telingana districts, from Asifabad down to Mahbubnagar, in the eastern portion of the Dominions, except parts of Warangal and Nalgonda in the southern portions of which one comes across a different breed which will be referred to later. The Malvi type is not a milker breed; it is purely an agricultural type which for all purposes satisfies the needs of farming in the light soils in these districts. As a milker this has to be left out of consideration altogether.

Deoni Type.—We have in the western portion of the country the Dongri cattle which are known as the Deoni cattle. This is a heavy type suitable for work in the black cotton soil districts of the Marathwada. This type can be seen in the following districts:—

Nanded
Parbhani
Part of Aurangabad
Bheed
Bidar
Osmanabad
Gulbarga.

This particular breed has a build similar to that of the Gir breed which is famous as a milker in the Bombay Presidency and is capable of developing into a similar milker breed. The bullocks are heavy, good for slow and heavy draught work; the cows are good milkers although in their own area the cows are not as a rule milked, buffaloes being utilised for the milk supply for human consumption. However, a large number of these cows are sent to cities and towns for the supply of milk; in the city of Hyderabad for instance a very large number of milch cows come from the Bidar district.

Krishna-Valley Type.—We have the Krishna-Valley breed in Raichur and parts of the Mahbubnagar district. This, although not of a very good class, is considered a fair milking breed and the bullocks produced are large and heavy and good for agricultural work in the black cotton soil.

Ongole Type.—In the south-east of Warangal and Nalgonda in the basin of the river Krishna we have the Nellore or the Ongole breed. These are similar to the Krishna-Valley cattle except that they are taller, of lighter build, and are known as the best milkers among the indigenous types of cattle in the Madras Presidency.

Amrabad Type.—We have a small breed of cattle, bred mostly in the hilly portion of Amrabad taluqa, which is an active type, good for light work, and there is a market for these locally and in the bordering British district of Kurnool.

Buffaloes form the main source in most of the districts in the Deccan for the supply of milk for human consumption and the production of that most important article of diet—ghee. We have a special breed of buffaloes in the Deccan Plateau—the western half of these Dominions—and these are a very satisfactory source of supply of both milk and ghee. In the villages milk is seldom used; the butter is separated and converted into ghee and either sold in the weekly markets or sent on to towns and cities. The villagers generally are satisfied with the buttermilk (*Chaunch*), but some well-to-do people convert the whole milk into curds for their use. The people therefore are altogether deprived of the nutrient constituents of milk.

The nucleus of the Veterinary Department in the State was created in 1907 when following a severe famine in the Raichur district, Government employed a qualified veterinary surgeon with the necessary staff to attend to the diseases among cattle which carried away a large number of animals. The utility of veterinary service thus established, 4 more veterinary surgeons were engaged by the State in the year 1909 for the 4 revenue divisions of the State. The Department then developed gradually and its strength to-day is 5 gazetted Executive officers and 126 non-gazetted staff. There are two cattle breeding farms maintained by Government—one at Hingoli under the Veterinary Department for breeding Deoni cattle and the other at Himayatsagar near Hyderabad under the Agricultural Department for breeding Malvi and Krishna-Valley cattle. Breeding bulls either from the stock bred on the

Government Farms, or purchased from private breeders have been distributed free of cost from time to time or sold to well-to-do ryots. The system of purchasing bulls from private breeders is a very beneficial one in as much as it encourages the breeding by private agency of good stock in their natural environments. Fairs which are very popular are held regularly and valuable prizes are awarded in the different cattle breeding areas in about 25 places in the Dominions for encouraging interest in the proper breeding and care of livestock. A cattle breeding committee has been constituted as an advisory body which helps in directing the policy of cattle breeding. A census of all livestock in the country was first taken in 1920 and a quinquennial census ever since enables the state of the livestock to be gauged. Scrub bulls are castrated regularly so as to obviate the propagation of undesirable stock. Infectious diseases carry away numbers of livestock and the effect of the loss of agricultural cattle on rural economy has its repercussion on the revenue of the State. The protection of cattle against contagious diseases has been regularly attended to and has made rapid progress. 271,896 cattle were protected against various infectious diseases and 350,181 animals treated in 1936. In the years 1933 and 1934 Government sanctioned a sum of Rs. 50,000 a year specially for the protection of cattle against Rinderpest by the serum simultaneous method which gives an extended period of immunity. Vaccination against this disease which is taken up with goat virus method alone is economic and the progress has been marked. The serum required for this method of protection of cattle is now produced within the State. Protective measures against other infectious diseases like Hæmorrhagic Septicæmia, Black Quarter and other diseases are also undertaken. In 1934 a special form of cattle mortality register was introduced in the villages which number over 20 thousand. and weekly reports showing mortality from all causes are forwarded by village officials.

Sheep Breeding.—A flock of Bikaner sheep is maintained at the Hingoli farm for experimenting with the possibilities of the introduction of this breed into Hyderabad for improving the quality of wool and mutton.

Horse Breeding is also carried on at the Hingoli Stud Farm with Arab and thorough-bred sires. Stallions bred here have been posted in selected Tehsil Headquarters for loan to private breeders.

Veterinary Education.—Government scholars from Hyderabad are sent to the British Indian Veterinary Colleges for training, and they are absorbed by the department on their return.

Hyderabad is a member of the Imperial Council of Agricultural Research, and a Veterinary Investigation Officer financed by it is investigating diseases of livestock in the Dominions. Among the most notable contributions of Hyderabad in this work may be mentioned the discovery in livestock of deficiency diseases, like Osteomalacia in Mahbubnagar district and the gauging of the fatal results of the Trypanosomiasis (Surra) in cattle, and also the discovery of the extensive existence of Helminthic diseases like Liver Fluke which undermine their efficiency and thus their utility in agricultural operations.

The Veterinary Department co-operates with other departments in connection with rural uplift work.

Chief breeds of cattle.—Three chief breeds of cattle exist in the Hyderabad State which are found in different parts of the country. In the Marhatwara tract there is a breed called Deoni. This is a heavy type of animal suitable for plough work in deep black soil, though it is a slow mover. The cows of this breed are fairly good milkers. This breed is found in more or less pure state. Its chief breeding districts are Bidar, Nanded and Osmanabad. The second breed is called Krishna-Valley. The animal of this breed is lighter than the Deoni. This is a good draught breed. It is not so good a milker as Deoni and it is not so slow. This is bred mostly along the banks of Krishna and Tungabhadra rivers. The third is the type of animal which is found in the north-eastern districts of the State. It is similar to the Malvi breed of Central India. This is a smaller and lighter animal, good for plough work on light soils. Milking capacity of the cow is

rather low. Buffaloes are also to be found in large numbers in the State. These are mainly of two types, viz., Murrah and Nagpuri. Buffaloes are mainly kept for milk, and they are good milkers. He-buffaloes are extensively used in rice cultivation in Telingana.

Cattle improvement work is being done by Government at two places. Selected animals are kept at Government farms, and careful selection is made generation after generation for improvement of the progeny. Good bulls, so obtained, are distributed to cattle breeders in the State. The work of improving the Deoni breed is being done at Hingoli, Parbhani district, under the Civil Veterinary Department. The work of improving the Krishna-Valley and Malvi breeds is being done at the Cattle Breeding Farm at Himayatsagar. This farm has also got an up-to-date dairy, from where pasteurised milk is supplied to the Hyderabad City, delivery being made from door to door. Some buffaloes of Murrah breed are also kept at this farm for the supply of milk. A scheme of extension of work of cattle improvement is under consideration of Government and it is proposed to establish separate farms for the various breeds. Distribution of bulls on a large scale is also receiving attention.

(5) WATER POWER RESOURCES.

1. The possibilities in the way of natural water power in the State have so far remained unexploited; even in favourable localities power has not yet been developed. Hyderabad has not been to any great extent an industrial country, and therefore no serious consideration has been given to the subject; whatever industries exist are mostly dependent on fuel. But in the present age of severe competition no large industries can prosper unless cheap power is available in sufficient quantities.

2. Every Hydro Power Scheme is mostly dependent on rainfall and runoff. In Hyderabad, generally speaking, there is a monsoon, or rainfall period, and a dry period. The rainfall period extends for about 4 months in a year and during the other period there are only occasional thunderstorms that break the monotony of the dry season. It is only a small area

lying to the south-east of Hyderabad in Warangal district that is influenced by the two distinct monsoons, the south-west and the north-east. The variation of rainfall in the different parts of this State is appreciable, and the departures from the monthly and annual normals are also great. Hyderabad does not possess any perennial streams with sufficient water throughout the year; and in any case storage works would have to be constructed if a continual discharge is to be maintained for the development of power which is generally costly. A combination of irrigation and power, therefore, is a necessity when the cost of such storage works can be met by both the undertakings. Many of the Hydro-Electric possibilities in the State are therefore combined irrigation and power schemes, and such combined projects are likely to pay where they would not if they were confined merely to irrigation or power.

3. The State holds a very favourable position in as much as the largest rivers of the Deccan, namely, Godavery and Krishna, flow through it; the extent of water power so far investigated amounts to more than 112 lakhs continuous horse power, excluding the large tributaries such as Tungabhadra, Painganga, Manjira, Purna, Kaddam, Manair, etc., which can supply an additional 171 lakhs or in all nearly 283 lakhs horse power. A brief description of the various Hydro-Electric possibilities in the State are given below.

The river Tungabhadra flowing as a boundary river between Madras and Hyderabad in the south has been under investigation for a long time. It is intended to construct a joint reservoir across this river near Mallapuram. The Hyderabad canal during its course drops 230 ft. at two places, one at mile 14 and the other at mile 24. With this total fall of 230 ft. and with a perennial discharge of at least two thousand cusecs from our share of the waters, it is expected to develop about 42,000 H.P. continuous. The river Krishna flowing to the north of Raichur also affords great possibilities. It falls through a height of nearly 300 ft. in a distance of 4 miles above Lingsugur. These falls are known as Jaldrug falls. It is proposed to construct a reservoir across this river just above the cataract, and divert the perennial supply on the right bank. This channel will tunnel through a ridge near

Hira village and beyond it will be dropped about 250 ft. in two or three developments, and eventually the waters will be joined with the Tungabhadra canal. This river is at least $1\frac{1}{2}$ times the river Tungabhadra, and with a storage of 60,000 M.c.ft., it will be possible to create a perennial flow of 2500 cusecs. This canal discharge will be capable of developing about 67,000 horse power. Lower down on the river Krishna in Nalgonda district, another project is contemplated which is known as Lower Krishna Project. This is also likely to be a combined Project, between Madras and Hyderabad. The dam will be nearly 400 ft. high and the height between the sill of canals and the river-bed about 240 ft. Madras will be joining in this Scheme in order to safeguard their existing irrigation in the Krishna Delta. The needs of this delta are likely to be in the region of 3000 cusecs perennial, which dropped through a 240 ft. fall will give about 66,000 H.P. Besides this, there is another drop of 100 ft. available between the F.S.L. of reservoir and the sill of canal which is likely to be harnessed one day for secondary power to be utilized for irrigation pumping. The potentiality of the river Krishna is thus about 1,65,000 H.P.

The river Godavari falls through a rapide below Soan Bridge on the Hyderabad-Nirmal road. It falls as much as 500 ft. in 50 miles, and it is this fall which is proposed to be utilized. By constructing a reservoir above Soan bridge it is possible to create a fall of about 300 ft. and to drop the waters in its tributary, the Kaddam. The river Godavari with the storage under consideration will give about 2000 cusecs perennial discharge which will be able to create 55,000 H.P., continuous. Among the tributaries of the river Godavari, Painganga, Purna, Manjira, Kaddam and Manair, all offer opportunities for the development of power. Painganga is capable of giving about 15,000 H.P., Purna about 7000 H.P., Manjira about 30,000 H.P., Kaddam 10,000 H.P., and Manair 1000 H.P. The total potentialities of the river Godavari are in the region of 1,18,000 H.P.

The total resources of the State in the way of water-power are thus well above 2,50,000 H.P. Most of these schemes are combined Hydro-Electric and Irrigation scheme, and as com-

bined schemes they are capable of giving a reasonable return on the capital outlay. The Hydro-Electric power generated in the state can serve the various metal industries; it will also be useful for the nitrogen fixation industry and for rural electrification, such as irrigation pumping.

(6) POPULATION.

The total population of the State according to the Census of 1931 was 14,436,148.

Density.—Of the two natural divisions, Telingana (including Hyderabad City) and Marathwara, the former has a mean density of 180 persons to the sq. mile and the latter 170. The density in the districts varies from 231 in Medak to 104 in Adilabad. The City of Hyderabad has a density of over 8000 to a sq. mile and is the fourth largest City in India, which position is being maintained for the last 3 decades.

Towns and Villages.—There were 133 towns (including the City of Hyderabad and the three newly elevated cities of Warangal, Aurangabad and Gulbarga) and 21,697 villages in 1931, as compared with 89 towns and 21,223 villages in 1921.

Classification of Cities and Towns.—Of the total number of towns, only one (Hyderabad metropolis) has a population of over 1,00,000. One (Warangal City) has a population of over 50,000, but less than 1,00,000. Six towns have a population varying from 20,000 to 50,000; 26 from 10,000 to 20,000; 64 from 5000 to 10,000; and 35 between 2000 and 5000 each. There has been an increase of 50 per cent. in the number of towns as compared with 1921.

Villages.—Of the total number of villages, 12,601 have a population of less than 500 each; 5439 have a population of above 500 but less than 1000 each, and 3657 have more than 1000 but less than 5000 each.

About 20 per cent. of rural population live in villages of the first sort, about 21 per cent. in villages of the second sort and 44 per cent. in the villages of the third sort.

Religion.—The marginal statement shows the actual as well as the proportional strength of communities professing religions which have a following of more than 20,000 in the State.

Religion	Number	P/C on Population
1. Hindu	.. 12,176,727	84.4
2. Muslim	.. 1,534,666	10.6
3. Tribal	.. 544,789	3.8
4. Christian	.. 151,382	1.1
5. Jain	.. 21,543	0.2

Of the rest, Sikhs number 5178; Zoroastrians 1784; Arya Samajists 3700; Brahmos 182; Buddhists 52; and Jews 27. These are found in different proportions in urban and rural areas. Out of every 1000 persons living in urban areas, 649 are Hindus, 318 Muslims, 16 Christians, 10 Tribals, 4 Jains, and 2 Sikhs, while out of every 1000 persons living in rural areas, 868 are Hindus, 79 Muslims, 41 Tribals, 10 Christians and 1 Jain.

Age.—Of the religious communities of the State, the Jain shows the highest mean age (26.3), followed by the Muslim 26.1. The lowest is that of the Tribals 23.5; while the Hindus show a somewhat higher mean age (25.8) than the Christians (24.8).

Sex.—The total number of males enumerated during 1931 Census was 7,370,010 and that of females 7,066,138. Thus the proportion of males to females in the State is as 1000 to 958.

Civil condition.—The following statement shows the Civil condition of the total population:—

<i>Civil Condition.</i>		<i>Males.</i>	<i>Females.</i>
Unmarried	.. ..	3,124,066	2,199,822
Married	.. ..	3,878,362	3,763,422
Widowed	.. ..	367,582	1,102,894

This works out to be:

Unmarried males	..	42 per cent.
„ females	..	31 per cent.
Married males	..	53 per cent.
„ females	..	53 per cent.
Widowed males	..	5 per cent.
„ females	..	16 per cent.

Occupations.—The statement below gives the chief occupations followed by the people of the State and the number of persons per mille engaged in each of these in 1931:—

<i>Class.</i>	<i>Proportion Per mille.*</i>
1. Agriculture (including exploitation of animals and vegetation)	571
2. Exploitation of minerals	4
3. Industry	105
4. Transport	45
5. Trade	116
6. Public Force	8
7. Public Administration	13
8. Professions and Liberal Arts	19
9. Domestic Services	69
10. Private Income	3
11. Non-productive	22
12. Unspecified	25

13. *People and Languages.*—Representatives of almost all the races which go to form the Indian people are to be found in His Exalted Highness the Nizam's Dominions. Besides the Southern Telugu and Kanarese, and the Prakritic Mahrati and Urdu, which are the chief *mulki* languages of the Dominions, we find languages so much geographically apart, as Tamil, Punjabi, Malayalam, Rajasthani, Gujarati and Bengali; even Arabic and Persian are spoken in the larger towns of the State. It is only natural that the population of the Provinces which are adjacent to the Dominions should be represented to a greater extent than those more distantly placed. Thus in 1931 the residents of the Dominions from Madras numbered 132,952; those from Bombay 67,734; from C. P. 14,289; from U. P. 7286 and from the Punjab 3190. (These exclude the figures of the Indian States coming under the Provinces concerned). Moreover, we find quite a large

*N.B.—Includes only principal earners and working dependants.

number of people descended directly from the Persians, Arabs and Turcomans who came over to the Deccan in the days of the Bahmanis, the Adil Shahis and the Qutub Shahis, or from those who came here from Delhi and the north along with the founder of the dynasty, the Great Nizam-ul-Mulk Asif Jah I.

CHAPTER II.

AGRICULTURE

(1) LAND TENURE.

The lands of the State may be broadly divided into two classes according to the nature of their tenures :—

(1) Lands which are under the direct management of the Government, and the revenue from which goes to the Government Exchequer. These lands are known as Divani or Khalsa lands.

(2) Lands, the revenue of which has been wholly or partly assigned for some special purpose. Lands of this class may again be subdivided into (a) Sarf-e-Khas Mubarak, (b) Paigah, (c) Jagirs and (d) Samasthans.

(i) *The Khalsa or Divani.*

The word 'Khalsa' as applied to lands means those of which the revenue remains the property of government, not being assigned as jagir or inam to any other party, or lands or villages held immediately from Government and of which the state is the manager or holder. The Khalsa area is under the direct administration of the Diwan or Prime Minister (the Executive Council of H.E.H.'s Government) and hence called Divani. The total number of villages under Divani is 13,816, covering an area of about 50,000 sq. miles, with an assessed land revenue of Rs. 3,20,00,000.

[N.B.—Divani lands are invariably held on the purely ryotwari tenure. Over 20 million acres, or more than 50 per cent. of the State area, are held on this tenure by landholders, who have no special grants or any peculiar title by which they are connected with the soil. This tenure is practically a copy of the Bombay tenure and the system of survey and settlement pertaining thereto has been comprehensibly treated

and legalised in the Hyderabad Revenue Code in accordance with the provisions of the Bombay Act V of 1879.]

(ii) *The Sarf-e-Khas Mubarak.*

The income of the Sarf-e-Khas Mubarak is credited to the personal treasury of His Exalted Highness. This Illaqa with a total area of 7,113 sq. miles comprising 1,894 villages is divided into three categories :

- (1) The Illaqa handed over to Divani or Khalsa for management called Mufaveza.
- (2) Illaqa Zer-nigrani Divani and
- (3) Illaqa Sarf-e-Khas proper.

The whole of Sarf-e-Khas Illaqa is under one Sadar-ul-Maham who is assisted in the administration by a Committee, which works under the guidance of His Exalted Highness. The total revenue of the Sarf-e-Khas Mubarak is about Rs. one crore.

(iii) *Paigah.*

These were originally assigned by the then ruler, His Highness Nizam Ali Khan Bahadur, to Abul Khair Khan for the maintenance of troops known as His Highness' house-hold troops, and hence they were designated Paigah Jagirs, the word Paigah meaning stables. The Paigah lands cover an area of 2,501 sq. miles, comprising 1,024 villages and yielding approximately an annual revenue of Rs. 75 lakhs. They are now divided among three branches of the family of the original grantee and are known as the Paigahs of Nawabs Asman Jah, Khurshid Jah and Vikar-ul-Umra.

(iv) *Jagirs.*

Jagirs are of the following kinds :—

(a) *Al-Tamgha Jagirs.*—The word 'al-tamgha' signifies a revenue-free grant made under the royal seal. It is a permanent, perpetual and hereditary grant, and the right

or interest conveyed by it is not transferable by sale, gift or bequest. In default of heirs, the grant reverts to the State.

(b) *Zat Jagirs* are grants of large areas of land for the maintenance of the grantees without any stipulation of service.

(c) *Tanka Jagirs*, as their name implies, were grants of land made to meet the salaries due to the grantees for service rendered. A large number of these have been resumed or redeemed.

(d) *Mashrooti Jagirs* are granted for the performance of some definite service, religious, civil or military, and are continued only so long as the conditions of the grant are fulfilled.

(e) *Madad Maash Jagirs* are granted either as the sole means of maintenance for the donee, who may be the holder of mashrooti grants, or as a supplement to his other means of livelihood.

Several of the big Jagirdars of the State (*e.g.* Maharaja Sir Yamin-us-Saltanat Kishan Pershad Bahadur, Nawab Salar Jung Bahadur, Nawab Kamal Yar Jung Bahadur and Nawab Gazi Jung Bahadur) have been raised to the rank of High Nobles. The administration of their respective Jagirs is carried out by them direct. At present the number of Jagir villages is approximately 5164, but the total area of all the Jagirs is not precisely known, as only two thirds of the jagir villages have yet been surveyed and settled, and the others are being gradually taken up by special jagir settlement parties.

(v) *Samsthans*.

Samsthan means a group of villages entrusted by Government to certain Rajas and Zamindars, subject to the payment of a fixed '*Peshkash*' amount to Government, the principal ones being Gadwal, Wanparti, Jatpole, Amarchinta, Gopalpet, Papannapet, Domkundah, Paloncha and Gurgunta. The total number of the Samasthan villages is 660, with an approximate revenue of Rs. 25,14,500. The revenue

administration of these *illaqas* has been entrusted to the Rajas and Zamindars, and the greater portion of the Samsthans has already been surveyed and settled.

In His Exalted Highness the Nizam's Dominions, there also exist a great number of hereditary Rusoomdars and Zamindars, who in consideration of services rendered by their ancestors are paid annual cash amounts from the Government treasury. In some cases they enjoy also Inam lands. The cash Rusoom amounts to Rs. 5,69,437 and the revenue of the Inam lands is several times the amount of the cash Rusoom.

There are also certain other Inam lands which are rent free (technically called Kharij Jama). They have usually been assigned to Paraganas and village officers in payment of services previously rendered in the collection of revenue, Police duties, or for religious services. Since the introduction of cash payments to village officers and the establishment of the Commission for the enquiry into Inams, a considerable portion of these Inam lands has been resumed. The area of the existing Inam lands situated within the Ryotwari Khalsa lands is said to be about 1362 square miles.

(2) AGRICULTURAL CONDITIONS.

The agricultural conditions differ considerably in the three main regions of the State. The Telingana region is generally full of hills and valleys. The agricultural system here is quite different from that of the other provinces, and cultivation is carried on in a different manner suitable to the local conditions of the country. Rain-water is collected into tanks and kuntas and utilized for agricultural purposes, and there is generally no village where river or six kuntas or Tanks are not to be found under which rice crops are grown twice in a year in Abi and Tabi seasons. The total number of such tanks in the Khalsa area is approximately 1,92,338 under which 2,33,53,714 acres of wet crops are grown. Besides this, wet crops are grown under wells and other sources of irrigation as well, such as nalas and small rivers, etc. Formerly wells were held to be Government property, but since the issue of Survey and Settlement Rules in 1906 ryots have been

allowed to dig wells in their own patta lands and to grow wet crops. Land Revenue is then not levied on them at the wet rate but only at the dry rate and the cultivators are thus allowed to reap the full benefit of their labour. As a result of this innovation several thousands of private wells have been dug up in each district. As regards the construction of tanks and kuntas, it has been held necessary that the ryots should obtain permission from Government, as such tanks, etc., are apt to affect the sources of Government Irrigation Works. Thus in the Telingana province, Irrigation Works, both Government and private, are to be found close to each other.

The condition of the Marathwara country is quite opposite to this as the rainfall is less and the soil naturally so rich that the ryots have never been anxious to grow wet crops. In some places advantage has been taken of the water obtainable from rivers and wells, and garden crops which are more profitable than dry crops, are extensively grown.

Conditions in the Karnatic province are much the same as in Marathwada and the ryots are not much interested in growing rice crops. This is the reason why the Telingana people generally use rice and the Marathwada and Karnatic people use wheat or jawar for their food. The physical condition of both the ryots and their cattle is reflected by their staple food crops and establishes the superiority of wheat and jawar over rice.

Crops and Harvests :—There are usually four crops in the year in Telingana, viz., *kharif*, *rabi*, *abi*, and *tabi*, but in Marathwara, where irrigation sources are very limited, only two crops are raised, viz., *kharif* and *rabi*. *Kharif* and *rabi* crops are known as “dry crops,” i.e., those cultivated without the help of artificial irrigation, depending as they do on the monsoon rains. In the case of rice, which is the principal irrigated crop grown chiefly in Telingana, there are two crops, the winter crop being called *abi* and the summer crop *tabi*.

The chief *Kharif* crops are yellow *jawar*, *bajra*, *makai*, cotton, *tuar*, *lachna*, *sanwa*, *kodru*, *til* and pulses, such as *moong*, *urad* and *kulthi*.

The sowing of the *Kharif* crops begins with the first rains of the south-west monsoon, usually in June, and, in normal years, extends well into July. They ripen between September and December according to the staple grown and the time of sowing. As these crops are generally sown in the lighter varieties of soils, which cannot retain moisture for a long time, the success of the harvests depends greatly on the proper distribution and adequacy of the early rainfall. These crops yield the staple food-grains of the poorer classes and, consequently, a failure of these spells distress to them.

The principal *rabi* crops cultivated in the State are cotton, white *jowar*, *chena* or Bengal gram, *jow* or barley, *karad*, *alsi*, or linseed, tobacco, *lak* and peas.

Rabi crops require less rainfall and are sown in the heavier black soils which retain moisture. These crops ripen from April to May. In the Marathwara tract, *rabi* crops predominate. In other places also when the early rains fail, less *kharif* and more of *rabi* area is sown.

Chief Crops.—Of the major commercial crops, cotton is extensively raised in all the black-soil districts, as well as in such portions of Telingana, where the soil is suitable for its production. Gaorani cotton, which is grown in Marathwara, is one of the finest of Indian cottons. Cotton-ginning and pressing factories have been established in large numbers in the districts which are served by railways. Castor is extensively grown in Telingana and the State is the largest castor producing country in the world. The State has also the largest area under *jowar* in India. Groundnut is also grown on large areas in the Karnatic and Telingana divisions of the State. Sugarcane cultivation has increased considerably during recent years and a sugar factory is being erected near Nizamsagar for making the best commercial use of this cane. The average area, in acres, under the principal crops of the State is given below :—

Rice	..	736,500	Wheat	..	1,118,600
Cotton	..	3,527,500	Castor	..	791,800
Barley	..	28,400	Jowar	..	9,587,900

Bajra	.. 2,025,700	Ragi	.. 592,200
Maize	.. 632,000	Sun Hemp	.. 59,600
Gram	.. 1,050,800	Indigo	.. 5,900
Sugarcane	.. 57,000	Fodder Crops	.. 2,030,000
Linseed	.. 262,600	Condiments and Spices	.. 76,500
Rape and Mustard	10,500	Fruit and Veget- ables	.. 624,300
Sesamum	.. 593,100		
Groundnut	.. 691,400		
Tobacco	.. 86,600		

Revenue Assessment.—The average assessment for dry lands in Telingana is Rs. 0-15-3 O.S. per acre and that for wet crops under tanks, etc., is Rs. 12-12-4 per acre, (including double crop). The rates for wet crops under Government wells are the same as those fixed for tanks, but the average goes down according to water classes. The areas under wells are not shown separately in the Jamabandi Reports. Hence this figure is not obtainable. The average rate for garden crops is Rs. 6-7-11.

The average revenue assessment in the Marathwara districts works out at Rs. 1-2-8 for dry lands and Rs. 4-9-0 for wet lands.

In the Karnatic the average works out at Rs. 1-0-9 for dry lands, Rs. 8-15-10 for wet lands and Rs. 4-4-7 for Bagath lands.

The revenue assessment for dry lands in Marathwara and the Karnatic districts is thus higher than in Telingana, but in neither area are the dry rates as high as in the adjoining provinces of British India. It has also for the last thirty years been part of the Land Revenue policy of the State that if in any year the produce is greatly decreased owing to the failure of crops due to a scarcity of rain or other causes suspensions and remissions should be allowed. During the recent scarcity in 1935 and again in 1937 extensive suspension of revenue were allowed in the affected area totalling Rs. 9·24 lakhs in all, much of which has since been wholly remitted as a Jubilee concession. In the years also of the world-wide

economic depression not only the ryots of the Marathwara and Karnatic districts, but the entire State, including the Telingana areas, wet and dry, were granted remissions at the rate of 2 annas to 4 annas in the rupee, totalling a sum of Rs. 108·25 lakhs over the five-year period from 1931 to 1935. On the occasion of the Silver Jubilee, His Exalted Highness proclaimed the remission of Rs. 40 lakhs of land revenue arrears in one lump sum.

Civil Divisions.—For purposes of Revenue administration, the State is at present divided into four Subas, 16 Districts and 104 Taluqs, for every two or three of which a Revenue Officer called Second Taluqdar is appointed, who assists the District Officer, called Taluqdar, in the Revenue Administration. A statement showing the details of the Subas, Districts and Taluqs is given below :—

<i>Suba.</i>	<i>District.</i>	<i>Taluqs.</i>
Aurangabad	.. Aurangabad	.. Aurangabad, Kannad, Vijapur, Gangapur, Bhokardan, Ambad, P a t t e n, Khuldabad and Sillod.
	Bir	.. Mominabad, Manjhelegaon, Gevrai, Bir, Ashti, and Pathoda.
	Parbhani	.. Parbhani, Pathri, Juntur, Hingoli, Basmat, K a l a m n u r i and Palam.
	Nander	.. Deglur, K a n d h a r, Billoli, Nander, Hadgaon and Mudhole.

<i>Suba.</i>	<i>District.</i>	<i>Taluqs.</i>
Gulgarba	.. Gulgarba	.. Gulbarga, Seram, Kodangal, Chincholi, Yadgir, Shorapur, Sindhur and Kushtagi.
	Raichur	.. Raichur, Alampur, Manvi, Deodurg, Lingsugur, Gangavati, Sindhur and Kushtagi.
	Usmanabad	.. Latur, Tuljapur, Usmanabad, Kalam and Parendah.
	Bidar	.. Udgir, Ahmedpur Nilanga, Bidar and Janwada.
	Medak	.. Medak, Siddipet, Yellareddi, Kalabgur and Andole.
Gulshanabad	Mahbubnagar	.. Mahbubnagar, Makhtal, Pargi, Nagar Karnool, Kalwakurti and Amarabad.
	Nalgonda	.. Bhongir, Jangaon, Miriyalguda, Devarkonda, Huzurnagar, Nalgonda and Suriyapet.
	Nizamabad	.. Nizamabad, Kamareddi, Armur, Bodhan and Banswada.
	Bagath	.. Bagath.

<i>Suba.</i>	<i>District.</i>	<i>Taluqs.</i>
Warangal	.. Warangal	.. Warangal, P a k h a l, Mulag, Mahbubabad, Yellandu, Paloncha, K h a m m a m and Madhira.
	Kareemnagar	.. Jagtiyal, Sirsilla, Huzur- abad, Parkal, Maha- deopur, Kareemnagar and Sultanabad.
	Asifabad	.. Adilabad, K i n w a t, Botha, Nirmal, Asif- abad, Sirpur, Rajora, Chinnur, Laksettipet and Utnur.

(3) RESEARCH, EXPERIMENT, DEMONSTRATION
AND PROPAGANDA.

The Agricultural Department of H.E.H. the Nizam's Government was established in the year 1913 mainly with the object of saving Gaorani cotton from deterioration, and till 1928 its main activities lay in that direction. In 1928-29 the department was reorganised and its object was defined as the general improvement of the agriculture of the country, and systematic efforts were started towards that end.

The main work of the department may be classified as under :—

(a) *Research*.—This is where most of the work of an agricultural department begins. It includes investigations of a purely technical nature, in which attempt is made to apply scientific theories to agricultural practice, for example plant breeding on scientific lines with the object of evolving new varieties of crops which would give more and better outturn

to the grower. This part of the department consists at present of the sections of Botany, Chemistry, Entomology and Animal Husbandry.

(b) *Experimental*.—The results obtained from research are tested at departmental farms and gardens, to see how far they are practicable and economical on a field scale. Improved varieties of crops and improved methods of cultivation, rotation, manuring, etc., which have proved profitable elsewhere, are also tested here, with regard to their suitability to local conditions.

(c) *Demonstration and Propaganda*.—This includes recommending and demonstrating to the public the profitable results obtained from research and experiment, advising them generally in agricultural matters and assisting them in securing and using the things recommended as profitable.

Departmental Farms.—The Department runs the following ten farms :—

<i>Situation.</i>	<i>Division.</i>	<i>Function.</i>
Himayatsagar ..	West Telingana..	Rice and castor breeding, field crops, horticultural and poultry experiments, chemical investigations and entomological work.
Sangareddi ..	West Telingana..	Field crops and horticultural experiments.
Rudrur ..	West Telingana..	Research and experiments on field and horticultural crops for Nizam Sagar area.
Warangal ..	East Telingana ..	Experiments on field and horticultural crops and tobacco research.

Parbhani	.. Mahratwara	.. W h e a t, jowar and c a s t o r breeding, cotton, Boll-w o r m investigation, experi- ments on field and horticultural crops and poultry keeping.
Mudhol*	.. Mahratwara	.. Testing of cotton varie- ties.
Latur*	.. Mahratwara	.. do do
Raichur	.. Karnatak	.. Dry farming research and experiments with field and horticultural crops.
Himayatsagar	.. .. .	Cattle breeding.
Patancheru	.. .. .	.. R u r a l Development Centre.

Research.—The Economic Botanist is working on the improvement of rice, castor, wheat and jowar. Some new good varieties of rice have been evolved, two of which have been introduced in villages and they have become popular with the ryots. An improved seed of castor is also being demonstrated and distributed in villages. The cost of this section is met by the State, but the Imperial Council of Agricultural Research makes a grant towards research work relating to castor which will benefit other parts of India as well. The work relating to the improvement of cotton is being done by the Cotton Research Botanist whose section is financed by the Indian Central Cotton Committee. A number of improved varieties have been evolved, two of which have already proved superior to the local Gaorani

*These two Farms are subsidized by the Indian Central Cotton Committee.

and they are being introduced in the Nanded District. The Chemical Section is mainly engaged in the analysis of sugarcane and its products, for the purpose of developing the gur and sugar industry, and in the analysis of castor seeds for assisting the Botanical Section to improve the oil-content of the crop. The Entomological Section is mainly engaged in large scale demonstrations of the control of the red hairy caterpillar and the castor semi-looper insect pests. The remarkable success which has been achieved in the destruction of cactus by the introduction of the Cochineal insect is apparent practically everywhere in the State. Investigation in connection with the Cotton Boll-worm pest is being carried out with financial help from the Indian Central Cotton Committee. The Cattle Breeding Farm is working on the improvement of cattle for plough work. A few bulls bred at the Farm are now available for distribution in villages. The Poultry Section is engaged in experiments for finding out the most suitable breeds of fowl for the country; the White Leghorn and Rhode Island Red breeds, which have so far proved suitable, are being introduced in the villages. Dry farming research is being conducted with a grant from the Imperial Council of Agricultural Research, with the object of finding out methods by which satisfactory crops could be produced in areas of precarious rainfall. This work is being done at Raichur in collaboration with the Bombay and Madras Agricultural Departments, to which also the Council has sanctioned grants for work at Sholapur and Bellary.

Experimental Work.—A large number of experiments of a varied nature, manurial, cultural, rotational, varietal, etc., are in progress at the various Farms of the department for discovering the most suitable improvements for the country, and among those that have been introduced in the districts as a result and have become popular with the ryots, may be mentioned Coimbatore 213 sugarcane, Spanish groundnuts, Cawnpore *bajra*, Himayatsagar paddy, and cotton varieties. The Horticultural Section is experimenting with different varieties of the various fruits for discovering the most suitable ones for the country and, as a result, two varieties of *papaya* and one of *banana* have been found successful. Seeds and

suckers of these are being supplied to the public in large quantities, both inside and outside the State.

Demonstration and Propaganda.—The successful things found out by research and experiment are introduced in the country by demonstration and propaganda. A special staff is maintained for this purpose and fifteen aided farms have been established on the lands of cultivators in various districts. All the improvements intended to be introduced in the locality where an aided farm is situated are demonstrated practically at that farm for the benefit of the cultivators of that area. These aided farms are serving as more or less permanent centres of demonstration. To enable the cultivators to observe the success of the improved things on their own lands and amidst their own conditions, the improved things are practically demonstrated in selected villages in all the districts. There were 2,649 such demonstration plots last year. This method of demonstration on the cultivators' own lands has proved to be the best for convincing them of the success of the improvements. Besides the Horticultural and Poultry Show which is held in Hyderabad, and the Farm Demonstrations which are held at the departmental farms, small shows are arranged in the districts on the occasions of *Urses*, *Jatras*, etc. There were 49 of such small shows last year. Lectures are delivered and literature of practical use in the vernacular is distributed free in the villages, besides simple demonstrations at these small shows. A Rural Development Exhibition is annually held at Patancheru. As a result of this work, some of the improved things introduced by the department have become very popular and are spreading rapidly in the country. The introduction of improved varieties of crops, better kinds of manures and modern implements, which the department has been able to do in this short space of time, has added to the agricultural wealth of the State. The area under improved varieties of crops alone during the last year was 1,15,348 acres. The net profit which the cultivators gained by growing these improved varieties over and above what they would have earned by growing their own ordinary varieties, amounts to no less than double the total budget grant of the whole department. As a result of the introduction of improved

varieties of sugarcane, the State has become independent of outside supply of *gur*. It is the same activity of the department that has made the establishment of a sugar factory possible. A sugar factory is being established in the Nizam-sagar Canal area, and it is expected that before long the State will manufacture all the sugar it requires for its consumption. Of the other services which the department is rendering to the public may be mentioned, well-boring for the supply of water and bunding of fields to prevent soil erosion. The rural development work at Patancheru is carried out with grants from the State Industrial Fund Trust. This work covers practically all aspects of rural life including agriculture, horticulture, rural industries, education, health, etc. Many simple and cheap improvements have been introduced in villages, and a wholesome change in the village mentality is taking place gradually. Traction ploughing of cultivators' lands for the eradication of weeds is being done in Parbhani district, with financial help from the Industrial Trust Fund.

Training Classes.—An oil engine class is run by the department for training cultivators' boys in driving pumping-plants, a *malis'* class is run for practical training in gardening, and farmers' classes are conducted at Himayatsagar, Parbhani, and Rudrur Farms for practical training in modern methods of agriculture.

Association.—The department is guiding and supervising the Hyderabad Farming Association, and Co-operative Cotton and Implement Sale Societies in Raichur, Aurangabad, Nanded, Bir and Parbhani districts.

Further Expansion.—A number of schemes costing some lakhs of rupees are under consideration of Government for further expansion of the work of the department. On the research side, a plant pathology section is proposed to be created, and the entomological section is to be strengthened. A cotton research farm is to be opened at Nanded. More cattle breeding farms are under consideration and the work of improvement of sheep and goats is proposed to be taken in hand. Experimental gardens for development of fruit growing are contemplated for Aurangabad and Bidar. A special

scheme of intensified work for all round agricultural development of the Nizamsagar canal area is under consideration. Besides these schemes, Government has also under consideration the expansion of the activities of all the research and experimental sections and the demonstration and propaganda work in the villages.

(4) MARKETING OF AGRICULTURAL PRODUCE.

The Hyderabad Agricultural Markets Act No. 2 of 1339 Fasli was first applied to five markets in 1931 and is now in force at twelve markets. The Act is applicable not only to cotton but also to other agricultural produce, notified as such by Government in the *Jarida* (Gazette).

The 'adatyas' and traders deal in all kinds of produce which the agriculturist brings to the market. Though at most of the markets cotton market yard is separate from the 'ganj' or 'mondha' where other produce is dealt with, the transactions for sale of all kinds of agricultural produce are done through the same 'adatyas'. The distinction between commercial crops and other crops is therefore not only unnecessary but is likely to cause confusion. Under the Market Act and its rules, the maximum rates of 'adat' (commission), weighing and other charges are fixed. If these charges have been found to be high at some market and are reduced by the Market Committee, it is open to 'adatyas' to make up this loss by raising the 'adat' and other charges on other commodities which are not regulated under the Act. Similarly, the loss of any illegitimate income in controlled commodities can be made up in the transaction of other commodities which are not controlled under the Act.

In view of these considerations, the Hyderabad Agricultural Markets Act gives option to the Government to apply the Act to agricultural produce other than cotton. About 40 commodities have been notified as agricultural produce and their sales are controlled at the regulated markets.

Under the Act all the processes of the sale of agricultural produce are regulated. The rules and, whenever necessary,

the bye-laws lay down the method of auction, the payment of price and the maximum marketing charges. The market functionaries, *i.e.*, buyers, 'adatyas', brokers, weighmen and measurers are licensed and provisions are made for the arbitration of disputes. The collection of charges which have no direct bearing on the marketing of produce, *e.g.*, Dharmada has been prohibited. At some markets the collection of hospital or 'Gorakshan' charges have been allowed provided the amount is spent, under the supervision of the market committee, for the purpose for which it has been collected and the accounts are audited every year.

The 'adatyas', and if no 'adatyas' is employed, the buyers are required to give the seller a sale-chit in which all the details concerning the transaction are entered, *i.e.*, the nature of produce, weight, price, 'adat', weighing and hamali charges and net proceeds. A copy of the sale-chit is sent to the office of the market committee. The keeping of proper records of quantities of agricultural produce sold is a task which requires a big staff which the market committees cannot afford to employ. The following table however shows the number of carts laden with cotton and agricultural produce brought for sale at seven markets for the year ending 7th October, 1936:—

No. of markets	NO. OF CARTS		Total
	Cotton	Other agricultural produce	
7	1,61,575	2,11,875	3,73,450

The weights and measures in use in the markets are checked and corrected by local standards. The question of uniform weights and measures and their inspection by a special staff appointed for the purpose is under the consideration of Government and it is expected that the measures will be introduced very soon.

The Agricultural Markets Act regulates the marketing practices and fixes the cost at the assembling centres. The

cultivators know where to take the produce, how to sell it and what charges to pay and they also realise that in case of dispute or irregularity they can approach the committee to set it right. The Act has created a confidence amongst the cultivators. The sense of helplessness which the small cultivators felt or, perhaps, were made to feel at the markets has been removed to a very great extent.

The wider question of grading and standardisation and sale of uniform quality of produce in large quantity does not fall within the sphere of the Act.

At the Provincial Economic Conference held in 1934, there was a general agreement that of all the practicable measures for improving economic conditions an intensive programme to develop marketing facilities for agricultural produce (both crops and animal products) offers the best immediate prospects of substantial results.

The Imperial Council of Agricultural Research has initiated a scheme for the survey of marketing of agricultural and animal husbandry products. The Government of Hyderabad are co-operating with the Council in this scheme. Marketing of important crops, *e.g.*, rice, wheat, groundnut and fruits, and animal husbandry products like milk, ghee, hides and skins is being surveyed. The surveys aim at presenting a complete picture in detail of the marketing of each commodity in all stages from the producer to the final consumer.

Grading and standardization of agricultural produce is essentially an all India problem. The Agricultural Marketing Adviser to the Government of India has recently held informal conferences with the representatives of Chambers of Commerce and Traders' Association to devise standard terms of contract for sale of linseed, wheat and groundnut. It is expected that with the adoption of these standard terms of contract by the majority of important Chambers of Commerce and Traders' Association, the foundations will be laid for the grading of agricultural produce before it is sold by the producers at the assembling markets.

(5) THE CO-OPERATIVE MOVEMENT.

The Co-operative Movement was introduced into the Dominions by the Commands of His Exalted Highness who permitted the establishment of the Co-operative Department in March, 1913. In the beginning the work was carried on as an experimental measure and Mr. John Kenny, who was Director of Agriculture, was entrusted with the organization and control of Co-operative Societies.

The Co-operative Act No. II of 1323 F. was brought into force in 1914, and it was in 1915 that a systematic effort was first made to organize Co-operative Credit Societies of the Raffeisen type with a central bank at Hyderabad. The first district Central Bank was registered in 1917.

Central Banking.—It is interesting to note that the Dominion Bank which is the apex bank for the Dominions has now a working capital of nearly Rs. 44.5 lakhs and the central banks which are 39 in number have a total working capital of nearly Rs. 63.5 lakhs. The agricultural credit societies have increased to 2435 in number with a working capital of more than 81½ lakhs; while the non-agricultural societies of various types number 475 with a working capital of more than Rs. 43 lakhs.

The Dominion Bank was in the beginning intended to finance societies working all over the Dominions; but, gradually, with the creation of central banks in districts, its transactions with primary societies got restricted, so that in 1925 its constitution underwent a change and it was converted into a provincial bank with direct relations only with central banks. The societies which were affiliated to it were transferred with their loans to their respective district central banks. The membership of the Dominion Bank now consists of 451 individuals, 26 central banks and 225 societies. It is gratifying to note that the Dominion Bank has made rapid progress and its paid-up share capital now stands at about Rs. 5 lakhs against which its reserves amount to nearly Rs. 9 lakhs. There was a time when the Dominion Bank used to receive deposits at 5 and 5½ per cent. in comparison with which its present

borrowing rates of 3 per cent. and $3\frac{1}{2}$ per cent. for deposits for 1 and 2 years respectively are very low. It has brought down its lending rates to banks and societies from a maximum of 9 per cent. to 6 per cent. Since 1930 when the world-wide economic depression started, it has taken every precaution to build up reserves.

The first President of the Dominion Bank was Mr. A. Hydari, now the Right Hon'ble Sir Akbar Hydari, Privy Councillor, and President of the Executive Council. Dewan Bahadur Aravamudu Aiyengar, the veteran co-operator of the State, has been at the helm of its affairs for a number of years in the capacity of President.

Central Banks.—Practically every district in the Dominions has now one or more central banks. Until about 1925 the rule was one central bank for every district, but with the increase in the demand for societies and in the volume of business, it was felt that the district central banks might with advantage be split up into sub-divisional banks, with a view to bring them into closer contact with village societies. Therefore, the number of central banks is comparatively large and stands at 39. Their membership is about 4600, and the working capital about Rs. 63 lakhs, out of which nearly a third *i.e.*, Rs. 22 lakhs is owned capital. In the latter the various reserves amount to nearly Rs. 11 lakhs. The importance of these figures will be realised when it is stated that as lately as 1927 the total reserves of the central banks were as low as a lakh of rupees.

The central banks received during the past years, deposits amounting to one crore and 30 lakhs, while the outstandings held at the end of 1936 were Rs. $32\frac{1}{2}$ lakhs. They are now able to command enough credit to enable them to bring down their borrowing rates on deposits from 6 and 7 per cent. to, in many cases, as low as 3 and 4 per cent., for periods of one year and more. Since 1929, the one-date system of deposits has been introduced in all central banks and in spite of apprehensions to the contrary this novel system of receiving deposits under the stipulation of returning them on one particular date during the year according to the convenience of

the banks has become popular with the investing public.

Agricultural Societies.—Like the rest of India the co-operative movement was introduced into the Dominions with the object primarily of relieving the agriculturist who was weighed down with hereditary indebtedness incurred at usurious rates. In the early years of the working of the movement, mistakes in common with the whole of India were committed by making use of the village credit society as an instrument to enable the peasant to make a new start in life by paying off his old *sahukari* debts. It was this aspect of rural indebtedness which then attracted most the attention both of official and non-official co-operators in India. They had not yet evolved the right system of working the credit movement and as they happened to work during years which were exceptionally good in prices of farm produce and agricultural land, they were particularly optimistic about the efficacy of village societies for wiping out old debts. Therefore, during the first half of the last two decades, societies were very liberal in making loans to members, which in many cases amounted to as much as Rs. 10,000 to a single individual. Unfortunately, disillusionment came with the turn of the economic tide. The slump in the commodity market which has continued for the last eight years, has come as an eye-opener. The fall in prices was followed by a fall in the repaying capacity of the agriculturist. It has taught the co-operators the mischievous consequences of using short term money for long term loans. A new policy is the outcome of these sad experiences and all are now agreed that village credit societies can function properly only in so far as they are used to finance short-term crop loans. The societies organised during the last seven or eight years follow strictly this principle of short term finance, bearing in mind the importance of the repaying capacity of the borrowing member.

Credit societies are working now in 2435 villages of the Dominions. Their membership is 49,284 and as the members happen to be the heads of families it may be assumed that co-operative practice has benefited as many families. The working capital is nearly Rs. 81 lakhs, out of which nearly

Rs. 35 lakhs is the owned capital consisting of Rs. 16 lakhs shares and Rs. 19 lakhs reserves, outside debts being Rs. 46 lakhs. It is a matter of no little gratification that the villages have been able to accumulate Rs. 35 lakhs mostly as a saving of interest which otherwise would have gone to swell up the pockets of private money-lenders. It is all the more gratifying when it is recalled that the paid-up share money of the older societies has mostly been returned to members and the present amount of share capital is built up of profits which were distributed among members and converted according to rules into non-withdrawable shares.

On the whole a little over Rs. 178 lakhs was given in loans during the past years. The amount of loans outstanding with members at the end of 1345 F. (*i.e.* 1936) was Rs. 82 lakhs—58 lakhs principal and 24 lakhs interest. As has been stated above, the economic depression of the last eight years has weakened the credit societies and their members who, in many cases, could not get more than a third of the prices which their produce commanded before. The rate of interest charged to members on borrowings has, therefore, been reduced from the old uniform rate of 12½ per cent. per annum to Rs. 9-6-0 and in some cases to even Rs. 6-4-0 per cent.

The credit societies have, apart from their direct usefulness to the cultivating class, contributed in no small measure to bring down the lending rate in the country-side; for, it has been observed that once a credit society is established in a village, its comparatively low rate of interest has often forced the hands of the local money-lenders to reduce their interest rates on a competitive basis.

The Government has come to agree that the problem of rural indebtedness cannot be solved through the agency only of credit societies which undoubtedly are useful for financing the raising and movement of crops. The question of old debts is a chronic one and it is recognised that a parallel organisation based on the altogether different principles of long term banking is essential to tackle it. With this object, a scheme of land mortgage banks is now engaging the attention of Government and it is hoped that very soon a programme of

debt conciliation will be implemented by a system of land mortgage finance.

Non-agricultural Societies.—Societies other than those of agricultural credit number 474 with a membership of 27,814 and working capital of Rs. 38 lakhs. Their owned capital is made up of Rs. 23 lakhs paid-up shares and Rs. 6 lakhs reserves. Their annual business has increased since 1338 F. and has almost tripled in volume. The total amount of loans advanced during the past years amounted to nearly Rs. 2 crores and 7 lakhs out of which the members are now left with loans outstanding of Rs. 35 lakhs.

From the point of view of business done year by year, the credit societies of salary earners stand out pre-eminent under this class. They number 250 with a membership of little less than 14,000. Their working capital is Rs. 30 lakhs and except for Rs. 3 lakhs loans and Rs. 4 lakhs deposits, the remaining three-quarters of the capital is owned by the societies themselves and consists of Rs. 18½ lakhs paid-up shares and Rs. 4½ lakhs reserves. They are a great asset to the ministerial ranks employed in Government offices who used formerly to depend on local money-lenders. The departmental co-operative societies have succeeded in practically ousting the Sahukar and financially they are the strongest societies working inside the movement.

Urban Banks.—Another hopeful feature in the non-agricultural credit movement is the urban banks. They were first started in 1928 when their number was 4 with a membership of 422 and working capital of Rs. 63,000. The number is now 62 and membership 7325, while the working capital has mounted up to nearly Rs. 8 lakhs. Every year their numbers and working capital are on the increase. It is hoped that practically every Tahsil headquarters will very soon have an urban bank of its own.

Weavers' Credit Societies.—Hand-loom weaving is an ancient industry of the country, but with the rapid progress of power mills it is on the down grade; and there are many who think that except for artistic

productions it will find it increasingly difficult to hold its own against machine-made cloth. It can be said in general of the weaver that he earns hardly a living-wage and with the rapid fluctuation in the prices of yarn and cloth it is problematic if any effort to promote his interests by arranging for the purchase and sale of raw material and finished goods on co-operative lines would be of any lasting help to him. The co-operative societies of weavers are, therefore, on the decline and from a maximum number of 102 societies which was reached in 1928 they have come down to 65 with 1669 members and a working capital of about Rs. 2 lakhs. The owned capital is about one lakh and the rest is borrowed money.

Artisan Societies.—Artisan societies of other kinds such as those of paper-makers, Bidari-workers, brass-smiths, etc., number 32 and consist of about 500 members with a working capital of Rs. 46,000, out of which about Rs. 26,000 is owned capital.

Government was pleased to sanction a loan of Rs. 2,17,950 free of interest for the first ten years to help cottage industries; but unfortunately owing to the weaknesses which were inherent in their working, they could not much profit by it. Except for a few societies such as those of brass-smiths their condition does not warrant any hope of substantial progress.

Co-operative Marketing.—For the last few years special efforts have been made to organise the marketing of agricultural produce and the supply of improved seeds, manure and implements through co-operative societies. This aspect of the movement had received less attention than what its importance and potentialities entitled it to. As a tentative measure, societies for the marketing of cotton were started in collaboration with the Department of Agriculture at Kopbal, Sailu, Jalna, Aurangabad, Nanded, Parbhani, Raichur and Gulbarga. The results obtained from their working go to show that given sincere and honest workers they can prove of greater benefit to the small farmer than the ordinary credit societies; for they combine all the good

features of both credit as well as sale societies. They not only supply agricultural requirements and arrange for the pooling and sale of farm produce, but also provide for timely finance by allowing small advances for raising crops, and loans on the hypothecation of produce for a short period in case the commodity market is low. It is hoped that in co-ordination with the Agricultural Department whose function is to evolve improved strains of seed, the co-operative marketing of such important crops as cotton, sugar and oil seeds will make headway in the coming years.

Co-operative Union.—The necessity for a body which would voice co-operative opinion in the Dominions was felt and provided for by the organization of a Central Co-operative Union in Hyderabad in 1925. The Union is representative of all societies and banks which contribute to its funds on a sliding scale according to their working capital with a maximum subscription of Rs. 100 a year. Its general meetings are held every year and are attended by co-operators from the innermost parts of the country. It is the only democratic institution which can claim to ventilate the views on economic problems of the masses of the people. Its activities comprise education, propaganda and supervision. In order to achieve its first two objects it employs propagandists who tour round villages and deliver magic lantern lectures on co-operation and allied subjects and hold week-end schools for teaching co-operative principles and practice. They are posted to villages where rural reconstruction societies have been started to promote better business, better farming and better living, and the propagandists in charge are responsible for running them on right lines.

A beginning has been made for the spread of co-operative thought and action among women by the appointment of a woman propagandist for the city of Hyderabad and another for districts. They are doing good work and have already started a fairly good number of thrift and credit societies for women. The Union contemplates the appointment of more women-propagandists to work in districts.

Every year the Union organises training classes for co-operative officials and candidates both in the City and in

districts. Licenses are awarded to successful candidates which make them eligible to posts in the Department, or in banks and societies.

The Union entertains a large staff of Supervisors to look after societies in villages, the cost of which is met by the levy of supervision fees at the rate of six annas per cent. from Central Banks on loans outstanding with societies and twelve annas per cent. from the latter on their working capital. There is a Government guarantee that if in any year the supervision fees so collected prove inadequate to meet the cost of supervision, the deficit will be met from the Government Treasury.

Unlike many a Union in British India, it has nothing to do with the audit of societies which is conducted free by a special staff of Government auditors employed by the Department.

The Union receives a maximum subsidy of Rs. 15,000 a year from Government to carry on its educational and propaganda work. Since its inception it has received a total subsidy of Rs. 1,07,914 from the Government. On an average it spends Rs. 24,000 on this side of its activities and about Rs. 50,000 on supervision every year.

The organisation and encouragement of special types of societies falls within the purview of the Union. It recently did pioneer work in the organisation of a Co-operative Insurance Society for the Dominions which has started work with a paid-up share capital of Rs. 25,000 and has a paid-up business of Rs. 5 lakhs. It has also succeeded in popularising house building on co-operative principles. A housing colony of Government employees has been established at Mallaypally in the City with liberal financial help from the State in the shape of a loan which is repayable in 15 years at 6 per cent. Another society which deserves mention is the Co-operative Economic Association which holds periodical meetings of its members at which it arranges for lectures on important questions relating to the material and moral development of the country and its people.

State Aid.—Apart from the annual expenditure which on an average is more than Rs. 3 lakhs a year on the Department, the Government has from the very start taken a very sympathetic attitude towards the movement. Under the able guidance of the Right Hon'ble Sir Akbar Hydari, President of the Executive Council, the movement has had everything it desired by way of moral and material help from Government. In the very beginning the Government came forward with a guarantee of a dividend of 4 per cent., for the first 20 years on the shares of the Hyderabad Central Bank which later developed into the apex bank for the Dominions. And in order to encourage the public to deposit monies with the central banks and inspire confidence in the investing public it made large advances to central banks, which during the past years totalled Rs. 19,37,439. Over and above this, long term loans to the extent of Rs. 2,42,950 were advanced free of interest to encourage the development of cottage industries on a co-operative basis. Again a loan of Rs. 2 lakhs has recently been sanctioned at 6 per cent., to help co-operative house-building societies. Last but not least, the annual subsidy of Rs. 15,000 granted to the Co-operative Union has been chiefly responsible for the good work done by that propagandist body. It is hoped that very soon Government will promote land mortgage credit with the guarantee of principal and interest on debentures issued for the purpose.

(6) RURAL RECONSTRUCTION.

A scheme of rural development cannot make any headway unless it is pursued through an agency as far as possible non-official and is guided by bodies able to control and co-ordinate the activities of the constructive departments of Government. With these principles in view, Government has approved of carrying out experiments through co-operative societies and of guiding the movement through Central and Local Boards.

There is a Central Board consisting of the following members:—

- (1 to 4) Four members of the Government Executive Council holding portfolios of development Departments.

- (5) Director-General and Secretary, Revenue Department.
- (6) Secretary, Commerce and Industries.
- (7) Additional Secretary, Revenue Department.
- (8 to 11) Four Subedars.
- (12) Director, Medical and Sanitation Department.
- (13) Director, Education.
- (14) Director, Agriculture.
- (15) Director, Industries.
- (16) Director, Veterinary.
- (17) Registrar, Co-operative Societies.
- (18) Director, Information Bureau.
- (19) Marketing Officer.
- (20) Representative of the Central Co-operative Union.

The Registrar, Co-operative Societies, is Secretary of the Board.

The Central Board maps out the lines of action which shall be pursued in the villages, and in order to execute its plan it works through branches working at district and taluqa headquarters.

The District Council of Rural Reconstruction consists of the following representatives of the development departments:—

- (1) Taluqdar, Chairman.
- (2) Civil Surgeon.
- (3) Superintendent of Police.
- (4) Second Taluqdar.
- (5) District Officer, Agriculture.
- (6) District Officer, Veterinary.
- (7) District Officer, Industries.
- (8) District Inspector of Schools.
- (9) Assistant Registrar or Inspector, Co-operative Societies.
- (10) Three non-official co-operators co-opted for two years.

The Co-operative officer is the ex-officio Secretary of the District Council.

Similarly, the Taluqa Council of Rural Reconstruction consists of the Tahsildar who is its Chairman and the locally available officers of the various departments mentioned above stationed at Tahsil headquarters. The Council co-opts non-officials from among co-operators in the Taluqa whose number will be equal to that of the official members. Reconstruction work in a taluqa which happens to be the headquarters of the district is carried out by the District Council and there is no separate Taluqa Council. In such cases the Tahsildar and Second Taluqdar, if any stationed in the taluqa, form members of the District Council.

The Central Board meets once every quarter when it considers the reports of progress made in the districts which are submitted by its Secretary, the Registrar of Co-operative Societies, and determines what further action must be taken to promote and consolidate the uplift movement. It reviews the part taken in it by each represented department and gives necessary instructions with a view to regulate and bring in a line the activities of officers working in districts and taluqas. It is expected of every head of the department concerned that he will exercise his authority in order to make his subordinates contribute their very best to the success of the scheme.

The District Council meets at least once every quarter and exercises a general supervision over Taluqa Councils in the actual working of the programme in selected rural centres. The Taluqa Council submits quarterly progress reports to the District Council which in its turn submits consolidated quarterly reports to the Central Board. The district officers of the various departments represented on the District Council visit all the rural centres in the taluqas at least once a year, and submit to the heads of their departments a detailed annual report of the action taken by them and their subordinates in the uplift campaign.

The Taluqa Council meets once every two months in the village or villages selected for development. To begin with one village of moderate size is picked out in every taluqa. The final selection is made by the District Council in consultation with the Taluqa Council with the greatest care and as

far as possible it is one which answers the following conditions:—

(1) The village population should not ordinarily exceed one thousand, otherwise it will be too unwieldy and will not be easily amenable to educative control.

(2) The village officers must be men of known integrity and sympathetically disposed towards the people.

(3) There must be a government school in it.

(4) It should consist of a fairly good number of literates.

(5) Its distance from the Tahsil headquarters must not be less than five or more than twelve miles; for a village in the neighbourhood of the town will lack on account of urban influences the rural atmosphere necessary to develop a progressive village which will serve as an example to villages in the interior.

(6) Preference must be given to a village, other conditions being equal, which possesses a fairly good co-operative credit society and is situated on the road-side.

As far as possible all families in the village are encouraged to take interest in the uplift work which is undertaken on a co-operative basis through the organisation of a Rural Reconstruction Co-operative Society, the qualification for whose membership is an annual subscription of a few annas or the contribution of free labour for a day or two in the year. Societies whose membership consists of at least 50 per cent. of the village house-holders are promised grants-in-aid from the Local Fund.

Responsibility is a great corrective of social indolence. The village population must be taught individual and collective responsibility for the health, education and peace of the community by the exercise of certain powers through elected village elders. It is contemplated that the managing committee of the rural reconstruction society will be progressively empowered to undertake these activities as and when its suitability is proved; and that instead of starting separate statutory *panchayats* as in some Provinces and Indian States, the

rights and duties associated with those bodies will be made applicable to the society itself.

The Village Patel is appointed Chairman when he is known to be a true friend of the villagers and the village schoolmaster is generally the Secretary of such society. If possible a subordinate intelligent officer of the co-operative or agricultural department is stationed in the village as his headquarters. This is helpful in keeping the schoolmaster in touch with the Taluqa Council and in exercising a healthy educative influence on the villagers.

As a matter of policy, the Taluk Council first of all concentrates all its attention on developing the productive resources of the village by popularising better methods of farming and animal husbandry, rural industries, rural credit and marketing. For, the whole scheme of rural uplift is based on the fundamental principle that material and economic development should precede social and cultural progress. Any attempts at tackling the problems of sanitation, better housing, literacy, etc., are bound to fall through and prove short-lived unless they are made in an environment which is materially advanced enough to shoulder the economic burdens entailed by them. The urge for better living must be spontaneous and lead to voluntary effort. A code of living superimposed from outside will necessarily prove abortive. Poverty, that is, defective production of wealth, coupled with indebtedness is the real curse of village life, and unless it is properly attacked in the economic field, it will be illusory to cherish hopes of improving the outward appearance of the village or of raising the intellectual standard of its people.

Councils have been set up in 16 districts and 68 taluqas, while the number of selected villages is 88, out of which rural reconstruction societies have been registered in 18 villages. 40 selected villages have credit societies some of which have attained to a fairly high standard of success. But in actual practice it has been found difficult to conform strictly to all the conditions laid down in the scheme for the selection of a suitable village. District and taluqa officers have nevertheless taken care to abide by the spirit of the instructions given to them.

Rural reconstruction receives attention from the Hyderabad Central Co-operative Union through its propagandists who are each put in charge of a centre. A brief account is given below of the activities of each centre:—

Naikal, Taluka Shorapur, District Gulbarga.—A meeting hall is under construction in the village, the cost of which amounting to Rs. 1000 was donated by Mr. Hanmiah, member of the rural reconstruction society.

The society tried to popularise the improved seeds of paddy, wheat and cotton recommended by the Agricultural Department and encouraged its members to grow vegetables and fruit trees. A poultry yard was formed with about 400 fowl. A night school for adults and a small library were set up and the village boys were trained as scouts and arrangements made for their physical development by introducing rural games.

Boipalli, Taluka Mahbubnagar.—A spacious meeting hall was constructed in this village. The society was successful in making the improved seed of Coimbatore No. 213 sugar-cane, paddy and ground-nut popular in the village and its neighbourhood. The demand for improved implements for ploughing and crushing sugar-cane increased in the village. Roads were widened and manure pits dug outside the village. A large number of children were vaccinated for small-pox.

Padalsingi, Taluka Georai, Bir District.—There were two credit societies in this village of which one worked with an owned capital of more than Rs. 15,000. The Agricultural Department worked a demonstration plot in the village and the cultivators used the improved seeds of ground-nut and bajra recommended by it. They also gave attention to vegetable and fruit gardening. The credit society organised out of its profits a school for children and adults, which was subsidized by the Educational Department with a monthly grant of Rs. 5. Play-grounds were provided for children who contributed annually a subscription of a rupee per head to meet the cost of equipment. Action was taken to widen the lanes inside the village, excavate manure pits

and build latrines. Parents have begun to appreciate the benefits of vaccination which is growing more and more popular every year. The evils of litigation were countered by encouraging parties to refer disputes to arbitration by panchayat.

Borlam, Taluka Banswada, Nizamabad District.—Rural uplift work was carried on under the supervision of the Union's propagandist round this centre in the villages of Borlam, Ibrahimpet, Yedpalli, Thanakalan and Navipet. More than two thousand animals were inoculated. The villagers started kitchen gardening and planted fruit trees. Village libraries were set up and provision was made for the entertainment of young and old by means of games. A healthy spirit has been created among the villagers who realise the benefits of developing their villages on lines recommended by development departments.

A beginning was made in the villages of Vaidra and Kanal in Karimnagar District, and it is hoped that very soon something on the lines of the above-mentioned centres will be worked out in them under the guidance of the Union's propagandist.

The following is a tentative programme of community interest which is made use of by the Taluqa Council in its bi-monthly visits to the selected village.

Monthly Programme of Rural Uplift.

- (1) May (Thir) Examination of Adult Night School. Distribution of improved seeds and manures for kharif and abi sowings.
- (2) June (Amerdad) Distribution of flower seeds and fruit plants. Musical competition and community singing (prize distribution).
- (3) July or August. (Shahrewar or Mehir) Annual meeting of Co-operative Societies in the village.
- (4) September (Aban) Rat-killing campaign (prize distribution). Repair and digging of soak pits and drains.

- (5) October (Azur) (Diwali). Distribution of improved seeds for rabi or tabi sowings. Flower show (distribution of prizes). Cloth Bazar.
- (6) November (Dai). Distribution of vegetable seeds. Weeding of fields. Competition among women and children (prize distribution).
- (7) December (Bahman). Show of kharif produce. Arrangements for the collective marketing of produce (prize distribution). Cattle show. Castration of bulls. Distribution of eggs for sittings (poultry farming).
- (8) January (Isfandar). Baby show, (prize distribution). Exhibition of needle work of women and girls. (Prize distribution) Vaccination.
- (9) February (Farwardi). Vegetable and poultry show (prize distribution).
- (10) March (Ardibehist). Show of rabi crops (prize distribution). Arrangements for the collective marketing of rabi produce.
- (11) April (Khurdad). Fruit show (prize distribution). Cloth Bazar.

Note:—Sports for children and adults are organised at every gathering.

(7) RURAL DEVELOPMENT CENTRE, PATANCHERU.

The Rural Development Centre at Patancheru (District Medak) which is situated at about 20 miles from Hyderabad was started in 1931-32. It is financed by the Government Industrial Trust Fund, and is controlled by the Agricultural Department. It is a training ground for rural development workers for the Dominions. Some of the village teachers and propagandists of the Hyderabad Co-operative Union, who were trained here, are doing rural development work in their villages. The Patancheru Centre itself is a place of demonstration for scientific methods in poultry keeping, goat keeping,

fish rearing, kitchen gardening, fruit growing, flower growing and cultivation of field crops. There is also a forestry section, consisting of a plantation of *casuarina* for fuel. A museum is maintained containing articles connected with rural development. Actual rural development work is carried out from this centre in 14 villages round about Patancheru, but concentrated attention is being paid to 6 of them for intensive work. Propaganda is carried on through lectures, shows, demonstrations, dramas and literature. The Village Improvement Association of Patancheru is functioning under the guidance of the Centre, and it has done some useful work, in the way of improving the drainage of the village, providing bore-hole latrines and repairing of wells, etc. Encouragement to keeping fowl of pure breeds is given through distribution of eggs on half-share system (Batai). Some of the village poultry keepers are now regular exhibitors in the Hyderabad Horticultural and Poultry Show, where they have been winning substantial prizes. Stud cocks of White Leg-horn and Rhode Island Red breeds are introduced in villages in return for the country cocks, with a view to improve the progeny of the existing mongrel fowl. A gradual improvement is observed to be taking place in the progeny. Some poultry keepers have made simple improvements in their poultry houses according to the advice of the Centre. Plants and seeds of fruits, vegetables and flowers are distributed free of cost. Many of the villagers are now regularly growing them in their houses. As a result of the demonstration of improved varieties of crops, the area under Cawnpore Awne Bajra, Kanke 17 groundnut, Himayatsagar Paddy Nos. 263 and 504, and Coimbatore No. 213 sugar-cane has considerably increased in these villages. Proper methods of conservation of farmyard manure and manufacture of Chinese compost are explained and demonstrated, and several villages have now got proper manure and compost pits. There are two night schools at Patancheru and Teegalnagram villages. There is a Reading Room and a Circulating Library. In the matter of sanitation and health, simple improvements in dwelling houses are being introduced, cleanliness of the premises and drains and repair and protection of wells is encouraged. Stone drains have been constructed in parts of the Patancheru village, 20 bore-hole latrines

have been made and 7 wells have been repaired and provided with parapet walls and platforms. Small roads within the village have been constructed with the help of the Local Fund Department. The prejudice against inoculation for plague, cholera, and small-pox is broken, and the people willingly get themselves inoculated as necessity arises. Propaganda for the proper upkeep and breeding of cattle is also carried on, and scrub bulls are castrated with the improved Castrator. Goat virus inoculations are given to animals to save them from rinderpest, and animals are treated for contagious as well as non-contagious diseases. Fly-shuttle looms and Lattice Dobby have been introduced and are being regularly used by the weavers. They have rejected their old fashioned looms. To infuse a habit of making some savings, the people are induced to make deposits in the Post Office Savings Bank. The Scout movement has also been introduced, and the Boy Scouts are taught useful social service. Sports and games are arranged occasionally, and prizes are awarded to the winners. A Rural Development Exhibition is held at Patancheru, annually, which is attended by the people from all the surrounding villages. Good progress has been maintained in the work. Apart from the material improvements which have been introduced, what is most encouraging is the gradual improvement which is taking place in the mentality of the rural public, particularly the young people. The co-operation of the various concerned departments has been most helpful, which has been provided by Government by the formation of an Advisory Committee for the Centre, consisting of the heads of the departments of Agriculture, Industries, Veterinary, Co-operative, Medicines and Education.

CHAPTER III.

INDUSTRIES AND TRADE.

The industries of the State may be divided into two broad categories, *viz.*, factory industries and cottage industries. The present chapter will give an account of the important industries of each type.

(1) LARGE SCALE INDUSTRIES.

1. (a) *Cotton Industry*.—The average area under cotton cultivation in the State is about $3\frac{1}{2}$ million acres, *i.e.*, about 14 per cent. of the total area under cotton cultivation in the whole of India as shown below.

	<i>India.</i>	<i>Hyderabad.</i>
Average acreage for the years		
1933-36	2,37,37,000	34,84,000
Average yield in tons for the		
years 1933-36	50,63,000	5,41,000

So far as the production of raw cotton is concerned, this State stands fourth among the Provinces and States, the total annual output being 10 per cent. of the total Indian production.

Although this State is in such an important position in the matter of production, the quality of cotton it produces is not the best obtainable and consequently experiments for improving the indigenous strain on the Hyderabad Gaorani or Bani which is one of the best varieties in India are being carried out since 1926. Certain areas have been reserved for the cultivation of the improved strain only. The Cotton Cultivation and Transport Act VI of 1337 F., (1928) has been introduced prohibiting the import of inferior cotton, for the purpose of mixing, into areas where improved strains are grown; and the ginning and pressing of cotton has been licensed under Clause 63 of the Hyderabad Factories Act IV of

1337 F. (1928) ensuring the maintenance of a record of all cotton so ginned and pressed.

Cotton is grown in the Marathwada districts of Aurangabad, Parbhani, Bhir, Nander and Osmanabad, in the Telingana districts of Warangal, Adilabad, Nizamabad, Medak and Mahbubnagar and in the Karnatak districts of Raichur, Gulbarga and Bidar. The average output of raw cotton per acre is 280 lbs. in Marathwada and 240 lbs. in Telingana and Karnatak. The following statement shows the total output of cotton, in terms of bales equivalent to 400 lbs., each of clean cotton, in the three cotton tracts from the year 1340 F., (1931) to the end of 1345 F., (1936).

Year	Marathwada	Karnatak	Telingana	Total
1340 F. ..	2,66,864	41,752	73,194	3,81,810
1341 F. ..	3,41,616	1,10,944	56,658	5,09,418
1342 F. ..	3,80,968	1,07,071	45,852	5,33,891
1343 F. ..	4,05,579	92,943	65,449	5,63,971
1344 F. ..	4,30,336	1,27,875	64,365	6,22,076
1345 F. ..	3,50,032	82,479	66,144	4,98,655
6 years' average ..	3,62,566	97,760	61,944	5,18,303

The spinning and weaving mills in the State and the hand-loom industry consume about 25,000 bales, *i.e.*, 5 per cent. of the total number of bales produced in Hyderabad, and the remainder of the cotton produced is exported to other parts of India and Japan.

Ginning.—The ginning of cotton in the State is done in three different ways known as :—

Stone ginning,
Charka ginning and
Machine ginning.

Stone ginning is prevalent in Karnatak while Charka ginning is prevalent in Marathwada and ginning by both these methods is carried on as a cottage industry. Machine ginning is done throughout the cotton growing districts of the State. A brief description of stone ginning of cotton may be of interest : Cotton is spread on mats and beaten with sticks for removing dirt, etc. After this, it is collected and spread on a polished slab of stone. Opposite this a person sits on a wooden stool in such a way that both his feet can move up and down the slab. Then he takes a thick polished iron rod—longer than the slab—places it on the cotton upon the slab and slides it to and fro with his feet, separating the seed from the cotton.

This cotton has a better market as the staple remains uncut, but there are countervailing defects in the system, namely that the cotton is not completely separated from the seed and that the quantity ginned is not great.

Hyderabad State has about 8300 cotton gins and 100 cotton presses run by power and this industry gives employment to nearly 1,28,893 males and 65,170 females as per the last Census Report and the above figures work out to 3 per cent. and 2½ per cent. respectively of the total working populations.

The textile industry as a whole occupies the third place, in value of products, among the large scale industries of Hyderabad.

There are 6 Textile Mills in the State and the following statement gives the number of spindles and looms working in each mill and also showing the output during the year 1935-1936.

[Statement.

Name of Mill	No. of Spindles	No. of Looms	Cotton consumed in lbs.	Yarn produced in lbs.	Cloth manufactured in yds.	Value of goods manufactured in rupees
Aurangabad Mills, Ltd., Aurangabad ..	17,852	270	977,261	1,795,041	3,686,619	6,44,08
Azam Jahi Mills, Ltd., Warangal ..	10,944	416	2,853,196	4,691,495	10,808,180	18,02,885
D.B Ramgopal Mills, Ltd., Hyderabad ..	16,376	303	752,169	1,941,344	2,828,181	4,31,706
Mahbub Shahi Kulbarga Mills, Ltd., Gulbarga ..	29,156	429	1,562,924	3,772,489	6,842,582	11,53,462
Hyd. (Dn.) Spinning & Weaving Mills, Hyd.	16,680	247	85,399	624,947	425,928	62,576
Osman Shahi Mills, Ltd. Nanded ..	24,708	469	3,068,419	4,897,587	10,286,487	19,19,521
Total ..	1,24,716	2,134	9,299,364	17,722,906	35,397,929	60,14,237

1. (b) *Silk Industry*.—Silk weaving on hand looms is pursued as a cottage industry in almost all the districts in the Dominions. The most important centres of the industry are Armour in Nizamabad, Paithan in Aurangabad, Siddipet in Medak, and Narayanpet in Mahbubnagar. Recently 4 silk mills have been started—two at the Capital and two at Aurangabad, the total number of looms involved being 70.

Tassel Making.—Silk is also used for tassels which are made on a cottage industry basis. The silk used for tassels is artificial silk imported from Italy (No. 3) which is distributed in pound weights to one set of cottage women workers who twist it to lengths of about 8 inches each in three folds and pack them in bundles of 400 threads each. (A lb. of this silk produces 24 bundles, each bundle having 400 threads). These bundles of twisted silk (the weight of each bundle

depending on the quality of the tassel required) are supplied to another set of workers for threading one end. After this is done, they are taken back into the factory where a dozen men finish them by tying both ends and cutting them to lengths of 6, 6½ and 7 inches. Then a metallic cap is fitted at one end, or a "bundish" made. Tassels worth about a lakh of rupees were previously being exported to Northern India, Java and Sumatra, but lately this industry has been started in Northern India as well and export from the State has thereafter fallen to a third.

2. CEMENT INDUSTRY.

This industry was started in the year 1925 with a capital of Rs. 35,00,000, the works being located at Shahabad in Gulbarga district on the G.I.P. Railway. The Factory is equipped with modern cement making and power plants and has railway sidings of its own. Cement is manufactured by what is known as the Rotary Kiln "wet process" under which the raw materials are pulverised and mixed in due proportions along with water, forming a thick liquid called "slurry".

The raw materials used are the Shahabad limestone, black clay and coal. The annual rated output of cement is 1,40,000 tons.

It may be worthy of mention here that Shahabad cement was exclusively used for the construction of Mettur Dam.

The following shows the production of cement for the last 5 years.

1341 F. (1932)	..	Tons.	130,800
1342 F. (1933)	..	"	109,450
1343 F. (1934)	..	"	96,443
1344 F. (1935)	..	"	107,508
1345 F. (1936)	..	"	125,945

The Shahabad Cement Company merged with the Associated Cement Companies Limited of India in August 1936, the chief object of the merger being to make and

deliver cement as cheaply as possible so that it may be able to stand against any possible competition—internal or external. It may be interesting to note here that the manufacturing capacity of Indian cement which was 85,000 tons in 1914-16 increased to 14,65,000 tons in 1936.

3. MINING.

(a) *Coal Mining*.—During the past 25 years much progress has been made in the coal mining industry in the State and until a few years ago the mines owned and worked by the Singareni Collieries Co., produced a larger annual output than the combined total of all mines in the Central Provinces.

The Singareni Collieries have been long established, mining operations having commenced as far back as 1886. The collieries are situated in the Yellandu taluq in the South East of the State between $17^{\circ} 30''$ and $17^{\circ} 40''$ North Latitude and $80^{\circ} 18''$ to $80^{\circ} 25''$ East Longitude and are connected by a branch railway 16 miles long with Dornakal Junction on the Nizam's State Railway. The collieries are 162 miles from the City of Hyderabad and 93 miles from Bezwada, the Junction of N.S.R. and M. & S.M. Railway. At Singareni two pits are being worked at present: the first pit being 750 ft. deep and equipped for an output of 1250 tons per day and the second pit 450 ft. deep and equipped for an output of 750 tons per day. The Tandur collieries were opened in 1927 and development has been going on steadily since then and the mines are now fully equipped and are capable of dealing with large outputs. They are situated in the Asifabad taluq in the North of the State between $19^{\circ} 3''$ and $19^{\circ} 6''$ North Latitude and $79^{\circ} 28''$ and $79^{\circ} 30''$ East Longitude and are connected by a branch line with Bellampally Station on the Kazipet-Balharsha Section of the N.S. Railway. The collieries are 166 miles from the capital city and 79 miles from Kazipet. At Tandur two pits are being worked: the first pit being 150 ft. deep and equipped for an output of 750 tons per day and the second pit, dipping 1 in $4\frac{1}{2}$ and being equipped for an output of 750 tons per day.

During the last 25 years the total output of both the collieries was 15,941,606 tons of which that of Singareni collieries was 15,295,901 tons and that of Tandur collieries was 645,705 tons, *i.e.*, an average of 637,664 tons per year. Of this quantity 15,144,526 tons have been despatched, this quantity being made up as follows :—

Round coal, size 1" upwards	.. Tons	11,159,124
Small coal, size 0" to 1"	.. ..	3,985,401
		<hr/>
Total	.. ..	15,144,526
		<hr/>

The output during the year 1934, *viz.*, 727,756 which can be taken as an approximate average over the past 7 years is the third highest output for any individual mining concern in India and represents 4.07 per cent., of the total output raised in British India during 1933.

The coal despatched is of good quality and is used extensively as steam coal by Railways, Mills and other industrial concerns. Its average quality is as under :—

Specific gravity	.. ..	1.39
Fixed carbon	.. ..	55.85%
Volatile matters	.. ..	24.12%
Ash	.. ..	14.17%
Moisture	.. ..	5.86%
Calories	.. 6433	.. 100.00
B. Th. Units	.. 11580	

To ensure that only cleaned coal is despatched and that a standard quality maintained, special coal cleaning and screening plants have been installed. In recent years much has been done in this direction and it can be said that the coal handling plants installed at both the collieries are the most efficient and up-to-date of their kind in India—in fact, they compare most favourably with similar plants installed in Great Britain. The Singareni collieries are the only collieries in India which have in operation plant suitable for the mechanical cleaning of small coal, size 1" to 2".

The underground workings are well ventilated by double inlet "Siroco" fans, and at Singareni collieries the total quantity of air passed through the working of the two mines is in the neighbourhood of 650,000 c.ft., per minute, while at Tandur collieries provision has been made for a total quantity of approximately 400,000 c.ft. per minute. In laying out the underground workings special attention has been given to isolating districts by means of solid coal barriers for the purposes of good ventilation and for dealing with fire or floods.

All pits are fully equipped with modern machinery and are laid out on up-to-date lines. At each of the collieries a power station exists capable of supplying all needs.

Regarding transport arrangements underground, all main haulages now installed are of the slow-moving endless rope type, while direct rope haulage is used for the dip workings and self-acting inclines to the rises. A systematic method of machine mining has recently been introduced and it is expected will have the effect of reducing accidents from various causes. When further extended it will also assist in eliminating women labour from underground work. With a view to reducing accidents special attention has been given to the training of underground officials. The hours worked by these officials have been reduced and their work rearranged so as to meet the special needs of each underground district. The three-shift system under which no labour is employed for more than 8 hours per day has been in force ever since the collieries were first opened. This system has been brought into force only recently in mines in British India.

At Singareni collieries electric power is generated at 2200 volts, this being a 3-phase 25 cycle supply. At the distributing centres the voltage is stepped down to 440 volts for all motors under 50 H.P. rating, while motors of 50 H.P. and over are run at the generated pressure of 2200 volts. The power plant also includes two Parsons Mather and Platt geared turbo generators, 1000 K.W. each, together with 4 Babcock and Wilcox boilers equipped with chain grate stokers and other auxiliaries. At Tandur collieries electric

power is generated at 3300 volts, this being a 3-phase 50 cycle supply. At the distributing centres the voltage is stepped down, as at Singareni collieries to 400 volts for motors under 50 H.P. rating while motors of 50 H.P. and over are run at the generated pressure of 3300 volts. The power plant also includes Westinghouse turbo alternators (direct coupled) of 1000 K.W. capacity each; also two triple drum Babcock and Wilcox boilers, each of 5370 sq. ft. heating surface equipped with chain grate stokers and other auxiliaries.

Well equipped mechanical and electrical workshops have also been erected at both the collieries in which all repair work and the manufacture of certain plant and material for mining use is carried out.

(b) *Marble Mining*.—The Marble quarries at Justapally, a village about 8 miles from Papatpally Railway Station, in Warangal district were discovered in the year 1928.

An area of about 45 acres shows exposed marble out of an area of approximately 97 acres. The marble is in three alternate layers (from 15" to 18" in thickness) of white and grey inclined towards the hillocks, the white predominating.

A Company named the Deccan Marble and Mining Co., Ltd., was formed locally and mining operations started early in the year 1931. After working for a period of about 2 years, the quarries at Justapally have been abandoned owing to the unfavourable dip of the marble. This quarry is, however, being worked for making lime.

The Company shifted its machinery and workshops to work the quarries at Yellandu at a distance of about 15 miles from the Justapally village in the same district and it is anticipated that between 25,000 and 30,000 tons of marble can be quarried from the quarries here of which about 5000 tons, as per the estimate of the expert, compare favourably with good Italian marble.

White, striped or mottled, black, grey and yellow are the marbles procurable.

4. OIL INDUSTRY.

Hyderabad stands as one of the most important oil growing territories in India and produces many varieties of oil seeds such as groundnut, castor, linseed, cotton seed, til-seed, mustard, etc. The chief among these are the groundnut, castor and linseed. The following statement shows the area under cultivation in acres and yield in tons of the three important oil seeds in Hyderabad and other Provinces of India for the year 1935-36.

	GROUNDNUT		CASTOR		LINSEED	
	Area in acres	Yield in tons	Area in acres	Yield in tons	Area in acres	Yield in tons
Hyderabad ..	1,059,000	287,000	834,000	57,000	399,000	34,000
Madras ..	2,493,000	1,143,000	262,000	26,000	..	..
Bombay (including Indian States) ..	1,240,000	529,000	94,000	15,000	122,000	12,000
C. P. & Berar ..	135,000	37,000	31,000	5,000	1,107,000	97,000
* United Province ..	..	..	7,000	2,000	..	..
				* Un-mixed	240,000	39,000
				Mixed	622,000	100,000
Mysore ..	187,000	28,000	101,000	5,000	..	..
	5,114,000	2,024,000	1,329,000	110,000		
				Un-mixed	1,868,000	182,000
				Mixed	2,250,000	243,000

As most of the oil seeds were being exported outside the Dominions and as the oil extracting industry was in a poor condition, a survey of this industry was conducted by the Commerce and Industries Department in 1930. As a measure of assistance to this industry, the duty on the export of oil was removed. In addition, the Industrial Fund Trustees granted a party a loan for the establishment of a modern Oil Expelling Plant, and soon after, oil mills sprang up all over the oil seed growing centres in the Dominions and the oil crushing industry has now established itself on a sound basis.

* "Mixed Crop".—Seed sown in the same fields with other crops.

The following statement shows the number of oil ghanees and oil expellers permitted to be erected in the Dominions between the years 1928 and 1935:—

Districts	1937 F.		1938 F.		1939 F.		1940 F.		1941 F.		1942 F.		1943 F.		1944 F.	
	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.	Exp.	Gha.
Bhir	1	..	11	..	12	..	4	..	2	..	3	..	8	..	4
Aurangabad	5	..	24	1	16	..	..	..	2	..	..	..	38
Nander ..	2	4	..	8	4	4	..	..	..	1	..	1	..	..	..	..
Parbhani	1	..	..	2	..	..	1	..	4	..	..	..	4	..	..
Gulbarga	7	..	24	..	23	..	15	..	..	1	10	13	6	..	..
Raichur ..	7	17	2	49	..	26	..	19	..	2	..	33	2	31	7	39
Osmanabad	4	1	23	2	23	..	13	..	3	..	12	4	2	..	2
Bidar	1	..	5	1	4	..	2	..	4	..	4	2	3	..	1
Medak	6	1	1	..	..	..	12	..	2	..	1	..	..
Nizamabad	1	..	..	..	1	..	2	..	4	..	5	1	..
Mahbubnagar	1	..	14	..	9	..	3	..	6	..	6	2	14	3	15
Nalgonda	1	..	..	2	..	..	..	2	..	2	2	6	..	4
Warangal	10	..	20	..	1	..	16	..	3	..	12	4	5
Karimnagar	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Asifabad	6	4	..	..	..	..	1	..	..	..	..	..	..
Other Estates.	..	8	1	40	..	16	..	6	..	8	..	31	6	36	..	11
Total ..	9	46	5	202	14	165	1	81	..	63	1	113	31	128	15	119

	Expellers	Ghanees.
1937—40 F.	29	494
1941—44 F.	47	423
Total	76	917

The following figures show the development in the export of oils year by year (1931-1936).

	Groundnut oil.	Castor oil.
	Mds.	Mds.
1940 F.	.. 101,395	..
1941 F.	.. 119,721	..
1942 F.	.. 232,624	96,990
1943 F.	.. 421,380	123,741
1944 F.	.. 343,005	147,888
1945 F.	.. ..	158,889

In 1936, a Customs duty of $2\frac{1}{2}$ per cent. was levied on the export of groundnut oil as the industry was found running on a very profitable basis.

There are 3 main types of groundnut in the State, *viz.*, Bombay bold (mota), Coromandal (jawar) and Spanish peanut (gungru or Khandesh). The 'Kanke' or Ranchi variety is also grown at some places, but the area covered is very small. Another variety which used to be grown was called *deshi*, but this was a late-spreading variety requiring irrigation and it was also susceptible to Ticca disease. It has now been almost wholly replaced by the early foreign varieties of groundnut. The Bombay bold and Coromandal groundnuts are of the spreading type and Spanish peanut is the bunch type. The kernel of the first is of big size, that of the second medium and pointed, while that of the third is small and round. On an average they contain 70 to 75 per cent. seed and 25 to 30 per cent. shell. The percentage of oil depends on the richness of soil and other conditions under which the plant is grown. The average percentage of oil in the groundnut seed grown in the State is about 48 per cent.

There are about sixty Decorticating Factories in the State and the groundnut for export is mostly sent after decorticating, but a few tons of undecorticated seeds are also sent out. The exporting of decorticated seed requires great care as wet decorticated seed gets spoiled and the dry seeds decorticated by improper methods are liable to breakages to a large extent, thus reducing its market value. These improper methods are being gradually eliminated by the efforts of the Commerce and Industries Department through the Notifications.

Castor Seed.—The chief castor seed growing centres are Nalgonda, Warangal and Mahbubnagar districts.

The average acreage for the quinquennium 1930-1935 is 819,307 acres. The seed is mostly exported to foreign countries through Bombay and Madras Ports as follows :—

Year	1931	1932	1933	1934	1935
Tons	88,702	70,154	85,601	71,547	63,777

The chief castor oil extracting centres are Jadcharla and Shadnagar in Mahbubnagar district, Bhongir and Suryapet in Nalgonda district and Warangal in the district of Warangal.

Hyderabad exports a good amount of oil as will be seen from the statement given below, mainly to South India.

			Wt. in maunds.
1933	..	..	96,990
1934	..	..	1,23,741
1935	..	..	1,47,888
1936	..	..	1,58,889

Castor cake is exported for manure for sugar estates in the Bombay Presidency.

In the Dominions the castor oil is extracted to a large extent by means of Screw Presses. The oil is also extracted through an oil expeller in a factory in Mahbubnagar district, while in another case a Cage Press is used for the extraction of oil in the district of Nalgonda. There are in all about 300 Screw Presses in the State.

The following is a brief description of how castor oil is extracted by means of the Screw Press :—The seed is crushed by the crushing-rolls six times and the meal is then rolled by hand in pieces of gunny bags and beaten down by mullets to a suitable thickness. These bags with the meal are placed between the thin iron plates in the Press and pressure is applied by turning the capstan at one end of the Press. This capstan holds a screw which passes through the press-head and presses the meal bags. As soon as the pressure is applied two troughs which hold live charcoal or wood fire are kept on both sides of the press for heating the meal bags. After the charging of the press the capstan is worked by wooden levers or pins about 6 feet in length. Two men begin the operation, but as soon as the pressure increases longer levers are used by additional men. The pressure is gradual and a charge of about 161 lbs. meal takes an hour and a half to finish. A press is capable of pressing a 'khandi' of seed per day of 12 hours. One crushing-roll machine has also a capacity of one 'khandi' of seed per day; the seed is crushed 6 times to make it as fine as possible. It may be mentioned here that in most

of the presses the seed is prepared for crushing by women labourers alone.

Linseed is grown throughout the Marathwada and chiefly in the districts of Adilabad, Nizamabad and Atrai-Balda in the Telingana. Very little linseed is crushed in the State and except for a few tons, the whole of the produce is exported to foreign countries. Hyderabad holds the third place in India under this crop. The following statement shows the area and yield of linseed for the last 5 years :—

	Area in acres.	Yield in tons.
1930-31	.. 253,000	.. 16,000
1931-32	.. 306,000	.. 23,000
1932-33	.. 269,000	.. 18,000
1933-34	.. 367,000	.. 26,000
1934-35	.. 399,000	.. 34,000

5. TOBACCO INDUSTRY.

Tobacco is largely cultivated in the Dominions, the annual average acreage under this crop being 72,000 with a yield of about 36,000,000 lbs. of tobacco. Hyderabad may be placed sixth among the tobacco growing provinces in India.

Statement (1) given below shows the different varieties of tobacco grown in the State with the estimated acreage, while Statement (2) gives the yield of tobacco used for various purposes.

Statement 1.		Statement 2.	
Variety.	Estimated acreage.	Purpose.	Yield in mds.
Zarda	.. 14,000	Chewing (zarda)	20,000
Jawari	.. 43,059	Beedi	.. 73,000
Bushnare	.. 5,000	Hooka	.. 8,110
Sulipetty	.. 10,000	Chutta	.. 3,23,240
Turkish	.. 5	Churut	.. 15,000
	<hr/>	Cut and Pipe	.. 50
	72,064		<hr/>
			4,39,400

The local varieties of tobacco are not suitable for making cigarettes and tobacco is therefore imported for the purpose from Guntur in the Madras Presidency; a certain amount of tobacco is also imported from Nepani in Gujrat and Mysore for blending with the local variety for 'beedi' making.

There are two Cigarette Factories in the State and the following gives the production of cigarettes.

	Vazir Sultan Tobacco Co., Ltd.	Hyderabad-Dn. Cig. Factory.
Number of cigarettes produced in millions.		
1343 F.	.. 838.95	.. 374.75
1344 F.	.. 1,221.55	.. 281.45
1345 F.	.. 1,223.70	.. 232.00

There are about 193 Registered Brands of Beedis in the Dominions. Beedis are made all over the State as a cottage industry, the most important places being Yadgir, Nizamabad and Aurangabad.

In Telingana mostly churuts are smoked and about 230 millions of these are made annually.

6. GLASS INDUSTRY.

The Glass Industry came into existence in the State in 1928 with the establishment of a factory named the Deccan Glass Works located at Fatehnagar near Begumpet. The Company very soon found itself in financial difficulties and Government came to its rescue by purchasing Debenture shares of the value of Rs. 30,000 besides granting a loan to the Managing Director of the Company for acquiring training and experience in glass making. Unfortunately, matters did not improve and Government had to call in Experts to report on the prospects of the glass industry in the State in general and on the position of the Deccan Glass Works in particular. Further expenditure was considered necessary for putting the Glass Factory on a sound working basis and as the Company was not in a

position to raise the capital required, it was closed and ultimately sold to Mrs. Chand who is now running the Works under the title of "Kohinoor Glass Factory." The pot furnaces which the previous company were using for preparing glass are now replaced by a tank furnace and the Factory is progressing steadily in spite of Japanese and British Indian competition. Lately, a pot furnace has been added to the factory for producing coloured glass. The factory puts in the market chimneys, tumblers, jars, ice-cream plates, jugs, pager-weights, etc.

Bangle making.—Before the introduction of cheap and a better quality of glass bangles into the State by Japan, this industry was flourishing in the villages of Gajulpet and Manikonda in Mahbubnagar district. The bangle makers are not keeping pace with the times and the industry is dying. Raw materials like soda and most of the colouring materials are made locally. The process of preparing soda is as below: Between Vaishak and Magh (*i.e.*, between February and May), Uppars (the mason caste) collect "Chaudu" from the surrounding fields. This is filled into pits 6 ft. \times 6 ft. \times 10 ft. deep and is thoroughly mixed with water. In another similar pit close by, cow dung is dumped and mixed with water. These are allowed to stand for some time till all the sediment had settled down. These liquids are mixed in another tank nearby in equal quantities. Then on a well-rolled plot of ground, where dry grass is spread about 2 inches thick, the mixture is evenly sprinkled for about 60 days. This as it dries on the grass forms a thick cake, which is collected and burnt. The ash is then used as a flux while melting the quartz. The samples of the ash give tests for sulphites and chlorides in the radicals and sodium and potassium in the metals. The colouring materials used are cobalt salt got from Bombay, copper salt prepared locally and for colouring brick red a powder from the locally found stone known as "kemdi" is used.

The furnace used is a dome-like structure of about 7 to 8 ft. in diameter and about 20 to 25 ft. high with a small opening at the top for the smoke to escape, and a sufficiently large triangular opening on the side as an entrance. This is built of brick and stone. Earthen pots of about 1½ inch diameter and

about $\frac{1}{2}$ inch thick are filled with a mixture of powdered quartz and the locally made soda, the proportion being first determined by actually making small quantities of glass in a small pot. Rows of pots along the inside of the wall are arranged one above the other and the space in the middle is filled with firewood. Each furnace holds about 216 pots. About 5 to 6 carts of firewood is put in the furnace and the entrance blocked, leaving a small opening for firing. For about 3 days the fire is kept alive by adding firewood through this hole. After the furnace cools, these pots are taken out and broken and the glass stored. This glass is re-melted in another small furnace and converted into bangles by the bangle makers by crude methods.

The bangles made at Gajulpet and Manikonda are mostly consumed locally while some of them are sold to lacquer bangle makers in Hyderabad City.

The following gives the working cost per charge:—

	Rs.
81 mds. of quartz per charge at Rs. 4 per 20 mds ..	16.2
13 $\frac{1}{2}$ mds. of ash at Rs. 21/8 per khandi of 20 mds. ..	15.19
Cost of quartz	12
Firewood per charge (50 carts)	100
Labour expenses for arranging the pots ..	5
Labour expenses for removing the pots	1
Labour expenses for breaking the pots and removing the glass	10
Colour, etc.	50
(Different colours are used at a time in different pots)	
Local licensing fee	6.5
<hr/>	
Cost of making 216 pots of glass	215.89

On an average a pot contains about 16 $\frac{1}{2}$ seers of glass and thus the cost of glass per maund of 40 seers works to Rs. 2.42 or Rs. 2-6-9. Fyzabad glass costs Rs. 4 per maund of 40 seers of superior quality and Rs. 2/12 per md. of inferior

quality. The glass prepared at Gajulpet compares with the inferior glass available at Fyzabad.

7. BISCUIT INDUSTRY.

During the past few years biscuits are being prepared by a factory under hygienic conditions. This factory had equipped itself with up-to-date machinery with a loan from the Industrial Trust Fund which has been repaid and this indicates the success of this industry in the State. The Rose Biscuit Works is producing nutritive and cheap biscuits which are within the reach of a very large section of people in the State as well as of the adjoining Provinces. Raw materials like flour, sugar, etc., are imported from outside the State. For the present it encounters some difficulties due to the import of cheap biscuits from Japan.

8. RICE MILLING INDUSTRY.

The average annual acreage under rice crop in the Dominions is about 10,00,000, the success of the crop largely depending on the rainfall.

Almost all the paddy grown in the State is milled within the State itself. There are about 200 Rice Mills in the Dominions and out of these half a dozen are self-contained mills without cone polishers of the German type, while the rest are of the Bezwada type. The latter occupies more room and the breakage of rice is more.

Very little rice is polished as the demand in the districts is for unpolished rice.

9. MATCH INDUSTRY.

The State has 4 match factories worked by power and 3 worked by hand. The following shows the excise duty collected on bandi rolls :—

1935-36	..	..	Rs. 10,24,232
1936-37	..	..	„ 11,28,186

Two more factories worked by hand were started during the third quarter and 3 during the last quarter of 1936-37. Originally, these match factories were using wood obtained from local forests. Wood called *Bombax Malabaricum* was used for splints and Anduk and Gumpana for the outer and the inner covers of the boxes. Ready made splints are now being imported from South India as they are more economical.

10. LEATHER AND TANNING INDUSTRY.

There are in all 84 tanneries in the State of which 30 are important ones.

This industry was originally in a poor state and a leather survey was accordingly conducted with a view to developing the industry in the State and Government eventually sanctioned a loan of Rs. 50,000 to Mr. Abdul Aziz, a tannery owner, for equipping his factory with up-to-date heavy shoe-making machines. Another company at Hingoli was also granted a loan for manufacturing leather trunks, etc. The boots and shoes made at Mr. Abdul Aziz's Factory are supplied to the City Police Force, the Paigah Forces, the Excise Department and the Sarf-i-Khas Department, etc. The leather trunks, etc., made at Hingoli are sold locally as well as in some parts of Berar adjoining Hyderabad borders near Hingoli. The last 5 years' average shows that more than Rs. 30,00,000 worth of tanned skins and hides were exported from the State besides leather goods of the value of Rs. 10,000. An endeavour is being made to obtain the co-operation of the Government Departments for making use of the local leather goods for Government purposes.

11. METAL INDUSTRY.

Apart from H.E.H. the Nizam's Mint Workshops at Saifabad, the Workshops at Lallaguda attached to the Nizam's State Railways, the Sanat-e-Hind Engineering Works at Yakutpura and the big metal works in the Dominions, there are the button, trunk and bucket and non-ferrous metal industries.

The button industry was started about 20 years ago by the Hyderabad Button Factory owned by Mr. Ghousuddin. This factory is located near Charminar, Hyderabad, and is equipped with the latest type of machines. At present there are 4 factories producing very artistically designed buttons which are finding a good market in Northern India. About Rs. 2,00,000 worth of buttons are manufactured and exported annually.

The Deccan Trunk and Button Factory produces trunks, buckets, hardware articles, etc., worth a lakh of rupees per annum.

Besides the above there are four places in the State where brass and silverware articles are made to an extent of nearly 4 lakhs of rupees annually: Pembarty, Panagal and Krompally in Nalgonda district and Siddipet in Medak district.

12. HUME AND STONEWARE PIPE AND TILE INDUSTRY.

There are two Tile factories in the State; one producing Mangalore tiles, stoneware pipes, cement flooring tiles, etc.; the other making only cement flooring tiles. The Mangalore tile industry has been in existence in the State for the last 50 years and with the advance of times the Factory began to manufacture the other articles mentioned above. The two factories have a ready market for their goods locally. The Indian Hume Pipe Co., Ltd., manufactures reinforced cement concrete pipes. These are used by the Water Works, the Drainage and the Public Works Departments in the construction of causeways, etc. The sales in 1345 F. of Hume pipes amounted to Rs. 2,04,293.

13. PAINT AND VARNISH INDUSTRY.

This industry was started in the year 1935. The factory which is situated at Lingampally, about 14 miles from the city of Hyderabad on the Hyderabad-Wadi line of the N.S.R., manufactures about Rs. 40,000 to Rs. 50,000 worth of paints annually. The products are not only finding a market in the State but are also exported to Bombay, Madras and Delhi.

(2) COTTAGE INDUSTRIES.

Hand-loom Weaving.—The most important cottage industry in the State is hand-loom weaving. Next in importance and usefulness only to Agriculture as a national occupation, this industry which is pursued by 3 per cent. of the total population consumes imported yarn of the value of Rs. 64,00,000 and clothes nearly half the total population of the State. Besides imported raw materials, it uses up local mill-spun yarn of the value of nearly Rs. 20,00,000 and hand-spun yarn of the value of Rs. 2,00,000. The classes of people chiefly engaged in hand-loom weaving are the Shalis among the Hindus, and the Momins among the Muslims. The weavers, as a class, are illiterate, poor, deeply involved in debt, and conservative in their methods and outlook. Of the 1,00,000 looms working in the State, nearly 55,000 are of the throw-shuttle type and 45,000 are equipped with fly-shuttle sleys as a result of the endeavours of the Department of Commerce and Industries.

Nearly 95,000 looms are engaged in weaving cotton and mixed fabrics, the most deserving of mention among which is the Nander-sela which approaches, in fineness of texture and excellence of finish, the far-famed Muslins of Dacca. But, unfortunately, the Selas, on account of their high cost, are gradually becoming extinct.

There are about 4000 looms engaged in the Silk Weaving industry which is more or less a monopoly of the Khattris. The Himroo, Mashroo and Kimkab of Aurangabad and the Pitambers of Paithan, Siddipet and Armoor were very much appreciated at the All-India Exhibitions held at Lucknow, Patna, Delhi and other places. The Himroo and Kimkab of Aurangabad, now woven with artificial silk and comparatively cheap in prices, are eminently suited for use for curtains, upholstery and the like. The 'saris' and especially the gold thread 'sari' borders manufactured at Paithan, near Aurangabad, are very attractive. This industry is in the hands of only 6 families.

Nearly 14,000 looms are engaged in the Kambal Weaving industry and 'kambals' valued Rs. 3,10,000 are being exported.

Dyeing Industry.—Allied to weaving and complementary to it is the dyeing industry which is widely practised in the different weaving centres of the Dominions. The dyeing industry alone consumes imported dyes and chemicals of the value of Rs. 9,00,000 annually.

Carpet Industry.—At Warangal, only 87 looms were engaged in the Carpet industry in 1930; it was, in fact, decaying. Government then established an Experimental Carpet Factory there and, under its stimulus, the number of looms has now increased to 350; and annually rugs and carpets of the total value of Rs. 1,20,000 are exported from the Dominions, whereas formerly the exports amounted only to Rs. 30,000. The carpets manufactured at the factory are unsurpassed in excellence of quality and designs by anything of the kind produced anywhere else in India.

Bidri-Ware Industry.—This industry is named after the place of its manufacture, *i.e.*, Bidar. It is of antique origin probably being in existence during the days of Bahmani Kings. The basic material employed for the manufacture of Bidri-ware consists of an alloy made of zinc and copper, the peculiarity of which is to assume a jet black colour when treated with materials of an alkaline nature. The first process is to cast the articles that are to be made. Then the rough castings are filed or turned in lathe if round and then finished off with emery paper, charcoal and sweet oil. The surface is then temporarily blackened by being moistened with a solution of copper sulphate. The design is next drawn and engraved. Pure silver in sheets or wires are then hammered and inlaid in the grooves, filed and polished off. The article is then gently heated and a certain earth found in Bidar containing salt-petre is smeared over it for getting the black ground as a contrast to the design in silver. Articles similar in appearance to our Bidri-ware are made at Lucknow also, but the fact that they are called Bidar-work would show that they are merely an imitation of the original work done at Bidar.

The designs employed are of a variegated nature and unique in conception. The more attractive of these designs are adopted from the ornamentations of the Bidar fort and the surrounding tombs. Animal designs are rare on Bidri-

work, but the fish ornament in water bowls seems to have been introduced in very early times. The original uses of Bidri-ware were in connection with the smoking of Huqqa, the offering of *pan* and *supari*, water-drinking, ablution and other miscellaneous purposes. It also included the *Ugaldan*, the small boxes, either round, rectangular or oval, shaped for holding cardamoms. Of late, newer designs are introduced and articles of modern use produced, such as cigar and cigarette boxes, ash-trays, match boxes, flower vases, bangles, buttons, links, pins and numerous other articles.

Nirmal Toy Industry.—The toy making industry of Nirmal is very famous. The screens, chess sets, ganjiphias, fruit and vegetable sets, birds, animals, etc., etc., are the most famous of the products.

Karimnagar Filigree Industry.—In Karimnagar, there are about half a dozen silver-smiths who are engaged in making Filigree ware of silver. Every year they produce Filigree articles worth Rs. 3000 in addition to the other kinds of silver wares.

Steps taken by Government for reviving and improving the above Cottage Industries.

In 1930 a thorough and detailed survey of hand-loom weaving and dyeing industries of the Dominions was undertaken by a Special Officer and his Report was published. The following schemes were sanctioned by Government:

Cottage Industries Institute.—A Central Technical Institute where weavers, dyers, and other artisans could be trained in up-to-date methods of their crafts was found indispensable and accordingly a commodious building costing Rs. 1,25,000 was constructed departmentally in the year 1930.

The Institute has the following sections:—

1. Weaving.
2. Dyeing and Printing.
3. Knitting.
4. Durrie and Drugget Weaving.
5. Woollen Spinning and Blanket Weaving.
6. Embroidery and Needle-work.
7. Rattan Work.
8. Toy making and Lacquer work.

Besides these, a Store of Weavers' Requisites and a Workshop for the manufacture of appliances, etc., have been attached to the Institute. For the convenience of the District students who come for their training, free lodging is provided and the students are paid scholarships during their courses. Again, lately a Silk Weaving Section was added to the Institute, financed by the Industrial Trust Fund.

The Cottage Industries Institute has trained 166 boys in up-to-date methods in weaving and 50 boys in dyeing besides many others in the other cottage industries, such as, Rattan work, Knitting, Embroidery and Needle work, Toy making and Lacquer work, Namdah making, etc. In all, about 600 boys have been trained during the past 5 years.

Each of the above sections is in charge of a qualified and trained instructor. Besides stipendiary students, professional artisans are also taken on piece work basis for executing outside orders. A Show Room is attached to the Institute where the products are exhibited for public sale. The annual expenditure on this Institute comes to Rs. 94,856 and it is expected to show receipts to the extent of Rs. 43,000 per annum. The Institute is equipped with up-to-date machinery worth nearly a lakh of rupees.

District Demonstration Parties.—One effective method of improving the hand-loom industry has been found to be the introduction of fly shuttle sleys, dobbies and other improved appliances, and for this purpose a scheme of the District Weaving and Dyeing Demonstration Parties was sanctioned costing Rs. 35,306 per annum. There are 7 District Demonstration Parties working in 7 centres, each under a qualified L.T.M., assisted by 2 to 4 artisan assistants and a Dyer Maistry. They demonstrate improved methods of weaving and dyeing to the artisans at their very doors. They teach them new and artistic designs and keep them in touch with the public demand. A sum of Rs. 20,000 has been set apart by Government for supplying the Weavers' requisites on a hire purchase system. When it is found that a centre has benefitted by the Demonstration Party, it is shifted to another place requiring their presence. The work of Demonstration is supervised by the

Superintendent, District Demonstration Parties and the Dyeing Expert who also tour in the districts and give advice and guidance whenever necessary.

Cottage Industries Sales Depot.—The universal grievance of the artisans is the lack of proper facilities for marketing their cottage industries products, and this has been rectified to a certain extent by the establishment of a Cottage Industries Sales Depot at Hyderabad where all products of Cottage Industries are stocked and exhibited for sale. The Sales Depot is located in a commodious building costing about half a lakh and the net budgetted expenditure on this scheme comes to Rs. 10,807 per annum. For the purchase of articles a sum of Rs. 30,000 has been sanctioned by Government free of interest as a plus and minus grant.

The Depot has been instrumental in reviving many of the dying industries of the State, more particularly, the Bidri-ware industry, Nirmal toy industry, Warangal carpet industry, etc. It brings the consumer and the small scale producer into closer contact. The small scale artisan is able to advertise his products through this medium and obtain better prices for his goods, as this does away with the middlemen's profit. The Sales Depot undertakes all advertisement on behalf of the smaller manufacturers and brings in larger business for them. The Sales Depot participated in the Indian Trades Exhibition Train which gave a tremendous publicity to our products. The train went all round India through important commercial centres, etc., and thereby our cottage industries products were widely advertised in all those places. Besides, the Sales Depot sends different cottage industries products to the various Urses, Exhibitions, and Jatras within and outside the Dominions for exhibition and sale.

Government Carpet Factory, Warangal.—Warangal was once famous for its carpet industry, but in later years the industry deteriorated and was almost extinct when the Department took the matter up and established an Experimental Carpet Factory there with the co-operation of a well-known firm in the line, viz., the East India Carpet Co., with the

ultimate object of reviving the dying industry and with the immediate object of manufacturing almost all the high class superior carpets that were required for the Delhi Palace of H.E.H. the Nizam. The scheme was financed by the Industrial Trust Fund at a cost of Rs. 52,328 with a recurring expenditure of Rs. 3,728 per annum. This factory started its work in 1930 and it is gratifying to note that within its short life, it has wonderfully revived the Carpet industry of the place. Even experts in the line like Mr. Robertson Taylor of the East India Carpet Co., after his recent visit to Warangal, said that the Warangal carpets equal if not excel those that are made elsewhere in India.

To encourage the cottage carpet industry, a large order for the supply of 500 rugs per month of a cheaper quality was secured by the Factory from the Oriental Carpet Manufacturers, London.

A revised scheme for continuing the Factory has been submitted to the Industrial Trust Fund for sanction. The Factory has been shifted to a commodious building and an additional shed is being put up for housing bigger looms to cope with orders for wider carpets.

Weaving Institute, Paithan.—Paithan was noted for its sari, gold lace and pagri industries, but owing to the import of cheaper machine-made goods, these industries declined and weavers emigrated to foreign parts such as, Yewla, Ahmadnagar, Poona, Bombay, etc. This Institute was created for saving these industries under the auspices of the Industrial Trust Fund at a cost of Rs. 20,757 for 1930 and Rs. 15,000 for 1931. The total non-recurring expenditure of the Institute was fixed at Rs. 7,758 and a sum of Rs. 10,000 was provided for the stores. The real needs of Paithan necessitated some changes in the working of the scheme and instead of jacquards, the weavers were taught fly shuttle weaving and given yarn for reproducing Nagar pattern 'saries' which were flooding the local markets. About 50 weavers were helped with an advance of raw material on credit on an easy instalment system. The yarn was also supplied duty free. Recently, the pagri weavers also are helped by the Institute Stores.

As it was desired that the original object of this Institute, viz., the revival of the gold embroidered sari industry, should not be lost sight of, two looms have been fixed at the Institute and an experienced weaver was engaged to teach the stipendiary boys the art of Paithan gold-thread-embroidered saris, pagris and cholkhans. This attempt is expected to help the gold-thread industry also.

Bidri-ware.—There are two factories at Bidar, where about 30 artisans are engaged and articles worth Rs. 10,000 are manufactured every year, out of which 5 to 6 thousand rupees worth of articles are purchased by the Sales Depot. Of late, attempts are being made to find a market for bidri-ware in foreign countries also. For this purpose, photos showing the craftsmen at different operations and the articles under different processes, etc., are being sent to the Imperial Institute, London, for exhibition there.

Nirmal Toy Industry.—At present, there are only 3 master craftsmen engaged in this noted industry. They receive many orders, but the number of manufacturers being limited to 3 only, it is not possible for them to supply the articles in time. To get rid of this difficulty and to keep the industry alive, a scheme was sanctioned by the Government and 8 boys are undergoing training in this industry under the said 3 master craftsmen and receive small stipends per month. When these boys complete their training and are able to produce these toys, the output will increase and orders could be complied with in time and the increasing demand for these toys could be fulfilled.

Apart from the above steps taken by the Government, loans are also given to small scale industrialists to enable them to expand their business, e.g., Augayya Sidram Bhandari of Alir, who had a limited number of looms previously, was granted a loan of Rs. 3,000 and it is gratifying to note that there are 48 fly shuttle looms working in his factory to-day while 75 workmen are engaged in the manufacture of saris worth Rs. 3,000 per month which find a ready sale in Hyderabad and Marathwada Districts. Likewise, Vithoba Venkayya Gajjar of Alir was given a loan of Rs. 1,300. There are 26 fly shuttle looms located in his factory and he pro-

duces saries worth Rs. 1,700 per month. About 50 workmen are engaged in his factory. Others similarly helped include Nalla Narsayya of Alir who was granted a loan of Rs. 500, Abdul Aziz of Udgir who was granted a loan of Rs. 200, Abdul Aziz of Bhir who was granted a loan of Rs. 2,000 and Abdul Hamid Khan, Himroo weaver of Aurangabad, who was granted a loan of Rs. 7,000.

The position of the hand-loom weavers can be improved by (1) teaching them improved methods of production, (2) providing them with loans at a low rate of interest repayable in easy instalments, (3) supplying them with raw materials on credit, (4) keeping them in touch with the prevailing trends in the tastes and fashions of the consumers and (5) helping them in finding sales for their products. All these are being done through the Institutes, the District Demonstration Parties and the Sales Depot and the State can claim to have achieved a large measure of success.

The only thing that was not attempted hitherto was the formation of co-operative societies either for production or for the sale of goods. This was to a certain extent because the experience of such Co-operative Societies in Madras, Central Provinces and other British Provinces had not been encouraging. As the industries are still in an infant stage conducted on experimental lines, it would be inexpedient and inadvisable for Government to risk large amounts in Artisan Co-operative Societies organised either for production or for the sale of goods.

Scholarships.—Every year a few scholarships are granted to deserving students from the Industrial Trust Fund for undergoing training in some technical subjects such as, Weaving, Dyeing, Carpentry, Tailoring, etc., in foreign Institutes. Our scholarship holders are undergoing training in various schools, such as the Victoria Jubilee Technical Institute, Bombay; the School of Arts and Crafts, Madras; the Technological Institute, Cawnpore; the Kala Bhavan Institute, Baroda; the Jadhav Tailoring College, Poona, etc. When they return after completing their courses they are either taken in the Industries Department, or are helped to secure employment in suitable industries.

Rural Development Centres.—These centres receive our best attention and help. We send out our Demonstrators, artisan assistants, etc., to train boys of these centres in their respective arts.

Women's Home Industries.—These were helped with a grant from the Industrial Trust Fund and their products are kept in the Sales Depot for sale.

The Industrial Trust Fund has been very useful in helping various dying industries of the Dominions. Small scale manufacturers have been advanced loans for putting their industries in working order, or for the purchase of new and up-to-date machinery. Liberal donations have also been granted to deserving associations, such as the Anjuman Taraqui Dastakari of Aurangabad.

(3) H.E.H. THE NIZAM'S MINT WORKSHOP DEPARTMENT.

The Mint Workshops originally formed part of the Mint, but they were separated in 1912 and constituted into a separate department in order to undertake a wider scope of work. Since then they have not only done repairs and mechanical work for the Mint but have also undertaken a large amount of work for other Government Departments and the general public. The work carried out for the Mint includes engraving, die-making, the manufacture of all Government seals and badges, as well as repairs to the stamp and coining machinery. The Mint Workshops have undertaken all break-down work and heavy repair work required by the Electricity Department and have also turned out a considerable amount of manufactured articles and repair work for the Public Works and other Departments, besides private firms and individuals.

The Mint Workshops are divided into seven main sections, namely :—

- (1) The Foundry and Pattern Shop.
- (2) The Machine Shop.
- (3) The Fitting and Erecting Shop.
- (4) The Blacksmithy.
- (5) The Motor Repair Garage.
- (6) The Carpentry Shop.
- (7) The Engraving Section.

Foundry.—(Iron and Brass):—This Section is equipped with one five-ton and two $2\frac{1}{2}$ ton cupolas and is capable of an output of 80 tons of iron castings per month. Typical work of this nature includes road roller rims and bullock rollers up to five tons weight or more, cast iron pipes and specials, screw-gearred shutters, cable boxes for the Electricity Department, etc., etc. Brass, gun-metal, and bell-metal castings of all kinds are made up to 10 cwts.

Machine Shop.—In this Section is undertaken lathe work, milling, gearing, cutting, boring, drilling, shaping, and grinding.

Fitting and Erecting Shop.—This shop is equipped with a plate bending machine, a shearing machine, and a punching machine. Repairs are undertaken here of steam and oil engine road rollers, pumps and machinery of all descriptions. Structural steel work, Post Office letter-boxes, water-carts, and stationery supplies, such as ink-bottles, office call-bells, paper-weights, etc., are undertaken in this Section; also electro-plating in gold and silver.

Blacksmithy.—This Section is equipped with two pneumatic hammers, one of 30 cwts. capacity and another of half a ton capacity and a drop stamp hammer. This Section undertakes a large variety of heavy and light forging work including the making of metal hospital cots.

Carpentry Shop.—This includes four sub-sections, namely,

- (1) Hand-craft sub-section.
- (2) Woodwork machine sub-section.
- (3) Paint Shop, including spray paint equipment.
- (4) A Kiln with seasoning plant of 300 c.ft. capacity.

In this Section is undertaken the manufacture of every kind of office and household furniture, a great deal of which is supplied to several Government Departments.

Electric Development in Hyderabad-Deccan.

As in most countries of the world, electricity has played and continues to play a highly important part in the economic

development of Hyderabad. In 1911 a new Government Department was formed known as H.H. (now H.E.H.) the Nizam's Electricity Department. The first generator was a 14 KW reciprocating d.c. machine and was used to supply only a few buildings in the vicinity of the Mint. From this modest beginning a large supply undertaking was gradually built up. The Hussain Sagar Power House was constructed in 1922 and was designed to harmonise with the Saracenic architecture that is prevalent in Hyderabad. There are now three turbo-generators installed, all giving three-phase 50-cycle supply—two Metro-Vickers sets of 3000 KW capacity each and one English Electric Co., set of 3750 KW capacity—and also a small emergency oil engine set of 150 KW capacity. Thus the total plant capacity amounts approximately to 10,000 KW and 13,200 KVA. The Boiler Plant consists of four Vickers Spearing header-type water-tube boilers, each of 20,000 lbs. hour rating, and three spearing three drum Stirling-type water-tube boilers, each of 25,000 lbs. hour rating. The four header-type boilers and one Stirling-type boiler are fired by means of pulverizers of the rotating beater-blade type, locally made in the Government Workshops, whilst the two latest Stirling-type boilers are equipped with lowered compartment stokers made by the International Combustin Co. The fuel used is Singareni fine slack (Zero to 3/8") containing 20 per cent. ash and having a gross calorific value of about 10,000 B.T.U.'s per pound.

The three newest boilers are fitted with economisers and two of them are equipped with hydraulic ash-removal chutes.

The output from the Power House is considerably more than might be expected from the size of the plant owing to the excellent load factors obtained, largely as a result of "off-peak" rates. Nearly 1,71,34,000 of units were generated last year. The maximum load is normally only about 3200 to 3300 KW, but during the recent Silver Jubilee Celebrations a peak-load of 5750 KW was experienced. Moreover, every year the Deevali festival gives rise to peak-loads of 60 per cent. or 70 per cent. in excess of the normal peak-loads experienced during the rest of the year.

The number of consumers in Hyderabad is now between 7000 and 8000. This includes three bulk supplies, *viz.*, the British Administered Area of Secunderabad, the Railway Workshops and community of Lallaguda, and the new Osmania University which controls its own Municipality. Messrs. Callender's Cable and Construction Co., hold the license for distributing electricity in Secunderabad, the population of which is about 1,00,000, whilst the Nizam's State Railway distribute electricity in Lallaguda, which has a population of about 25,000. The total number of individual consumers taking supply from Hussain Sagar Power House amounts to about 10,000 in all. The following is a schedule of the different types of load, apart from the ordinary domestic load which accounts for most of the consumers :—

Pumping consumers	..	..	189
Spinning and Weaving Mills	..	..	2
Rice, Oil, and Flour Mills	..	..	245
X-Ray Installations	..	..	2
Mortar Mills	..	..	9
Ice Factories	..	..	4
Cinemas and Theatres	..	..	11
Refrigerators	..	..	190
Domestic Power Consumers	..	..	455
Bulk Supplies	..	..	3
Street Lights	..	..	2460
Miscellaneous Motors	..	..	140

The estimated connected load is as follows :—

Domestic lights, fans, and power	..	..	4707 KW.
Industrial Power (including Bulk Supplies)	..	..	5855 KW.
Street Lights	..	..	121 KW.

Total .. 10,683 KW.

The average price received per unit sold during the last financial year was O.S. As. 2.116 per unit, equivalent to B.G. As. 1.814. The alternators generate at 6600 volts and the majority of the transmission is carried out at this pressure. A diminishing quantity of 3300 volts network, however, still remains. Eighty-five sub-stations and twelve pole-mounted transformers feed the low voltage mains at suitable points with 400/230 volt supply. Recently, a standard form of simple architecture has been introduced for the sub-stations and seven buildings have already been erected in this style. The central feature of this architecture is the departmental emblem consisting of the initials of the Department, a streak of lightning, and the "Dastar" or Royal Crown of Hyderabad. Formerly the distribution was undertaken by Messrs. Callender's Cable and Construction Co., on a contract basis, but the whole work is now carried out by the Department.

A Repair Workshop is maintained by the Electricity Department for rewinding transformers and motors, etc. A considerable amount of manufacture is also undertaken and a large quantity of fans and small transformers have been made in the Department's own Workshop. Switch-gear of low rupturing capacity has also been made from time to time. Meters, time-switches, etc., are, of course, all maintained by the Department.

In September 1935, a small Show Room was opened with a view to encouraging the development of domestic load. The Show Room contains an excellent selection of domestic and other electrical appliances representative of many manufacturers. A regular programme of press advertising in four languages is being followed in support of the Show Room, which is known as Bijli Mahal.

The frequency of supply is controlled within close limits and a large number of electric clocks are in use in Hyderabad.

The development of the Department continues to be very satisfactory in that the number of consumers is rapidly increasing. Most of the present development of the Department is in the direction of domestic load, but it is hoped that large industries may soon spring up which may benefit largely

by the cheap electrical energy available. It may be safely said that electricity is an economic factor of increasing importance in the State.

(4) TRADE.

A general guide to the nature and value of the trade of the State is obtained from the customs and railway returns.

Imports and Exports.—The principal imports are piece-goods, yarn, salt, sugar and jaggery, fruits and vegetables, gold, silver, livestock, betelnut, silk, timber, copper, brass sheets and utensils, cinema films, mineral oils, motor cars and other vehicles. The principal exports are cotton, groundnuts, food grains, castor seed, linseed, sesamum, livestock, leather, oils and oil-cakes, coal and building material.

Value of Imports and Exports.—The following statement shows the total value (in crores of rupees) of the imports and exports in each of the last ten years :—

Year (Fasli)	Value of Total Trade	VALUE IN CRORES OF RUPEES	
		Imports	Exports
1836 (1927) .. ..	..	13.88	12.48
1837 (1928) .. ..	..	18.22	20.87
1838 (1929) .. ..	..	18.74	21.12
1839 (1930) .. ..	..	18.69	20.28
1840 (1931)	26.50	18.01	18.49
1841 (1932)	28.48	18.85	10.18
1842 (1933)	26.48	18.87	13.06
1843 (1934)	27.52	14.15	13.87
1844 (1935)	26.14	14.42	11.72
1845 (1936)	28.15	18.75	14.40

The following statement shows the average value (in lakhs of rupees) of the principal articles imported or exported in 1345 F.

IMPORTS		EXPORTS	
Articles	Average value	Articles	Average value
	Rs.		Rs.
Piecegoods	205	Cotton	544
Yarn	52	Food grains	115
Precious metals (gold & silver)	25	Castor seed	58
Jaggery & Sugar	80	Hides & skins	6
Salt	59	Sesamum	23
Fruits & vegetables	46	Livestock	30
Livestock	12	Linseed	54
Betelnut	12	Groundnuts	220
Silk (real & artificial)	54	Oil vegts.	106
Timber & wood	11	Timber & wood	6
Cinema films	29	Manufactured textile	36
Drugs, etc.	14	Oil cakes	30
Grains and flour	76	Cotton seeds	21
Machinery	20	Leather	35
Metals, ores & manufactures	82	Building material, other than iron	46
Oils (minerals & vegt.)	88	Coal & coke	29
Paints & colours	11	Spices	17
Paper, etc.	20	Tobacco	12
Railway accessories	20		
Tobacco	23		
Vehicles	30		

[Statement.]

The share of the State in the all-India Import and Export of chief articles is indicated by the following statement :—

Articles	Import into State in Mds.	Export from State in Mds.	RANK	
			Import	Export
1. Cement	3,892	2,861,527	18	3
2. Coal & coke	1,253,232	11,298,391	17	4
3. Cotton bales	2,743	1,292,280	16	6
4. Fruits	467,816	9,162	4	15
5. Rice	1,304,896	17,276	11	15
6. Hides, Skins & Leather.	1,869	45,094	15	3
7. Iron & Steel	1,008,992	40,649	12	17
8. Kerosene oil	471,996	1,035	9	16
9. Vegetable oils	71,903	520,197	15	4
10. Castor	34	1,050,875	14	1
11. Cotton seed	10,263	795,057	13	8
12. Groundnuts	606	2,277,882	18	8
13. Linseed	5	1,495,408	18	8
14. Sesamum	791	218,681	17	4
15. Salt	1,617,020	2,296	6	14
16. Teak	142,333	54,398	4	7

(N.B.—The whole of India is divided into 18 principal blocks including 9 British Provinces, 4 Seaports and 5 major Indian States.)

CHAPTER IV.

COMMUNICATION AND TRANSPORT.

(1) H.E.H. the Nizam's State Railway.

(A) EARLY HISTORY AND RECENT DEVELOPMENT.

The State of Hyderabad is in the proud and unique position of having within its limits the largest system of railway in any Indian State and of being the pioneer in the field of Road Transport, operated and controlled by State Railway Administration. The total length of the railway is 1664 miles, of which 371 miles are owned either by the Government of India or by private companies. The Nizam's State Railway system worked by the State Railway Department comprises 1347 miles of open line, 688 miles being of 5 ft. 6 ins. (broad-gauge) and 659 miles of 3 ft. 3-3/8 in. (metre-gauge). The railway system connects with the adjoining railways at five junctions situated at or near the State boundary and affords excellent facilities for the import and export trade of the State, and in addition forms portions of through routes between northern and southern India and between the east and west coasts.

Early History.—The question of providing Hyderabad with a railway arose as far back as the early sixties. The decision to link Bombay with Madras rendered the proposal a practical proposition and determined the location of the first railway in Hyderabad State. The first railway line Wadi-Secunderabad, 117 miles long, was opened for traffic on the 9th of October, 1874. Another 200 miles were added to the mileage within a short space of four years (1885-1889). Ten years later, the Hyderabad-Godavery Valley Railway from Secunderabad to Manmad was completed. This railway has rendered yeoman service in opening up the rich Marathwada tract of H.E.H. the Nizam's Dominions and in providing an outlet for its produce to the Bombay market.

Development in Recent Years.—His Exalted Highness Nawab Sir Mir Osman Ali Khan's accession to the throne brought to fruition several schemes of outstanding importance. Apart from branch lines, two important main lines were projected and completed, viz., the Secunderabad-Dronachellam line (in 1928), which provides a through metre-gauge connection with Southern India, and the Kazipet-Balharshah line (in 1928), which constitutes the shortest route between Northern India and the Southern Presidency. An outstanding event in the history of the railway was the acquisition of the railways by the State on 1st April, 1930. The only addition to the mileage of the railway after the Government took over was the extension of the Vikarabad-Bidar railway to Purli-Vaijnath, 110 miles. This completed the scheme of opening up the rich Manjira valley.

The question of providing feeder and branch lines to existing main lines with a view to bringing the benefits of rail transport within the reach of as large a proportion of the population of the State as possible has been receiving the constant attention of the Administration. In pursuance of this policy, feeders to Jagtial, Aurangabad, Bhir and Adilabad have been surveyed. Of these various schemes, (a) Nanded-Adilabad and (b) Purli-Bhir-Aurangabad Railways (256 miles in length) are now under active consideration and their construction will probably be commenced within the next few months. A short metre-gauge branch from Janikampet to Bodhan, a distance of about 12 miles is now under construction to serve the new Sugar Factory at Bodhan.

Development of trade consequent upon the various extensions of the State Railway system and the resultant movement of increased traffic have from time to time demanded improvements in the standard of the line, accommodation, works and equipment, and the State Railway has adopted up-to-date standards consistent with economy and efficiency. The most notable among these improvements are the extensive renewals of the track on the broad-gauge line, doubling of the metre-gauge line between Bolarum and Falaknuma, remodelling of the station and yard at Secunderabad, and remodelling of the

yards at other important stations such as Hyderabad, Dornakal, Kazipet and Purna. The Locomotive and Carriage and Wagon Workshops have been remodelled and provided with up-to-date machinery and the General Hospital at Lallaguda considerably expanded and equipped on modern lines. An extensive and modern system of telephonic traffic control has also been installed.

With a view to affording still further facilities for short distance traffic and accelerating main line trains by increasing non-stop runs, a number of broad gauge air-conditioned rail-cars have been ordered and these are expected within the next few months. A Hotel equipped and furnished on up-to-date lines is under construction at Aurangabad which is the railway station for tourists visiting the world famous caves of Ajanta and Ellora. When completed and opened, it will meet a long felt want of tourists.

Recent financial results of H.E.H. the Nizam's State Railway.—The total capital invested by Government on its railway system to the end of March, 1937 is Rs. 14,64,65,627. The gross earnings for the year ending 31st March, 1937 were Rs. 2,28,80,377 compared with Rs. 2,11,91,697 in the previous year and the net earnings Rs. 1,14,75,239 compared with Rs. 90,83,503 for the previous year which represents a return of 7.6 per cent. on the capital.

Notwithstanding this considerable increase in earnings, working expenses showed an appreciable decrease of 6 per cent. from Rs. 1,21,08,194 in the previous year to Rs. 1,14,05,138 during the past financial year ended 31st March, 1937. The operating ratio, viz., the percentage of working expenses to gross earnings, decreased to the extremely low figure of 42.8 per cent., which is a feature calling for considerable commendation; in fact H.E.H. the Nizam's State Railway operating results are better than those of any other of the leading Class I. Railways in India.

It is significant also that the earnings from goods traffic carried over H.E.H. the Nizam's State Railway during the past financial year were the highest on record, the figure reach-

ing Rs. 153.65 lakhs, thus exceeding by Rs. 0.63 lakhs the previous highest figure of Rs. 153.02 lakhs in 1930-31.

(B) TRANSPORT CO-ORDINATION.

H.E.H. the Nizam's State Railway Road Services.— A landmark in the recent history of H.E.H. the Nizam's State Railway is the co-ordination of rail and road transport. The State of Hyderabad has given a definite lead in India as a result of the comprehensive scheme for the co-ordination of Rail and Road Transport which has been introduced by the Nizam's Government. The question of co-ordinating the road and rail services in the Dominions and of controlling the issue of monopolies and permits to private motor agencies and individual owners assumed importance when the railway became the property of the State in 1930. In common with the other railways in India and elsewhere, the Nizam's State Railway had to face the effects of competition by the rapid growth of road transport services. With the exception of two or three companies which operated buses on the roads in certain districts under monopolies granted to them by the Government, the remaining motor services in the State were worked by a number of ever changing private individuals with little financial status or experience, most of whom were engaged in cut-throat competition with one another and some directly with the railway. It was soon realised that with such unlimited competition, the quality of the service to the public was likely to deteriorate and that a surfeit of road transport would lead to a considerable increase in the cost of maintenance of the roads.

After very careful consideration it was decided that, as a first step, the Railway Department should start trial services of their own over certain roads with a monopoly over each of the routes and with complete freedom to fix their own rates and fares, and that if the experiment proved a success, the railway should ultimately take over the entire public road transport within the State. A scheme was accordingly prepared costing approximately Rs. 4½ lakhs and sanctioned by Government. It included proposals for working (a) mono-

poly service on about 400 miles of district roads and (b) suburban services in Hyderabad and Secunderabad, running in competition with private services.

The services were inaugurated on 15th June, 1932 with a fleet of 27 buses. The well organized and comfortable services run by the railway at fixed fares and working to regular time-tables in place of the uncomfortable and irregular private services, were quite naturally welcomed by the public and within a short time their popularity increased so much that the buses intended for the extended district road services had to be diverted for use on the services already opened.

Encouraged by the success of these services and in compliance with a persistent demand from the districts for the opening of additional services, considerable extensions were made during the next three years and at the end of March, 1936, the railway had a fleet of 118 passenger buses operating over 1,364 route miles.

The services that had so far been displaced were those of private individuals who had been working on annual permits and had not therefore created any vested interests. Immediately on being displaced, most of the bus owners either came to Hyderabad or Secunderabad and obtained permits to ply in the suburban area or converted their buses into lorries for the transport of goods with the result that, in addition to intensive passenger bus competition in the suburban area, a new phase of competition came into existence diverting to the road a large amount of goods traffic which had previously been conveyed by rail.

Two important monopoly concessions held by private concerns which were operating on about 2,400 miles of district roads were due to expire during the year 1936. Experience of the last four years had clearly shown that the State Railway Administration were in a position to operate efficient road transport services at low fares and make a reasonable profit. Hence, in accordance with the policy already accepted, Government decided not to extend the period of these monopolies,

but to hand over the roads worked by the monopolists to the railway, together with certain other roads linking up with them. It was agreed that all the equipment should be taken over at a reasonable valuation and that, as far as possible, the displaced staff should be employed by the railway.

With these extensions, the total length of roads operated by the railway road transport service increased at the end of March, 1937 to 3,977 route miles or over three-fourths of the total length of main roads in the Dominions, and the total fleet increased to 318 motor vehicles.

Hyderabad State Motor Vehicle Rules.—It was also deemed necessary, in order to safeguard effectually the interests of the railway road transport services over their monopoly routes and to prevent un-economic and wasteful competition in areas worked by private services, that suitable rules should be framed under the Hyderabad Motor Vehicles Act and sanction of Government obtained for the enforcement of these rules. A committee consisting of representatives of the Railway, Police, Revenue, and Public Works Departments examined the provisions that were required to be made and prepared rules which became law on October 6, 1936.

In framing these rules the main object kept in view was that ultimately the railway should have the monopoly of all public bus services in the State. For this purpose, roads were divided into two classes, viz., scheduled and non-scheduled. The scheduled roads are those reserved for the railway and consist of most of the main and important roads aggregating to 4,620 miles of which 4,000 miles are already under railway monopoly and 263 miles worked under a monopoly by a private operator and, on the remaining 357 miles, private buses are at present allowed to operate under permits issued by the Secretary to Government, Revenue Department. The permits specify the exact routes on which the buses should ply, and the number of buses allowed to operate on each route is restricted.

The non-scheduled roads consist of 209 miles of unimportant roads. Permits for plying buses and lorries over these

roads are issued by the District Taluqdars with due regard to the needs of the area to be served. These non-scheduled roads may be classed as scheduled at the discretion of Government after which permits to ply on them may only be granted by the Secretary, Revenue Department. All new roads will also be scheduled and the railway will have the first preference to operate over them.

So far as the suburban roads are concerned, the monopoly will be secured by a process of gradual elimination. No permits for new bus services are to be issued, and for those private services that are already in operation, permits will be granted only as long as they come up to the fairly high standard of comfort and efficiency required for the capital city of the State; in any case no permits will be given for buses which are over 6 years of age. Thus, complete monopoly will be secured in the course of 6 years.

Cart tracks are not included in the category of scheduled or non-scheduled roads, and permits for running bus services thereon may only be granted if, from the railway point of view, there is no objection to such services being allowed.

As a result of this scheme of co-ordinated transport administration, private profits are being diverted to the State for the benefit of the people as a whole. Standardization, more regular services and lower rates are replacing the diversity and irregularity which characterised the private services. The basis of charge by the State Railway Buses is 6 pies in Osmania Sicca currency per passenger-mile.

The adjustment of fares on particular railway bus-routes by H.E.H. the Nizam's State Railway adopting a standard fare per passenger-mile has had the effect of attracting traffic to the Railway for the reason that when the buses on these particular routes (which were actually parallel and directly competitive with the railway) were operated by private owners the fares competed with the rail rates. The standard fare per passenger-mile now charged on the State Railway buses is on a higher basis than the rail fare and considerable traffic has therefore reverted to the railway. The

State Railway have, in consequence, reduced considerably the number of trips run by their buses on these specific routes.

The travelling public of Hyderabad State are, however, benefitting considerably by the introduction of the State Railway buses and by the adoption of the standard fare. This will be appreciated when one bears in mind the high fares which were charged on many of the routes previously operated by private owners. This emphasises the fact that a system of charges by which the more profitable routes subsidize the less profitable with its very material advantages to the public is only possible when there is actual or virtual monopoly.

Transport in this involved age has become such a necessary part of the social organization that the effects of competition, disorganization and instability react on a very large section of the public. The service requires to be well organized, speedy, safe and reasonably cheap, and this cannot be attained in the face of competition where the owners or shareholders could not be assured of a reasonable return on the money invested and where the satisfactory operation of the service is lost sight of in consequence of the sole desire to secure traffic.

That public opinion is veering towards a favourable view of monopolies in transport is apparent from the fact that in recent years throughout the world the demand has arisen for the control of competitive transport and the firm establishment of those monopolies which are now in existence. The public have realised that the old order has changed radically and that economic forces, as well as social necessity, demand that unified control of transport be attained in some way or another. This demand has become so strong and so general that the legislatures of practically every country in the world have been obliged to introduce laws to control transport.

Regarding the transport of goods by road, the policy of H.E.H. the Nizam's Government is "to conserve as much carting as possible to the village cart-men." In effect, this is to encourage private haulage feeding the railway. All other goods transport by road is to be regulated in the interest of the railway. As a rule permits for regular lorry services for carrying goods for hire are not to be issued except in the case

of large towns where permits for the carriage of goods on hire may be given within a radius of 25 miles. No restrictions are, however, imposed on traders' own lorries, *i.e.*, vehicles owned and used by traders in connection with their own business.

In December 1934, the railway opened an experimental out-agency at Bhaisa for through booking of goods and parcels by combined road and rail routes and, following on the experience gained by the working of this out-agency, additional out-agencies, each serving a separate railway station have been opened during the past year providing road transport of goods over 380 route-miles of road feeding the State Railway.

One of the most outstanding recent developments on H.E.H. the Nizam's State Railway was the introduction on 1st March, 1937 of goods collection and delivery services at Hyderabad, Secunderabad and Warangal. Under these arrangements, goods are conveyed to and from the Railway station, the Nizam's State Railway undertaking the collection and delivery work by their lorries to and from merchants' premises, cartage areas having been defined at each place. This scheme which embodies one flat cartage rate irrespective of the class of traffic, enables "door to door" transport of goods to be effected. Although the arrangement is only in its infancy, the scheme is already being patronised by a number of merchants and is regarded as a welcome innovation.

Further proposals for the introduction of additional out-agencies and collection and delivery services are being formulated, it being considered that these cartage services, in addition to combating road competition and attracting additional traffic to the railway, will themselves in course of time provide a further source of revenue to the State.

That control by the State Railway Administration of road transport services is essential in order to secure the largest measure of co-ordination with the Railway services is further exemplified by various schemes of road and rail co-ordination recently introduced by the Railway.

Many of the train services in the State have recently been accelerated and the Railway Bus Services are being co-ordi-

nated with these improved services, various alterations being made in the road time-tables to make the bus trips fit in with the trains.

Where the railway road services are available and are meeting the needs of the public, arrangements are being made to avoid train stoppages at intermediate unimportant stations.

The railway buses feed the trains at specific points. So far as H.E.H. the Nizam's State Railway is concerned, the number of trains which are met or connected by the Railway buses each day now reaches a total of 195.

Combined road and rail excursions to various places of historical and archæological interest in Hyderabad State were inaugurated in the latter part of last year and are proving very popular amongst the travelling public.

For the purpose of augmenting existing services on various routes and to cater for an expansion in the near future of the Nizam's State Railway Administration's policy of running combined rail and road excursions to many places of interest in the State, 20 additional new buses are on order and will be placed in service within the course of the next few weeks.

Another interesting feature in the scheme of co-ordination which has been introduced in the State of Hyderabad is the close co-operation which is being established between the Railway, the Public Works and the Revenue Departments, in regard to all schemes of road construction. This co-operation ensures a planned scheme of transport and development of roads as feeders to the Railway. The new rates of taxation on motor vehicles provide an increasing revenue which H.E.H. the Nizam's Government have decided shall be credited in full to a special Road Fund to be managed by the Road Board.

It will be seen from the foregoing that the aim of the Government and the Railway is to provide a comprehensive and economic transport service and everything possible is being done to make this service as attractive as possible so that the travelling and trading public may make full use of the facilities afforded.

The co-ordination which is being effected in Hyderabad State, particularly between the road and rail means of communication, is eliminating wasteful competition, providing cheaper and better means of transport and opening up hitherto inaccessible regions to trade and traffic. The unified control will ensure that each area and each industry is being or will be served by means of transport best suited to its needs.

Financial results of State Railway Road Services.—The capital invested on the Road Services is Rs. 46,61,119. The gross earnings during the past financial year were Rs. 22,96,473 and net earnings Rs. 3,81,413 representing a return of 8.18 per cent.

Air Transport.—A further development in the co-ordination of all forms of transport under a single administration will be achieved when the State begins to operate its own Air Service in connection with its road and rail services. The first step has been taken in the establishment of an Aerodrome at Hyderabad and the appointment of instructional and ground staff; the purchase of the necessary machines is also being arranged. Plans with regard to the opening of other aerodromes are also being formulated.

(C) ADMINISTRATION.

The administrative control of the railway is vested in a Board of Directors who are responsible to the Government for the efficient working of the railway. The Rt. Hon'ble Sir Akbar Hydari, *Kt.*, P.C., LL.D., D.C.L., President of the Executive Council, whose financial foresight rendered an earlier acquisition of the railway possible, is the President of the Board.

An important change in the State Railway Administration, effected last year, was the reorganization of the Traffic Department, whereby two departments were reconstituted, viz., Commercial and Transportation. The functions of the Commercial Department are exclusively to deal with all commercial problems affecting the railway, including the quotation and adjustment of rates and fares, agreements with foreign railways, publicity, research, development and settlement

of claims, etc. The Transportation Department is mainly concerned with the control and movement of trains. This reorganization has proved extremely successful and it is of particular interest to note that one of the main recommendations contained in the recently issued report (vide paras. 115 and 116) of the Indian Railway Enquiry Committee presided over by Sir Ralph Wedgewood was "that as a means of increasing revenue the most urgent need is the development of the Commercial Departments of the railways which should include the appointment on each administration of a Commercial Manager."

The Administration has always aimed at securing the comfort and contentment of the Railway staff. Provision of housing accommodation, opportunities and facilities for recreation, education of the employees' children and facilities for medical treatment are some of the steps taken by the Administration to secure this end.

To keep itself in close touch with public opinion on matters concerning the comfort and convenience of passengers and the facilities required for development of trade, the Administration, with the concurrence of Government, constituted in 1926 a Local Advisory Committee, consisting of representatives of Local Governments, local Municipal bodies and trade interests.

Similarly, the Chief Commercial Manager represents the State Railway on various governmental and commercial committees, thus effecting co-ordination between the activities of various Government Departments and trading interests.

The State Railway Publicity organization has also recently been considerably strengthened and brochures and pamphlets describing various places of archæological and historical interest are prepared and issued from time to time.

The Chief Commercial Manager of the State Railway also assists the Industrial Fund Trustees in the development of the Industrial Area specially acquired by the Government and laid down for the location of new industries at the Capital. He tries to establish a close liaison between the

State Railway and the Industries in the State and by mutual understanding of each other's requirements, to help in bringing about the dawn of a new industrial era in the State. The modern manufacturer when contemplating the establishment of a new factory is prompted by the fundamental consideration of the most efficient and economic method of production and distribution. Recognising the necessity for speedy, efficient and economical services in all branches of transport, the constant aim of His Exalted Highness the Nizam's State Railway is to be equipped with and prepared to fulfil every modern transport requirement of its customers to ensure the maximum development and prosperity in every direction.

(2) ROAD COMMUNICATIONS.

Intensity of Road Mileage.—The total length of the State roads, exclusive of Local Fund roads, is over 5000 miles. Of this, not less than 3000 miles consist of metal roads intended for fast and heavy traffic; while the rest of the roads are of 'muram' but will be metalled as sufficient traffic develops on them. The total area of the State is 82,698 sq. miles. Taking the total road mileage as 5160, including open roads and those under construction, the road length works out to one mile for every 16 square miles of the country. A road programme of further 5000 miles, to be constructed in the near future, has been drawn up to provide a network of communications over all the districts. With the completion of this programme the road length will be one mile for every 8 sq. miles.

Classification of Roads:—According to their importance, roads are divided into three classes:—

- I Class.* These roads connect the capital with the districts and large trade centres.
- II Class.* These roads connect principal markets with the main road, or short railway feeder roads, or those connecting district headquarters with the Tahsils and other important places.
- III Class.* These roads connect Tahsils with villages. Class I and Class II are meant for heavy traffic, while Class III is meant for light traffic.

The principal features of these are tabulated below:—

Class of road	Width of road	Width of wearing surface	Width of side berms	Width of road at culverts
I Class	30	15	7½	21
II Class	24	12	6	18
III Class	21	9	6	15

In addition to the above, there are special roads which may be classed as follows:—

(a) Roads in special tracts such as forests, irrigated areas and mining centres. These are generally known as development roads.

(b) Ghat roads, *i.e.*, hill roads.

The districts of Asifabad and Mahboobnagar, and some parts of Warangal, Nirmal and Kareemnagar contain thick forests. Roads that have been constructed in these tracts are intended not only for rural development but for export of forest produce also, such as timber, bamboos, etc. In large irrigated tracts like those under Nizamsagar, Wyra and Palair reservoirs, special roads are necessary to move the vast bulk of the agricultural produce to the principal markets and the rail head. A system of development roads is under construction in these areas. Similarly, in areas holding mineral wealth such as gold, coal, limestone, etc., special roads have been constructed and yet more are under construction, according as the development proceeds.

In the north-western parts of the State, where the Deccan plateau rises over the plains, Ghat roads were necessary to establish communication between the plains and the uplands. The Ghat roads of Daulatabad, Ellora and Ajanta are fine examples of engineering design. The distinguishing feature of these roads is the easiness of grades and absence of sharp curves and hair-pin bends, so usual in hill roads. The hill roads of Ajanta and Ellora have their peculiar importance in making the famous caves of Ellora and Ajanta accessible to motorists and visitors, who come from different parts of the world.

Road Policy:—With the development of inter-provincial communications, there has been a demand for more roads and better surfaces to meet the requirements of agricultural and industrial advancement. The Railway transport system, which covers a total mileage of 1353 miles, can only partially meet the requirements of the vast resources of raw materials, which have to be transported to the Indian markets. In order, therefore, to provide the necessary links from the interior to the rail head, a complete scheme of inter-communications was necessary. The Government have, therefore, established a Road Board for examining road schemes following a general programme of main and subsidiary roads.

Highway Bridges.—The efficiency of any road system lies in its highway bridges; as, without these, it is impossible to ensure quick and uninterrupted locomotion. The Government, therefore, sanctioned the construction of bridges across almost all the principal rivers of the State. Rivers like the Godavari, the Bhima, the Manjira, the Kadam, the Sindphana, the Moosi, and a host of others, both big and small, whose roaring torrents must have been the despair of former generations, are to-day spanned by efficient bridges.

In the case of arterial roads the policy of Government has been to provide bridges across all streams both large and small, as will be seen from the following instances:—

Name of road	Name of river	Kind of bridge
Hyderabad-Sholapur Road . .	Naranja	Reinforced concrete bridge.
	Bori	Masonry arched bridge.
Hyderabad-Yadgir-Bijapur Road.	Bheema	do
Hyderabad-Raichur-Bellary Road.	Kistna	do (under construction).
Hyderabad-Nanded-Akola Road.	Manjra	Masonry arched bridge.
	Godavari	do
Hyderabad-Nagpur Road . .	Godavari	do
Hyderabad-Aurangabad Road	Godavari	Reinforced concrete bridge.

The river Godavari, which traverses a length of nearly 700 miles in the State, is bridged in no less than six places,

three bridges being for roads and three for the State Railway. Yet, three more bridges across this river are under contemplation for further expansion of inter-district communications. It is further proposed to construct in co-ordination with the Governments of Central Provinces and Madras respectively, bridges across the Penganga in the north and the Tungabhadra in the south. The construction of these bridges will provide the shortest line of communication between northern and southern India.

In the case of district roads, where rivers with wide sandy beds are met with, and where the depth of floods is usually low, low level causeways or flush causeways known as 'road dams' are adopted.

The following is the list of some of the important bridges built during the last 25 years.

Name of Bridge	District	Size	Cost in lacs. Rs.
1. Godaveri bridge at Shahgadhd.	.. Aurangabad	17 spans of 60'	7.61
2. do Nanded	Nanded	20 ,, of 60'	9.20
3. do Soan	.. Nirmal	36 ,, of 60'	10.58
4. Manjra bridge at Sangareddy	.. Medak	12 ,, of 60'	5.00
5. do Nizamsagar	.. Nizamabad	19 ,, of 60'	4.50
6. Manjra causeway at Salorah	.. Nizamabad	100 ,, of 8'	1.77
7. do Sangam	.. Bidar	14 ,, of 20'	1.32
8. do Latur	.. Osmanabad	35 ,, of 10'	0.76
9. Kadium bridge	.. Asifabad	12 ,, of 40'	2.22
10. Bheema bridge	.. Gulbarga	19 ,, of 60'	9.37
11. Benthora bridge	.. Gulbarga	9 ,, of 60'	2.98
12. Dunda bridge	.. Aurangabad	7 ,, of 40'	0.93
13. Musi bridge	.. Nalgonda	18 ,, of 60'	3.85
14. Naranja bridge	.. Bidar	9 ,, of 20'	0.58
15. Manar bridge	.. Nanded	10 ,, of 40'	1.86
16. Kagna bridge (in progress)	Gulbarga	9 ,, of 25'	0.43
17. Kistna bridge (in progress)	Raichur	35 ,, of 60'	9.50
18. Bensura bridge	.. Bhir	23 ,, of 20'	1.07
19. Sindhphana bridge	.. Bhir	9 ,, of 40'	1.16
20. Muneru bridge	.. Warangal	5 ,, of 60'	3.00
	&	14 ,, of 25'	
21. Karamat-e-Usmani bridge	Karimnagar	16 ,, of 60'	3.32

Dust-proofing the Roads.—Another advance, which marks the road policy of the State is the system of dust-proofing the roads in the district towns. The principle has been accepted that all district towns and commercial centres should have dust-proof roads within the inhabited area. The works are being taken up in the order of precedence. The dust-proofing is to consist of tar or asphalt or cement concrete slab, according to the volume and intensity of traffic. Experiments are also being carried out with different kinds of dust-proofing materials to evolve a cheap kind of dust-proofing arrangement.

Dust-proof Roads in the Capital.—One of the most remarkable features of communications in the State and one which lends outstanding significance to its road activity is the construction of cement and asphaltic roads in the Capital. In 1930 a programme was sanctioned for reconstructing 29.33 miles of important roads of the city with cement concrete at a cost of Rs. 31 lakhs in two instalments. By the end of 1935, i.e., in the course of 5 years, as funds were available 27.60 miles of city roads have been so reconstructed leaving only 1.73 miles to be completed as funds become available.

It is now nearly seven years since the laying of cement concrete roads was begun on an extensive scale in the city of Hyderabad. During these seven years all the roads without any exception have been giving excellent service throughout all the seasons. There has not been a single pot-hole, nor uneven wearing, nor unequal settlement, nor anything as a matter of fact to complain of. The thin coat or scum of cement mortar, took more than two years to wear off; and, now that the mosaic has appeared, the wearing is observed to be much slower, thanks to the excellent quality of the Shahabad cement and granite stone, presenting a good grip and foothold to the traffic and a pleasing neat surface to ride on.

Once the cement concrete road is properly laid, particular attention being paid to the right proportion and quality of metal, sand, cement, and water for mixing, laying, tamping, and finishing, it requires very little attention beyond the maintenance of joints which are filled once or twice in a year de-

pending upon the amount and nature of traffic, without causing the least obstruction to the public in general.

The maintenance cost of a cement concrete surface varies from $1\frac{1}{2}$ to $2\frac{1}{2}$ pies per sq. yard per annum which is negligible compared to other road surfaces. The cost of maintenance of the lime-cement concrete side berms is Rs. 0-1-3 per sq. yard. The wearing of this surface although a little more rapid as compared to the central rich cement concrete road, is more or less uniform and compares favourably with asphalt grouted surface. An experiment is being carried out of painting this surface with tar for serving as a wearing coat, the lime cement concrete acting as foundation.

It will not be out of place to consider here a few of the advantages of the cement concrete road over the Asphalt road in the city of Hyderabad:—

(1) With minimum disturbance or cutting of the old existing well-consolidated 'morum' surface, it is possible to lay the cement concrete as against the deep cutting of nearly 1'—6" to 2 feet required for an Asphalt surface on 9" to 12" stone soling, with 6" 'macadam' and 4" thick Asphalt grouted carpet.

(2) Cement concrete can be laid very rapidly with little inconvenience to the public at large, as less material and time are required compared to Asphalt.

(3) It is not only the cost of the actual road and its maintenance that must be taken into account in considering the financial side, but also the indirect savings in the wear and tear of vehicles, tractive force and consequent saving in petrol, tyre bills and the safety given to the speed of haulage. A well laid cement concrete road is smooth, dustless, sanitary and easily cleaned. Its joints and light colour add to visibility at night. It possesses low tractive resistance, but with excellent adhesion both during dry and wet seasons tends to decrease accidents due to skidding; whereas, the Asphalt road offers greater tractive resistance in summer and less adhesion during wet seasons causing skids, due to its property of becoming soft at higher temperatures

and hard and slippery at lower temperatures. On account of the low heat absorption of the cement concrete road, it is more comfortable than the Asphalt road during the summer for bare-footed pedestrians.

(4) Though cement concrete road may not be so noiseless and resilient as compared with Asphalt and other like surfaces for the animal drawn traffic, the same is minimised and offset by its smoothness throughout the year.

(5) Last but not the least is that all materials including cement for a cement concrete road are available in the State, whereas Asphalt has to be imported.

Though Hyderabad is the fourth largest city in India, it has the longest mileage in roads constructed with cement concrete on modern lines. The construction of these roads has not only increased the beauty and grandeur of the city, but has also helped considerably to minimise the diseases chiefly caused by dust.

(3) H.E.H. THE NIZAM'S POSTAL DEPARTMENT.

The State runs a Postal Department of its own, whose contribution to the economic well-being of the people has not been inconsiderable. The department was originally created by Sir Salar Jung I, in 1869 and its progress since then has been continuous. At the present time it covers practically all the functions usually performed by Postal Departments in other countries and brings on an average a net profit of 1¼ lakhs annually to the public Exchequer.

The activities of the department are, however, confined only to the State, the British Indian Post Offices dealing with all communications with places outside the State. In 1882 the State entered into a postal agreement with British India whereby the principle of exchange of postal articles was accepted. At present 22 Offices are performing exchange operations in the State—a fact that has given rise to certain complications that are now the subject of negotiations between the two Governments.

The following figures for 1345 Fasli, *i.e.*, 1936 A.D. will give some idea of the scope of the activities of the Postal Department:—

Number of Registered articles distributed.	12½ lakhs.
" Non-Registered "	345 lakhs.
" " Bearing articles distributed 	12½ lakhs.
Number of Money Orders issued	.. 5½ lakhs.
Amount of Money Orders issued	.. Rs. 92½ lakhs.
Number of Savings Bank Accounts	.. 83 thousand.
Amount deposited in Savings Bank Accounts	.. .. .. Rs. 110 lakhs.
Number of Post Offices	.. .. 855
Number of letter boxes	.. .. 1335
Income	.. .. .. Rs. 10,70,300-15-8
Expenditure	.. .. .. " 8,93,423- 0-0
Net Profit	.. .. .. " 1,76,877-15-8

State Postage Stamps of the following denominations are at present in circulation and can stand comparison with those of their kind in any other country both in excellence and artistic design.

Stamps	Ordinary Envelope	Registered Envelope	Single Postcard	Reply Postcard
4 Pies ..	8 pies	2 as. 8 p.	4 pies	8 pies.
8 " ..	1 anna	3 as.		
1 Anna ..	..	3 as. 2 p.		
2 Annas ..	..	3 as. 8 p.		
4 " ..				
8 " ..				
12 " ..				
Rupee 1 ..				

HYDERABAD POSTAGE STAMPS

پستہ راج الوقت سلطنت آصفیہ حیدرآباد دکن

نمونہ کارڈ باسائز

POST CARD

HE.H.THE NIZAM'S GOVERNMENT



پوسٹ کارڈ



تصویر کے مضمون
WRITING SPACE

پتہ تحریر
ADDRESS ONLY

نمونہ لفافہ باسائز



نقش چار منار بزرگ خاوری

نقش سبز زمین سفید

نقش سیاہ زمین سفید

نمونہ لفافہ باسائز



نقش ساگر بنگلہ بودی

نقش خانہ عدالت العالیہ بنگلہ جلی

تصویر چھٹائی دریا کا سارے پورے آصفیہ
پورے مہل کا اصل



نقش سردھوگاواں ایدہ شریف بزرگ غوثی
نقش چاند منار دولت آباد بزرگ رو

نقش قمار لیور بنگلہ نارنجی

CHAPTER V. PUBLIC WORKS.

(1) IRRIGATION—ITS DEVELOPMENT AND PRESENT POSITION.

Unlike the snow fed rivers of Northern India, the Deccan rivers flow only during the monsoon months when there is rainfall in its catchment. At other times the rivers dwindle down to mere rivulets. As such, the Deccan rivers cannot be depended upon as a perennial source of water-supply. The rainfall also is most capricious and its distribution unequal. Although the most apparent cause of famine is scanty rainfall and the consequent failure of crops, the real source of trouble is the want of sufficient "reserve power" in the shape of big reservoirs for conserving water for agriculture. The two river systems which drain the country are the Godavari and the Krishna with their tributaries. In addition to the waters these rivers bring from their ghat catchments, Hyderabad receives well over two million cubic feet of water annually from rainfall after meeting all natural losses such as evaporation, absorption, sustenance of plant life, etc. Out of this barely 10 per cent. is being utilised for artificial irrigation, and the rest simply runs to waste.

The State is divided into three tracts. The Mahratwada in the north-west has little or no wet cultivation, while in the Carnatic what little irrigation is possible is being done partly by wells and partly by canals from the river Tungabhadra. It is in Telangana "the land of rice and tanks" that irrigation has developed most extensively from ancient times. Out of 2200 sq. miles of irrigated area in the State more than 80 per cent. is in Telingana. This tract is studded with 22,000 tanks, both small and large, and every suitable valley is occupied by a tank or a series of tanks. The districts of Warangal and Karimnagar have the most notable examples of ancient works of irrigation. The lakes of Pakhal, Ramappa, Lakhnawaram and Sanigaram constructed in the 12th and 13th centuries with their colossal

earthen bunds and sluices stand as monuments to the great kings who reigned at that time. Pakhal extends over an area of nearly 13 sq. miles and was till recently the largest artificially created storage of water in the State. In the troublesome times that preceded the Mutiny of 1857, it was hardly possible for the State to pay any serious attention to these ancient irrigation sources. But, in 1868, Sir Salar Jung I, as a part of his comprehensive and beneficial reforms, organised an Irrigation Board under the Revenue Department. The creation of a separate Irrigation Branch under a Chief Engineer for Irrigation marked the next important step in the progress of Irrigation in the State. The scarcity and distress of the years 1896-1897 when a severe famine was just averted by a late rainfall gave an impetus to the irrigation activities and several irrigation works costing some 50 to 60 lakhs of rupees were set in brisk progress. The activities of the Irrigation Department were first directed towards the restoration of tanks and 'Kuntas' built by the ancients. The Department then turned its attention to the tributaries of Krishna and Godavari. As a first attempt anicuts were constructed across these streams for diverting the waters during the flood seasons. Later came a period when anicuts were no longer economic propositions and reservoirs had to be constructed for tiding over the years of scarcity of rainfall. Schemes are under consideration for harnessing the rivers Krishna, Godavari, and other important tributaries.

The expenditure incurred so far on minor irrigation works in the State is about 6 crores, much of which was incurred on maintaining and repairing the old tanks. Major irrigation works like Nizamsagar, Pocharam, Wyrā, Palair, etc., have cost the State another 6 crores. The total revenues of the State from irrigation were 144 lakhs in 1935 and 145 in 1936; this is in spite of a period of depression in which the fall in the prices of rice, a crop which is almost synonymous with irrigation, hardly leaves the cultivators with a bare subsistence.

A brief description of the several irrigation schemes is given below:—

Nizamsagar Project.—The largest irrigation scheme in the State is the Nizamsagar Project. A masonry dam, 112 ft. high,

above the river bed is thrown across the Manjira river. The river at this point drains 8376 sq. miles of area and has an average annual yield of 1,12,000 M.cft. The waters of this lake are spread over an area of 56 sq. miles and the quantity of water that will be stored is 29,000 M.cft. The flood disposal works are capable of dealing with 5,25,000 cubic feet per second. The Nizamsagar Canal is 100 ft. wide and 10½ ft. deep in the head reaches and carries a discharge of 3400 c.ft. per second. The main canal is 72½ miles long and is designed to irrigate 2,75,000 acres in Banswada, Bodhan, Nizamabad and Armoor Taluqs of Nizamabad District. There are numerous aqueducts, syphons, superpassages, bridges and outlet weirs on the canal and the total length of the distributaries is about 1000 miles. The total cost of the project, including the canal, is 426 lakhs and the return anticipated from irrigation is Rs. 46.16 lakhs or 10.82 per cent. on the capital outlay. The project was started in 1924 and water was first given for irrigation from the lake in 1930.

Palair Project.—This is situated in Khammam Taluq of Warangal District. The reservoir is constructed of an earthen bund, the maximum height being 67½ ft. above the foundations, and is capable of holding 2559 M.cft. at its full supply level. The work was started in 1923 and completed in 1929 at a cost of Rs. 24.65 lakhs. The reservoir is expected to irrigate 19,650 acres and to produce a net revenue of Rs. 1,51,221.

Wyra Project.—The Reservoir is constructed in Khammam Taluq of Warangal District. It is a masonry dam with earth backing of 5207 ft. long and 88 ft. high. The reservoir was completed in 1933 at a cost of Rs. 34.16 lakhs. It is anticipated that it will irrigate 17,390 acres and bring in a net revenue of Rs. 1,70,073.

Pocharam Project.—In Medak District, across the river Alair, a tributary of the Manjira, a dam was constructed in 1916 at a cost of Rs. 31.62 lakhs. The project consists of a masonry dam 2200 ft. long with a maximum height of 50 ft. and an irrigation channel 36 miles long. The reservoir is capable of holding 2250 M.cft. of water and is designed to irrigate 13,069 acres yielding a net revenue of Rs. 1,98,868.

Mahboobnahr and Fatehnahr Projects.—An anicut 24 chains long was constructed in 1904 across the Manjira at Ghanpoor where it drains a catchment of about 7000 sq. miles. From the right bank, the Mahboobnahr starts, with a discharge of 234 cusecs. It is 25 miles long and irrigates 8504 acres. On the left bank the Fatehnahr starts and irrigates 5200 acres. The total cost of the scheme is Rs. 23.5 lakhs.

Besides these, there are numerous other projects such as Royanpally, Boyalmarchaid, Pendripakala, Rooty, Sakat, Lakshmanchanda, etc., costing Rs. 2.85, 3.00, 6.25, 4.46, 4.70 and 3.75 lakhs respectively, and there are 28 anicuts more across other rivers constructed or restored by the department.

The above irrigation works have either been completed or are under construction; in addition there is a big programme under investigation of future works. Some of these are across inter-State Rivers in which Bombay, Madras and Mysore are as well interested and their execution is awaiting settlement of the question of the division of waters between the interested Governments. Important among these are given below:—

Name of Project	District	Approx. area of irrigation in acres	Remarks
1. Tungabhadra Project	Raichur ..	5,00,000	} Intersta- tal.
2. Upper Krishna ..	Raichur and Gulbarga	1,00,000	
3. Bheema Project ..	Gulbarga and Mah- bubnagar.	400,000	
4. Lower Krishna Project	Nalgonda ..	1,00,000	
5. Manair Project ..	Karimnagar ..	10,000	} Across internal rivers.
6. Purna Project ..	Parbhani and Nander.	60,000	
7. Kadlam Project ..	Adilabad & Asifabad.	20,000	
8. Bandarpally Vagu Project.	Mahbubnagar ..	10,000	
	Total ..	3,00,000	

(2) THE CITY IMPROVEMENT.

In 1911, after the first outbreak of plague in the city of Hyderabad, it was felt that the Government should set to work at once to improve in every possible way the sanitation of the city and its suburbs by having a proper drainage system, by opening up the back streets and alleys and letting in more light and air, and by dealing with the question of cemeteries and burial grounds, etc. In order to achieve this object, a body called the Hyderabad City Improvement Board was formed in 1912. General Walashan Prince Nawab Muazzam Jah Bahadur is the President of the Board which consists of 17 members, including 3 non-officials representing Jagirdars, Sahukars and Merchants.

During the 25 years that the Board has been in existence, various improvements in all directions have been effected at a cost of about two crores of rupees, and this has largely improved the social and economic life in Hyderabad.

Slum Clearance and Housing Scheme.—The most important works carried out are the slum clearance and housing schemes. Slum clearance called for the demolition and re-planning of overcrowded and insanitary areas, and this work is being steadily carried on. New roads are being laid out, new houses built, and open spaces created to serve as 'breathing lungs.' Fourteen localities covering an area of about 700 acres have thus been improved at a cost of sixty lakhs of rupees. Very great care has been taken in these operations to attend to the comforts of the people dishoused. Open spaces round the city have been acquired and sanitary houses have been built and let out on rents varying from Rs. 10-8-0 to one rupee per mensem. Four types of houses called A, B, C, and D classes have been constructed as detailed below:—

"A" class—This is constructed on an area of 40'×40' and consists of 5 rooms, one of 12'×10', two of 12'×8' and two of 5'×7', the last two serving as a kitchen and bath. There are a rear covered veranda of 16½'×7' and a wash-down latrine at one end of the courtyard which is enclosed by a compound wall. The cost of construction is Rs. 2,100,

and the rent charged is Rs. 10-8-0 p.m. at the rate of 6 per cent. per annum on the cost of the building exclusive of the cost of land.

“B” class—This is constructed on a plot of 30'×30' and consists of 3 rooms, two of 12'×8' and one of 5½'×6½', the last serving as a kitchen. There are a rear covered verandah of 11½'×7' and a wash-down latrine at one end of the courtyard which is enclosed by a compound wall. The cost of construction is Rs. 1,350 and the rent charged is Rs. 6-12-0 per mensem on the same basis.

“C” class—This is constructed on a plot of 22'×25' and consists of 2 rooms 12'×8'. There is a wash-down latrine at one end of the courtyard which is enclosed by a compound wall. The cost of construction is Rs. 900 and the rent charged is Rs. 3 per mensem at 4 per cent. on the cost of the building exclusive of the cost of land.

“D” class—This is constructed on an area of 18'—6"×12'—3" and consists of one room 10'×10', a kitchen of 5'×5' and a covered platform of 5'×5'. The cost of construction is Rs. 500 and the rent charged is only one rupee per mensem which works out to a rate of 2.4 per cent. per mensem. Bath-room and flush latrines are provided for houses of this type free of rent.

Thirty lakhs of rupees have been spent in building 2500 houses in 11 localities accommodating about 10,000 people. Although these houses are not self-paying, their benefits extend much deeper and farther and cannot actually be assessed in money value. The occupants are saved the cost and trouble of evacuation during epidemics, the sufferings due to the dislocation of business and the misery caused by the loss of lives.

Improvement of the River Musi.—Owing to the construction of flood moderating reservoirs—the Osmansagar and Himayatsagar lakes—the flow of water in the river Musi which runs through the heart of the city is greatly restricted. The river at present is just like a large sullage drain receiving the waste water of the city. The waste water falling into the river forms into cess-pools which form a breeding place for

mosquitoes spreading Malaria and other kinds of infectious diseases most injurious to the health of the city. Primarily for preventing this evil and incidentally also for enhancing the beauty of the city, a serpentine lake is proposed to be formed in the river with a free flow of water. The project has been surveyed and the scheme has been approved by the Executive Council. An estimate for the scheme amounting Rs. 16.18 lakhs as recommended by Sir M. Visvesvarayya is under sanction of Government to be taken up when the construction of the Central Secretariat is undertaken on the banks of the river Musi. In the meantime, these banks which presented an appalling sight after the floods of 1908, have been made beautiful and useful by constructing retaining walls and by laying out a large park of about 16 acres on them. Roads have been constructed along the banks for drives. The nucleus of the future civic centre along the river front is thus laid and when the proposed administrative and public offices with the general Secretariat buildings are constructed, public business will be transacted with the utmost efficiency and economy. Pathergatti and Siddi Amber Bazar, the trade centres of the city lying on either side of the river, have been reconstructed and the main thoroughfares have been widened and made dust-proof.

Other Improvements.—A large market to meet the needs of the citizens has been constructed at a cost of five lakhs of rupees. Grain markets are being improved by widening and concreting roads and by constructing rat-proof godowns. Infant Welfare Centres have been constructed in various localities and children's parks, fitted with play appliances, have been provided in different parts of the city which have added to the health and happiness of the children. Last but not the least is the construction of bath-rooms for women of the depressed classes which has supplied a great want of the poor; and they are being largely used. The Public Gardens have been greatly improved and have been fitted up with electric lighting. In short, every endeavour is being made to fulfil the wants of the people and the Board can claim to have taken a major part in the general improvement of the social, economical and physical condition of the citizens.

(3) THE DRAINAGE SYSTEM.

The introduction of water-supply in the city of Hyderabad, without the means of draining waste water, brought numerous sanitary evils in its train. It was therefore decided to examine the possibility of equipping the city with an efficient Sewage Scheme, and a project providing for a water carriage system was ultimately prepared. Sir M. Visvesvarayya, the well-known Engineer, was invited to give expert advice, and in accordance with the principles and technical details recommended by him a programme of works was drawn up and approved by Government. The Drainage Department was formed in 1925 and after making preliminary arrangements and erecting a workshop for the manufacture of cement concrete pipes and bricks, etc., work on the scheme actually commenced in 1926 with an initial grant of Rs. 15 lakhs sanctioned by Government.

Drainage Scheme.—This scheme was originally estimated to cost Rs. 90 lakhs, but after constructing the interceptors, Disposal Works, and main sewers in some portions of the city, it was found that the provision in the original estimate was not sufficient for completing the project. Hence a revised estimate amounting to Rs. 127.28 lakhs was prepared according to the recommendations of Sir M. Visvesvarayya and sanction of His Exalted Highness was granted to it with the proviso that out of the above amount, works to the extent of Rs. 105.73 lakhs comprising the main and important branch sewers in surveyed areas including Disposal Works, be carried out at once and the remaining work in areas that were under development which had not yet been surveyed, be taken up later on as and when required. By the middle of 1934, all the main and important branch sewers including the Disposal Works were completed according to the programme sanctioned by Government and all the areas were declared open for house connections. The work left over is mostly the construction of sub-branch sewers for house connections and the extension of Disposal Works, which are taken up wherever required and as requisitions are received from house owners. The total length of sewers completed in the city so far is 136.2 miles and the number of manholes constructed is 4462. The expendi-

ture on works completed up-to-date including the Disposal Works amounts to Rs. 97.07 lakhs and the cost of works that remain to be completed amounts to Rs. 30.21 lakhs which represents approximately the amount to be expended on the following works:—

	Rs. in lakhs.
1. Construction of Sub-Branch Sewers ..	2.96
2. House Connection works	3.75
3. Extension of Effluent Irrigation, including the acquisition of Mir Alam Tank, etc.	4.50
4. Work in areas under development ..	19.00
	<hr/>
Total ..	30.21
	<hr/>

The Drainage System has been so designed as to convey all the sewage from the city to the Disposal Works (constructed by the Department at Amberpet) within 6 to 8 hours. Here the sewage is partially purified and the effluent, mixed with fresh water, is utilised at present for the irrigation of 1100 acres of land, which is to be ultimately extended to at least 3000 acres, when all the houses in the city are connected to the Drainage System. Within the short period of four years the Drainage Disposal Works have been in operation, the revenue realised from the lands cultivated by sewage effluent has amounted to Rs. 23,816, while the revenue that was being realised before was only Rs. 2,796 per annum. After the Scheme is fully developed, *i.e.*, when nearly all the houses in the city are connected, it will be the largest effluent irrigation system in India. During the period the effluent is not required for cultivation, it is mixed as usual at the Purification Plant with fresh water and allowed to flow into a fresh water tank 8 miles away where, after considerable dilution and aeration, it is allowed to run into the river Musi at a point about 10 miles from the city. The effluent is thus disposed of most economically and innocuously when not required for cultivation.

A demonstration sewage farm of 100 acres has been established by the City Improvement Board for investigating the best methods of utilising the effluent for irrigation and for educating the ryots who are cultivating their own lands within the area under control. A Drainage Show Room has also been opened near the Osmania General Hospital, where all the sanitary appliances have been fixed for exhibition to the public and visitors are shown the various sanitary fittings in working condition so that house owners may be educated and encouraged to instal such fittings in their houses.

Fifty public flushing and pail dumping latrines and 44 public flushing Urinals in R.C.C. have been constructed at different localities of the city and 17 more urinals are being constructed by the City Improvement Board and many more are being constructed wherever necessary by the Municipality.

The total number of houses that have been connected in the city with the Sewerage System to the end of last year is 1218. The public are realising the advantages of the water carriage system and are coming forward more readily with applications for house connections. Compulsion has been introduced for all houses whose rental value is over Rs. 30 per mensem and where water-supply is available. House owners are being apprised of this fact by the issue of individual notices so that the sanitary condition of the city may be improved rapidly. Draft rules proposed by the City Improvement Board for the grant of loans to poor house owners to meet the cost of installing flush-out latrines are under consideration in the Municipality.

Storm Water Drains.—From a sanitary point of view, it is important that storm water drains should be constructed along with sewage drains, as both these schemes are correlated to one another and it is necessary that they are completed at the same time. Especially until such time as the houses are connected to sewage drains, the sullage from the city has of necessity to pass through these storm water drains and unless prompt and immediate measures are taken to keep them clean by remodelling and constructing new drains, it is impossible to improve the health of the city. Realising the gravity of

the situation, Government sanctioned an estimate of Rs. 30 lakhs for remodelling and constructing new storm water drains wherever necessary. The work was taken in hand in May, 1933 and an expenditure of Rs. 8.58 lakhs has been incurred to the end of the year 1936. Further work is kept in abeyance to be taken up when funds are allotted by Government.

CHAPTER VI.

FINANCE AND CURRENCY.

(I) THE FINANCIAL SYSTEM.

Prior to the appointment of Sir Salar Jung I as Prime Minister in 1854, the finances of the State were not in a stable condition. There was no Public Treasury nor were any accounts kept. The transactions of the State as a whole were never brought under the cognisance of any single individual, the control of the Minister himself over the public purse being merely of a nominal character.

One of the first acts of the Administration of Sir Salar Jung I was to appoint two competent men for the preparation of accounts under his own personal supervision, and to secure financial equilibrium. Side by side with the reforms in the general and financial administration, a gradual improvement was effected in the system of records and audit of accounts. A uniform system of accounts, based on local requirements, was formulated with special reference to the transactions of the District Treasuries, and eventually the Budget system, with all its full classification of heads and sub-heads was adopted, which marked a new era in the history of the financial administration of the State.

In 1902, the late Sir Casson Walker took charge of the Finance Department of H.E.H. the Nizam's Government. During his term of Office from 1902 to 1910, a new up-to-date Mint was set up. The old hand-made coins were replaced by new machine-made "Halli Sicca" rupees, which fully satisfied the requirements of the Silver Currency within the Dominions. During the next decade, when Sir Reginald Glancy was in charge of the Finance Department, agricultural conditions being comparatively favourable, land revenue receipts showed a considerable increase. The Departments of Customs,

Excise, and Forests also brought increased receipts to the State coffers.

In 1922, the classification of the budget heads of receipts and disbursements was revised "in such a way as to exhibit each class in its true perspective, and the different funded investments were earmarked under separate reserves according to the sources from or the objects for which they have been constituted." The main changes that have been made in the classification may be summarised as follows:—

The different heads have been arranged according to a definite principle. The principal heads of revenue are put first and are followed by those relating to other sources of receipts like Interest, Mint, Post Office, etc. After this are placed the main expenditure heads. The receipts of Civil Departments like Education, Police, Medical, etc., are omitted on the receipt side and the expenditure is shown as net. Refunds, Compensations, Jagir Pensions and Rusums are not shown as main heads but are debited to the heads concerned. The head "Miscellaneous" under which were formerly included items like receipts on account of sale of promissory notes and investments, is split up, and the various items separated and placed under proper heads. The major head 'Scientific and Miscellaneous Departments' had a large number of different departments grouped under it. Some of these like Telephones are transferred to commercial and quasi-commercial concerns, and others like Agriculture, Veterinary, Co-operative Credit, Industrial are brought under Administrative Departments and given separate major heads. Separate heads are also allotted for Famine Relief, Sinking Fund, Reserve Funds, etc. The petty repairs grants under Public Works are transferred to each major head to which they pertain. The main heads of the Budget as revised in 1922 are as follows:—

- A. Principal heads of Revenue.
- B. Interest and Debt Redemption.
- C. Mint, Paper Currency and Exchange.
- D. Post Office.
- E. Payments to His Exalted Highness.

- F. Administration charges, which include
- (a) General Administration.
 - (b) Military (Defence).
 - (c) Justice, Jails and Police (Internal protection).
 - (d) Departments of Internal development like Education, Medical, Sanitation, Religious, Agriculture, etc.
 - (e) Municipalities and Public Improvements.
 - (f) Buildings and Communications.
 - (g) Commercial and Quasi-Commercial Concerns.
 - (h) Development.
 - (i) Famine Relief and Insurance.
 - (j) Miscellaneous.
 - (k) Capital outlay (of commercial and quasi-commercial concerns).
 - (l) Investments of Balances and Sales of Funded Investments.
 - (m) Government Debt.
 - (n) Reserve Funds.
 - (o) Deposits bearing interest.
 - (p) Deposits not bearing interest.
 - (q) Advances not bearing interest.
 - (r) Remittances.

The Scheme known as the Departmentalisation of the finances, on which the Hyderabad Budget is now framed, was formulated by the Right Hon'ble Sir Akbar Hydari at the time of presenting his first Budget on his appointment as Finance Member in 1922. The main object of the Scheme is "To fix the total grant of each department for a number of years and give it a large measure of autonomy within that grant, subject of course to such general restrictions as are necessary to avoid any undesirable development or precedents, and subject also to a rigid and really effective audit. The department must carry out whatever measures of reform it might desire to institute within this grant. If it happens to have

any proposals for Capital Expenditure, it must provide, within its grant, for the amount of interest by which the earnings of the project fall short of the interest charges incurred by the State in financing it."

On the basis of past experience the Finance Department makes, at the beginning of each triennial period, a forecast of revenues normally likely to accrue during the forthcoming triennium. With this as a guide and in consultation with the other departments of Government, it fixes their normal budget grants for each year of the triennial period, including provision for such developments as they can foresee. Any surplus of a triennial period after it has actually accrued, the Government again distributes amongst the various departments along with a moiety of the savings which the departments have failed to spend at the end of the contractual period; the other moiety of the savings continues to remain at the credit of the departments during the next triennium. These extra grants are made for the most part for schemes which do not involve a recurring liability, but which can be completed within a definite period of time and the total cost of which can be reckoned from their commencement to their completion, as for example, provision of buildings and equipments to different departments, especially of internal development, and construction of roads and communications.

"The scheme makes for a well thought out programme and care and economy in the expenditure. The spending departments avoid that rush of expenditure, often hurried and ill-considered at the end of a financial year, which is not an infrequent feature of the accounts where the system of grants lapsing at the close of the budget year obtains." Although it has been definitely laid down that the Finance Department would feel justified in reducing the contract grants of different departments in a case of grave financial emergency, during the last 15 years not only have these triennial contracts with the departments not once been broken, but where good and sufficient reason has been shown, Government have sanctioned extraordinary expenditure to departments over and above their contract grants.

The second measure to which the Right Hon'ble Sir Akbar Hydari devoted himself immediately after taking charge of the Finance portfolio was to earmark the different funded investments under separate reserves according to the sources from or the objects for which they were constituted. The Government makes certain Rupee and Sterling investments either from the accumulated surpluses of previous years or from profits on coinage of Osmania Sicca Rupees and issue of Paper Currency Notes. These are set apart under different reserves as follows:—

(a) *Paper Currency Reserve*.—Section (g) of the Hyderabad Paper Currency Act (II of 1327 F.) provides that not more than one-third of the total value of the Currency notes in circulation may, in lieu of cash, be kept in securities of the Government of India or of this Government or of any company working or owning any Railway in the Dominions. The total value of the Currency notes in circulation is O.S. Rs. 14,05,51,552 against which, securities of the Government of India of the face-value of B.G. Rs. 3,78,90,900 are held in the Paper Currency Reserve, and the balance in Osmania Sicca and B.G. Rupees.

(b) *Osmania Sicca Stabilisation Reserve*.—By measures similar to those by which the Government of India were able to maintain a fixed ratio between their Rupee and the English Pound Sterling after the closing of the Mint and up to the Great War, the State also has been able to prevent the fluctuations of value between the Osmania Sicca and the B.G. Rupee going much beyond their respective Silver content (which is 116-10-8 O.S. to 100 B.G.), the limit of appreciation of the Osmania Sicca being kept at 115-10-0 and of depreciation at 118-12-0 to 100 B.G. Rupees. The minted value of the Osmania Sicca Rupee is thus, as in the case of the B.G. Rupees, very much in excess of its bullion value, and the difference, after deducting the cost of minting, which comes on an average to about 2 per cent. of the value of the coins minted, represents profits on coinage. These profits have been invested in the securities of the Government of India and set apart in a reserve so as to be available, whenever the necessity arises, for preventing (by the purchase of Osmania

Sicca for B.G. Rupees) the depreciation of the Osmania Sicca below or (by the purchase of Silver and minting and issuing of fresh Osmania Sicca) its appreciation beyond the normal fixed points. British Government Promissory notes of the face value of B.G. Rs. 3,07,04,000 are now held in the Osmania Sicca Stabilisation Reserve.

(c) *Debt Redemption Reserve*.—The principal and interest of the State Loans are secured on the revenues and assets of Government. For the redemption of these loans, there is a Sinking Fund, set aside in the above Reserve, the annual contribution to which has been at a rate sufficient to discharge the loans on maturity. The total Public Debt of His Exalted Highness' Government amounts to O.S. Rs. 7,21,24,400 against which the above Reserve holds O.S. Rs. 2,11,50,683 almost all of which has been invested in the Government of India securities.

(d) *Famine Reserve*.—This is amongst those classes of expenditure which come inevitably but after a cycle of years and, therefore, due provision is made every year for the purpose. It has been calculated that on an average (not taking into account any loss of revenue which should be met from the accumulation of surplus balances in good years) the cost of famine expenditure cannot be more than Rs. 3 crores in 20 years. A sum of Rs. 15 lakhs is, therefore, set aside every year for the purpose in the above Reserve which now shows a balance of O.S. Rs. 2,87,41,000 almost all of which has been invested in the Government of India Securities.

(e) *The Industrial Reserve*.—This Reserve was constituted in 1929, by setting aside Rs. 55.13 lakhs from the surpluses with a view to ensure the industrial progress of the Dominions, at least so far as it depended on financial support. The corpus of the fund is utilised in giving help in the shape of capital to large industries and the interest obtained upon such loans is spent in advances to smaller industries. The Reserve stands at present at Rs. 88,77,567 and it is proposed gradually to bring this fund up to a crore.

(f) *Deposits or General Reserve*.—This Reserve has been constituted so that the deposits which are received by Government and on which interest is payable by them, as for

example, for the Provident and Insurance Funds, Post Office Savings Bank, etc., may not be mixed up with the other assets of Government and used for other purposes. This Reserve now stands at about a crore.

It will be observed from what had been stated above that the main principles underlying the financial policy of the State in recent years have been:—

Firstly to try, as far as possible, to meet current annual expenditure, as distinguished from capital expenditure, from current revenues.

Secondly, if there is any surplus of current revenue over current annual expenditure, to spend it on investments or give special grants to departments for expenditure on special objects which do not involve any commitments beyond the amount allotted.

Thirdly, to finance capital expenditure by utilising the available cash resources to the utmost extent and reducing interest charges to a minimum.

During the last 15 years, from 1922 to 1936, the surpluses that have accrued from the excess of current revenues over current expenditure have amounted to about $14\frac{1}{2}$ crores. Out of these, almost half has been given to departments, mainly Public Works for Buildings and Road, and nearly one-fourth has been laid aside as part of ordinary expenditure for Famine Insurance and Debt Redemption Reserves. Of the remaining, three-fourths of a crore has gone to form the Industrial Trust Fund for encouragement of Industries, and over 3 crores for the purchase of the Railway which is not expenditure in the real sense of the terms but a very paying investment.

Coming now to the Capital Expenditure which has also amounted to about Rs. $13\frac{1}{2}$ crores during the same period,

- (1) about 7 crores have been spent for the construction of new Railway Lines,
- (2) over $5\frac{1}{2}$ crores for Irrigation Works,
- (3) about $\frac{1}{2}$ a crore on the City Electricity,

1347 FasM
A.—RECEIPTS

1347 Fasli
B.—EXPENDITURE

Group	Major Heads	Accounts 1845 F.	Budget 1846 F.	Budget 1847 F.	Group	Major Heads	Actuals 1845 F.	Budget 1846 F.	BUDGET 1847 FASLI			
									From Current Revenue	From Past Sur- pluses	From Depl. Balances	Total
A	I-A Land Revenue ..	8,85,56,841	8,25,00,000	8,25,00,000	A	1-A Land Revenue ..	67,44,901	66,85,800	67,01,214	..	11,686	67,13,900
	I-B Forest Revenue by Revenue Officers ..	1,21,883	1,60,000	1,20,000		1-B Land Revenue Irrigation ..	6,76,511	..	..	..	..	..
	II Forests ..	12,81,972	13,00,000	13,00,000		2 Forests ..	10,14,786	10,59,400	10,12,228	..	26,275	10,37,500
	III Customs ..	1,04,67,195	1,01,84,881	1,05,00,000		3 Customs ..	20,74,189	21,99,000	21,40,029	..	82,671	21,73,700
	III-A Excise duty on Matches ..	11,88,441	8,00,000	10,00,000		3-A Excise Duty on Matches ..	..	..	..	..	..	..
	III-B Excise duty on Sugar ..	..	..	1,00,000		4-A Excise ..	35,74,548	37,55,400	42,19,054	..	79,749	42,98,500
	III-C Excise duty on Cigarettes ..	..	..	50,000		4-B Opium and Ganja ..	1,15,183	1,22,300	1,21,300	..	..	1,21,300
	IV-A Excise ..	1,81,57,149	1,65,00,000	1,70,00,000		5-A Stamps ..	99,868	1,28,300	1,04,850	..	180	1,04,850
	IV-B Opium and Ganja ..	14,61,570	15,18,000	14,00,000		5-B Registration ..	1,76,147	1,75,400	1,98,672	..	128	1,98,600
	V-A Stamps ..	20,48,025	21,00,000	20,00,000		6 Mines ..	39,024	45,900	45,240	..	80	45,300
	V-B Registration ..	8,82,356	8,10,000	8,30,000		6-A Petrol Cess ..	..	..	3,00,000	..	..	3,00,000
	VI Mines ..	8,94,489	4,00,000	4,00,000		6-B Vehicle Tax ..	..	2,60,000	2,60,000	..	..	2,60,000
	VI-A Petrol Cess ..	2,80,789	3,00,000	3,00,000		Total A	1,45,19,105	1,44,32,300	1,51,06,384	..	1,49,718	1,52,56,100
	VI-B Vehicle Tax ..	..	2,60,000	2,60,000	B	8-A Interest ..	42,03,710	40,54,000	47,09,000	..	..	47,09,000
	Total A	6,92,82,030	6,62,80,831	6,72,60,000		8-B Debt Redemption ..	16,68,900	16,68,000	20,84,000	..	..	20,84,000
A A	VII Bear Rent ..	29,16,687	29,16,687	29,16,687	C	9 Mint ..	1,37,081	1,60,500	1,42,100	..	..	1,42,100
B	VIII-A Interest ..	26,28,181	30,78,000	29,98,000		10 Paper Currency ..	61,604	1,28,300	77,800	..	10,400	88,300
C	IX Mint ..	80,867	80,000	80,000		11 Exchange ..	65,711	50,000	47,500	..	..	47,500
	X Paper Currency ..	21,17,407	20,85,000	22,28,000		Total C	2,65,436	3,38,300	2,67,600	..	10,400	2,77,000
	XI Exchange ..	15,537	50,000	10,000	D	12 Post Office ..	13,95,502	14,05,500	14,54,500	..	1,900	14,56,500
	Total C	22,13,311	21,65,000	23,13,000		12-A Subsidy for Air Mail ..	28,838	29,300	29,300	..	..	29,300
D	XII Post Office ..	18,27,027	18,14,000	18,50,000	E-1	13 Payments to H.E.H. ..	50,00,000	50,00,000	50,00,000	..	..	50,00,000
					E-2	13-A Tour Expenses of H.E.H. and Military Secretary to H.E.H. ..	1,72,147	0,800	1,10,200	..	..	1,10,200
						13-B Expenses of Princes ..	17,80,275	9,66,400	9,21,400	..	..	9,21,400
						13-C Sahibzadas' Expenses ..	86,848	86,300	54,700	..	..	54,700
						13-D Expenses of other Members of Royal Family ..	87,500	..	..	..	..	..
						13-E Buildings ..	4,88,416	..	..	..	..	..
						Total E-B	26,26,186	10,52,500	10,96,300	..	..	10,96,300
					F	14 General Administration ..	42,90,968	42,47,400	42,99,048	67,000	48,852	44,14,400
						15 Political charges ..	6,20,589	5,52,500	8,42,414	1,00,000	86	9,42,500
						16 Pensions ..	..	..	..	..	..	..
						17 Life Insurance ..	44,984	43,200	4,400	..	..	4,400
						18 Mansabs ..	18,78,167	16,21,200	16,17,000	..	..	16,17,000
						19 Military ..	79,65,314	84,92,300	84,36,180	..	43,004	84,79,300
						20 Courts ..	23,65,867	22,79,200	23,11,900	..	2,400	23,14,000
						21 Jails ..	4,59,848	4,88,500	4,87,470	..	4,130	4,41,800
						22 Police ..	65,74,585	67,90,900	67,01,880	..	16,420	67,18,500
						23 Education ..	1,08,75,755	98,50,400	95,78,516	..	3,28,434	99,00,000
						24 Medicine ..	28,17,474	27,97,900	32,33,991	..	1,11,000	32,45,000
						25 Religions ..	18,18,692	14,02,400	13,89,299	..	15,001	14,04,800
						26 Agriculture ..	8,06,194	9,13,800	9,38,780	..	48,620	9,86,400
						27 Veterinary ..	4,78,168	5,09,900	5,44,875	..	51,825	5,96,500
						28 Co-operative ..	4,22,222	4,30,400	4,42,351	..	2,749	4,45,800
						29 Miscellaneous and Minor Depts. ..	4,10,892	6,78,200	9,63,400	8,00,000	1,200	17,64,500
						30 Municipalities and Public Hmps. ..	20,84,674	28,58,100	28,87,985	9,66,667	348	36,25,000
						31 Buildings and Communications ..	68,91,905	87,11,500	88,98,432	40,74,607	..	1,37,78,500
						Total F	4,91,41,292	4,16,89,800	5,31,98,138	60,98,334	6,65,328	6,97,81,800
C	XXXII Irrigation ..	25,048	30,000	30,000	G	32 Irrigation ..	8,00,007	23,56,100	23,46,300	..	..	23,46,300
	XXXIII Railways ..	1,08,94,992	1,08,02,000	1,22,00,000		33 Railways ..	1,57,418	1,62,500	1,70,004	..	696	1,70,700
	XXXIV Electricity ..	1,39,688	1,69,000	1,28,800		34 Electricity ..	24,128	20,500	30,000	..	..	30,000
	XXXV Workshop ..	..	80,000	..		35 Workshops ..	..	..	..	..	..	..
	XXXVI Printing ..	..	..	..		36 Printing ..	2,58,400	93,600	93,600	..	..	93,600
	XXXVII Telephone ..	..	14,700	25,000		37 Telephone ..	..	..	..	..	..	..
	XXXVIII-A Transfers from Industrial Reserve ..	..	1,00,000	65,000		38 Industries ..	8,88,640	3,79,700	3,58,288	..	11,814	8,85,100
	Total G	1,08,68,163	1,10,66,300	1,23,98,800		38-A Transfer from Industrial Reserve ..	2,01,820	1,00,000	65,000	..	..	65,000
I	XI-A Transfers from Famine Reserve ..	1,79,878	11,51,800	18,85,800	I	40-A Famine ..	11,70,878	11,51,800	13,88,800	..	..	13,88,800
J	XLI Miscellaneous ..	2,39,852	2,50,000	2,40,000	J	40-B Famine Insurance ..	15,00,000	15,00,000	15,00,000	..	..	15,00,000
	XLII Transfers from Road Funds ..	..	..	5,00,000		41-A Miscellaneous ..	7,46,140	8,70,200	8,87,700	..	..	8,87,700
	Rounding ..	..	298	788		41-B Reserve for Reorganization and Development ..	..	4,600	..	..	..	..
	Total I to XLII	9,05,61,589	8,82,06,800	9,13,65,000		42 Transfers from Road Fund ..	..	..	5,00,000	..	..	5,00,000
						Rounding ..	..	400	1,388	688	884	1,388
						Grand Total	8,49,49,858	8,69,94,300	8,96,00,000	60,09,000	6,88,000	9,64,48,000

- (4) over $\frac{1}{4}$ crore on City and District Telephones and District Electricity, and the remaining
- (5) $\frac{1}{4}$ crore on miscellaneous capital undertakings, like Printing, Mines, etc.

Against the above Capital Expenditure, the total Government Debt outstanding at present amounts to only Rs. $7\frac{1}{4}$ crores. It may be mentioned here that the Hyderabad State Securities are classed as authorised Securities under Schedule I, Part I (a) (iii) of the Imperial Bank of India Act, as amended by the Amendment Act of 1934.

Even though the Capital Works will not for a considerable time give a return equal to the full amount of the interest liability, we have in the Railway and the City Electricity Department two most valuable assets which on our books stand at about $18\frac{1}{2}$ crores bringing in a net annual income of nearly $1\frac{1}{4}$ crore, and the various reserves referred to above, amounting to over $12\frac{1}{2}$ crores, which have been fully invested in the Securities of the Government of India.

The following statement taken from the latest Budget Note will give an idea of the chief heads of income and expenditure:—

(2) THE CURRENCY SYSTEM.

Metallic Currency.—There is practically no authentic record of the currency of the State prior to the year 1856, when Sir Salar Jung I began his Currency reforms and founded the Hyderabad Mint. This Mint received Silver from Nobles and merchants and minted Silver coin on their behalf on payment of the striking charges. From that time to the establishment of the new Mint, the Hyderabad Currency had a chequered career. The old method of manufacture of coins by hand continued up to 1893, and there were no less than 24 kinds of rupees circulating in the Dominions.

The introduction of the Charminar Coin in 1904, placed the Hyderabad Currency on a sound footing. The main feature of this coin was the utilisation of the Historic building Charminar on one side of the coin, the other side having the following inscription in Arabic which replaced the Persian writing previously adopted with the year of installation:—

ضرب حیدرآباد فرخنده بنیاد میمنت مانوس

In the archway of the Charminar there was inscribed the letter "Meem" being the initial letter of the august name of the then ruler. The letter was changed to "Ain" when His Exalted Highness ascended the throne. The Mint was located at its present site at Saifabad Palace Garden, adjoining the Finance Office close to Hussain Sagar and a large building was constructed, and new machinery purchased and erected.

The machine-made coins in general have been called Halli Sicca, meaning current coins. In the reign of the late Highness these coins were known as Mahboobia Sicca and are now called Osmania Sicca after the name of His Exalted Highness. The weight of the rupee is 172.5 grains as against 180 grains of the B.G. Rupee, the fineness of the coin being 816.8 per mille as against 916.6. Since the Mahboobia Rupees were minted, the supply has been regulated so as to prevent serious fluctuations in its exchange value with the B.G. Rupee. The rate of exchange for accounts purposes is B.G. Rs. 100=O.S. Rs. 116-10-8.

HYDERABAD COINS



The Hyderabad Currency Act III of 1321 F., (1912), however, provides for the fixing of the maximum and the minimum rates at which the O.S. Rupee can be exchanged with B.G. Rupee. Exchange is regulated by Government through the branches within the State of the Imperial Bank of India and the Central Bank of India Ltd., who purchase and sell B.G. Rupee drafts on their behalf at the minimum and the maximum rates fixed by notification in the *Jarida* from time to time. Arrangements have been made with the Central Bank of India Ltd., for opening their Branches in the Districts and for transacting all business in the Currency of the State. The State Railway also uses, as far as possible, O.S. Currency in its transactions and, instead of converting its surplus Hallis into B.G. Rupees through the Banks, pays the Halli surplus to His Exalted Highness' Government towards payment of the Government dues. The Agricultural Market Act was passed in 1930, and has since been applied to various markets within the Dominions. One of the sections of the Act makes it compulsory for all transactions in the market to be made in O.S. Currency. The State Currency finds a good investment in the loans floated by His Exalted Highness' Government, which, on account of the high credit of the State, are all quoted at a premium.

Gold Coinage.—When the rupee design was changed to Charminar, the Ashrafi was altered, and half, one-fourth and one-eighth Ashrafis were turned out as well as the full one. The one-sixteenth Ashrafi was discontinued when coining by machinery was started. The gold coins bear the same inscription on the obverse and reverse as the silver coins with the word Rupee changed to Ashrafi. The Ashrafi is not a legal tender coin but is very popular and freely used by the public for ornamental and ceremonial purposes.

Copper and Bronze Coinage.—Along with the old hand-made silver coin, a copper coin made of admixture of lead and copper was also in circulation. This coin was hand-made and no two coins were alike either in size or in the impressions on them. At present there are two kinds of Copper and Bronze Currencies:—

Mahbubia and Osmania. Mahbubia coins in circulation are of three denominations, *viz.*,

(1)	1 pie coin weighing	..	30 grs.
(2)	2 do	..	60 „
(3)	3 do	..	180 „

while there are only two denominations of the Osmania coins, *viz.*,

(1)	2 pie coin weighing	..	60 grs.
(2)	6 „	..	180 „

The six and two pie pieces, coined prior to 1326 H., were cut out of sheets of pure copper. Six, two and one pie pieces minted in subsequent years are made of Bronze. The Copper and Bronze coins now current are machine-made and have protecting edges.

Nickel Coinage.—In the year 1337 H. (1919 A.D.) a nickel one anna coin was introduced and is at present in circulation. In addition to the usual monogram in the centre and the figure one on the reverse, the value is also shown in English, Kanarese, Telugu and Marathi in the four corners. As this coin has not found much favour with the public and gets mixed up with four anna silver coin, its design has been changed, the original weight and inscription being maintained.

Coinage for British Government.—At the request of the British Government, quarter anna pieces of the British Government were also coined in our Mint in 1919 to the value of Rs. 1,97,600.

[*Statement.*

The following statement shows the number of coins minted during the years 1912—1936:—

Year	NUMBER OF SILVER COINS		Nickel Coins	Copper and Bronze Coins
	Whole Rupees	Small Silver		
1321 (1912) ..	72,39,467	..	..	2,69,41,204
1322 ..	1,06,00,000	..	..	2,06,43,800
1323 ..	48,83,377	..	..	1,17,69,300
1324 ..	..	..	..	1,23,32,064
1325 ..	1,56,45,070	..	..	..
1326 ..	1,64,96,343	1,50,076	..	64,93,406
1327 ..	1,10,19,694	..	..	1,03,92,612
1328 ..	2,75,34,513	6,46,666	..	1,01,45,700
1329 ..	1,09,33,000	2,06,240	..	1,51,31,500
1330 ..	..	..	..	..
1331 ..	7,46,731	5,58,280	..	18,94,710
1332 ..	76,57,000	3,42,863	..	4,17,600
1333 ..	1,30,51,600	4,30,838	..	1,21,21,636
1334 ..	1,60,72,900	21,11,560	..	1,85,97,187
1335 ..	..	5,25,800	10,31,200	1,28,85,280
1336 ..	..	..	..	79,71,840
1337 ..	382	4,11,200	..	79,68,960
1338 ..	..	11,72,440	10,83,400	99,26,400
			Value	
1339 ..	..	..	10,12,000	2,25,960
1340 ..	..	3,60,800	5,28,000	1,22,000
1341 ..	..	..	17,68,000	..
1342 ..	..	11,84,000	..	..
1343 ..	..	..	4,20,000	20,83,200
1344 ..	..	50,000	1,00,000	..
1345 (1936) ..	..	10,000	60,000	..

Paper Currency.—The reign of His Exalted Highness was marked by a great currency reform. A very bold step was taken in the establishment in 1918 of the Paper Currency Department under the Hyderabad Paper Currency Act of 1327 F., providing for the issue and regulation of Paper Currency. The first notes to be placed in circulation were one-hundred-rupee and ten-rupee notes on the 17th and 23rd Shahrewar, 1327 F., respectively. These were followed by

five-rupee and one-rupee notes in 1329 F., but as the latter were not very popular they were subsequently withdrawn from circulation.

It is very satisfactory to note that the circulation of H.E.H. Government Currency notes has increased steadily. The following statement gives the figures of gross and net circulation in rupees of H.E.H. Government Currency Notes since the commencement of the note issue:—

Year	Gross	Net
1328 (1919) ..	59,94,880	52,50,300
1329 ..	1,00,24,568	79,13,788
1330 ..	1,43,96,176	1,14,69,288
1331 ..	1,53,87,594	1,39,44,357
1332 ..	1,82,39,963	1,59,87,172
1333 ..	2,55,28,925	2,32,68,341
1334 ..	3,90,59,951	2,79,96,965
1335 ..	4,00,91,890	3,04,89,525
1336 ..	4,81,30,812	4,21,76,464
1337 ..	7,21,39,613	6,49,27,133
1338 ..	8,31,95,509	6,92,54,868
1339 ..	9,33,84,645	8,31,56,940
1340 ..	10,87,48,447	8,42,93,146
1341 ..	10,93,37,896	8,94,91,239
1342 ..	11,05,33,826	10,18,41,806
1343 ..	11,64,63,433	11,02,31,622
1344 ..	12,26,89,339	11,57,30,504
1345 ..	12,48,68,561	11,82,14,486
1346 (1937) ..	13,93,60,504	11,87,72,099

It will be seen from the above statement that the average increase in gross circulation during the last 20 years has been at the rate of 73 lakhs a year. The increase has been particularly marked since 1928, and is likely to continue for many years to come.

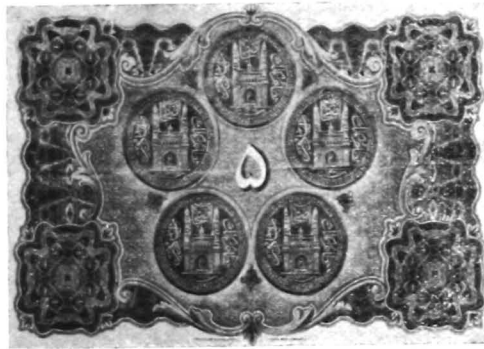
The figures, as they stand, compare very favourably with the total notes in circulation in British India which amounted to Rs. 2,14,27,68,000 on the 30th September, 1937. These figures, when compared with the total population of the Hyderabad State and British India, show an average of Rs. 8 and Rs. 6 per head respectively, which is very encouraging. Hyderabad Paper Currency is still in its infancy and the average is likely to improve at least for a few years to come. It is fully

HYDERABAD PAPER CURRENCY



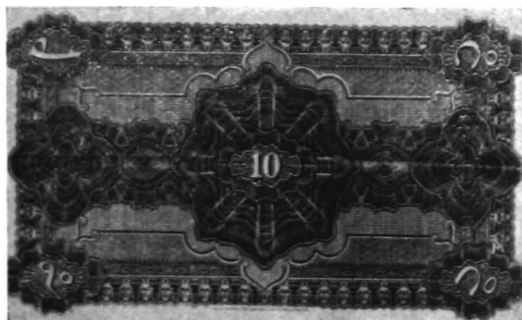
FIVE-RUPEE CURRENCY NOTE
(*Obverse*).

FIVE-RUPEE CURRENCY NOTE
(*Reverse*).



TEN-RUPEE CURRENCY NOTE
(*Obverse*).

TEN-RUPEE CURRENCY NOTE
(*Reverse*).

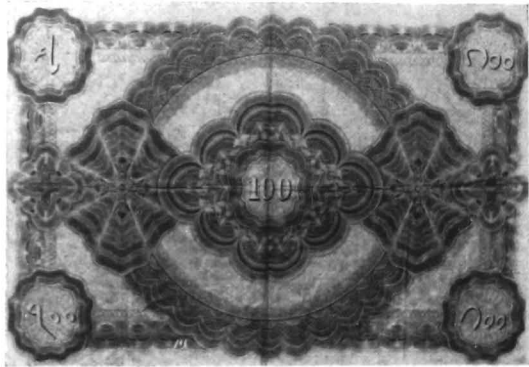


HYDERABAD PAPER CURRENCY



ONE-HUNDRED-RUPEE
CURRENCY NOTE (*Obverse*).

ONE-HUNDRED-RUPEE
CURRENCY NOTE (*Reverse*).



backed by a reserve in Silver Coin and Government of India Securities as follows:—

Total notes in circulation on 30th Aban 1346 F.
(5th October 1937) 13,93,60,504

Reserve.

Silver Coin in Exchange Branch, Currency
Chests and Local Banks 9,87,24,871

Investments in Government of India B.G. Se-
curities 4,06,35,633

Total Reserve .. 13,93,60,504

In addition to providing a most convenient means of remittance in a country where Banking is still in its infancy, the State Paper Currency has been a source of income to Government. As laid down in Hyderabad Paper Currency Act, about one-third of the Paper Currency Reserve is held in the form of Government of India Securities which bring in a net income of about 18 lakhs by way of interest against a total expenditure of the Paper Currency Department amounting to less than a lakh.

The Currency System of Hyderabad has admirably stood the test of time, and with its increasing popularity, better results can be hoped for in future.

CHAPTER VII.**PUBLIC HEALTH AND SANITATION.**

The Public Health Department was established in the State as a separate service in 1913. In 1934 the Public Health Service was completely reorganized with the main object of improving the general sanitary conditions not only of the towns, but of the rural areas, and special attention was devoted to the prevention and control of epidemic disease. The reorganization and increase of staff has rendered the health service readily available in areas threatened by outbreaks of epidemic disease and valuable results have been achieved. The scheme is at present only a temporary one and it is hoped that Government will make it permanent.

HEALTH AND MEDICAL SERVICES.

The Public Health organization is in the hands of the Director, Medical and Public Health Department, who is also the Plague Commissioner for the city and suburbs of Hyderabad and adviser to Government in all major schemes connected with sanitation and rural uplift. He is also adviser to the District Water Board, Ex-officio member of the City Improvement Board, Inspecting Officer regarding Urban and Rural sanitation, and General Secretary, Hyderabad Central Ambulance Board. He is assisted by a Deputy Director of Public Health in the Public Health Section, and by a Deputy Director of Medical Services on the Medical Side. In the districts he is assisted by 15 Civil Surgeons who are also the District Health Officers. Each District Health Officer is assisted on the Public Health Side by an Assistant Health Officer of the rank of Assistant Surgeon, usually with an additional qualification in Public Health, and by a staff entirely devoted to Public Health as distinct from curative medicine. The total staff in the Districts consist of 16 Assistant Health Officers,

17 Health Inspectors, 58 Health Sub-Inspectors, 15 Deputy Inspectors of Vaccination, 131 Vaccinators; one Special Plague Officer with 3 Assistant Surgeons and 3 Sub-Assistant Surgeons, 8 Health Inspectors and 15 Sub-Inspectors and Health Camp Staff consisting of 1 Overseer and 2 Sub-Overseers; one Chief Malaria Officer with one Assistant Surgeon, 2 Sub-Assistant Surgeons and 10 Health Sub-Inspectors.

The activities of the health organization include :—

1. The prevention and control of epidemic diseases, surveys and control of Malaria, Leprosy, Yaws, Guinea-worm and Filariasis.
2. Constant observation of the health of the population and reports of prevalence of sickness.
3. Inspection and advice regarding sanitary conditions in Urban and Rural areas.
4. The preparation of Codes and Rules adopted to the special sanitary requirements.
5. The enforcement of sanitary rules and regulations.
6. The submission to Government of schemes for carrying on and improving the sanitary administration.
7. The giving of Technical advice regarding Town Planning, Buildings, Drainage and Water-supplies.
8. Infant Welfare work.
9. Medical Inspection of school children.
10. Propaganda.

The Health Department's duty is general supervision and control of the sanitary services throughout the Dominions, while the actual administration is left in the hands of Revenue officials (Talqudars and Tahsildars). These officers are assisted by District and Taluq Boards which consist of nominated non-official members, the District Health Officer (Civil Surgeon), the Executive Engineer and the Superintendent of Police. Each District Board employs a qualified Health Inspector who reports to the Board through the District Health Officer. The Infant Welfare Centres of which three are at

work now and 6 more have been sanctioned have each a fully trained Health Visitor and one or more Government Dai is employed in every Taluq.

The staff is small in porportion to the population, but is gradually being expanded.

HEALTH, CURATIVE AND PREVENTIVE ACTIVITIES.

Every kind of medical, surgical and prophylactic work is attended to. In each district there is a District Central Hospital with a chain of subsidiary dispensaries in rural areas. The Assistant Health Officer who usually holds a diploma of D.P.H., or D.T.M., tours constantly and checks the work of the subordinate staff and the whole work is supervised by the District Health Officer, who is expected to tour regularly throughout his district controlling and inspecting the work of the health staff and making proposals for the improvement of water-supply, drainage and sanitation. He is responsible for the control of epidemic diseases and for measures of prevention including vaccination.

The whole work of the Dominions is checked and inspected by the Deputy Director of Public Health who tours throughout the Dominions with a view to co-ordinating the activities of the Department and keeping in personal touch with officials of other departments. He gives advice on sanitary schemes, inspecting the works actually in progress and generally giving practical effect to knowledge and experience acquired in different districts. He submits his reports to the Director, Medical and Public Health Department and works under his guidance and orders.

RURAL RECONSTRUCTION AND COLLABORATION OF THE POPULATION.

In the Public Health Department the methods advocated for ensuring the co-operation of the people are limited to persuasion and propaganda and only in cases of emergency such as outbreaks of epidemic disease is some compulsion introduced

when persuasion fails. It is generally found that assistance from the people can be obtained where popular instruction is undertaken and pamphlets, posters, magic lantern lectures, house to house talks and particularly the cinema car all help to create a helpful public opinion. The cinema car tours throughout the districts in rotation educating the public by means of films on plague, malaria, leprosy, cholera and by means of slides and lectures in the local languages. A special Plague Film was made in Hyderabad with the assistance of the Hyderabad Relief Association. The car is accompanied by a medical officer with the full equipment of a travelling dispensary. The medical officer gives lectures in the local vernacular and treats the people. In this way, people are able to grasp the real significance of better sanitation, and cleanliness. During these tours special attention is paid to instructing children and especially the children at school, but the actual medical inspection of school children is carried out by the Hospital and Dispensary Medical Officers.

All public health staff make full use of their tours for propaganda purposes by mixing freely with the villagers and giving friendly advice and pointing out simple and essential principles of hygiene. Almost all District Boards have provided magic lanterns, and lectures are given by the public health staff over very wide areas. A booklet in English and the vernaculars on "Common Infectious Diseases and Their Prevention" published by the Public Health Department has been widely issued and is used by Government officials and in the schools.

Rural reconstruction is undertaken by means of town-planning and village improvement in which assistance is rendered by the Revenue, Public Works, the Co-operative and other departments. The main aim is to improve the health of the masses and to stop the spread of epidemics. Town-planning and conservancy, the improvement of wells, manure pits, village drainage together with anti-malarial measures are receiving special attention. An improvement in this direction is already evident and a committee is to be inaugurated in this connection.

SANITATION AND SANITARY ENGINEERING.

The Water Board under the Revenue Department are steadily progressing with important schemes of water supply and surface drainage in all the important centres in the Dominions. Nearly every district headquarter town now has a pure water supply and the scheme is gradually being extended to the Taluqas and important towns as funds become available. Experiments regarding village water-supply are also in progress. The Director of Public Health is always consulted on all the schemes.

The question of housing is also separately dealt with. Building regulations for towns of more than 5000 inhabitants have been adopted. Plans for town extension are now carefully scrutinised. All the schemes are sent to the Public Health Department for opinion and sanitary advice before being adopted. Several town improvement schemes are now under consideration. The cleanliness of towns as far as conservancy, scavenging and drainage work is concerned, is receiving attention and the drainage system of most of the district headquarter towns has been improved. Incinerators and improved conservancy are effective in reducing the fly nuisance. A new type of latrine has been devised. It is built over two tanks (Anaerobic and Aerobic) and the system is cheap and very efficient. With the minimum of added water, faecal matter is completely digested giving a small clear effluent quite free of smell. The problem of removal and disposal disappears and the system is eminently suitable for villages and institutions where a sewage system is not available. This type of latrine is called the "Aqua Privy Hyderabad Pattern."

Type designs for vegetable and meat markets, for weekly village markets, for slaughter-houses, for wells and latrines, have been designed and circulated for adoption by District and Taluq Boards, in Municipalities, District Headquarters and in many smaller towns and trading centres. On these designs, construction is taking place throughout the rural areas.

A District Board Act and Municipal Act was framed and is now under consideration.

A Hyderabad Central Ambulance Board has been created on the lines of the St. John Ambulance Association of British India for training in First Aid, Minor Sanitation and Home Nursing.

For the better prevention and control of dangerous epidemics and infectious diseases in the Dominions an Act was necessary, and a draft Epidemic Diseases Act is now under consideration.

Trained sanitary subordinates are now employed for specified circles so that all infected and threatened areas are receiving prompt and efficient attention. All arrangements are under the constant inspection of the Deputy Director of Public Health and the District Health Officers. The vigilance of the Public Health Staff ensures accurate reports; already there is a considerable reduction in epidemic diseases and a marked improvement in rural and urban sanitation.

The registration of births and deaths in the districts is defective. A draft Act has been prepared for better and correct registration and is under consideration. When the new Act comes into force, the figures of Births and Deaths will be of some statistical value. The Municipal Corporation records these vital events in Hyderabad City.

The Military authorities hold training manoeuvres and practice camps at various centres, year after year. The Public Health Staff in consultation with the Military Medical Officers concentrate on the military manoeuvre area and take all sanitary precautions for the safe conduct of military operations. The protection of the troops has been very satisfactory, and the concentration of the public health staff in the military camp area is a very useful training for the Public Health Officials of the department.

The Government have appointed the Civil Surgeons of districts and certain medical officers as Certifying Surgeons under the Hyderabad Factories Act. The duties of Certifying Surgeons are to issue certificates to children employed in Factories showing that their health and age are suitable for

such employment. They also bring to the attention of the Director, Medical and Public Health Department and the Management, any negligence or any method of conservancy and sanitation which they find to be unsatisfactory.

A "Frontier Village Public Health Committee" has been appointed by Government to administer health matters in the areas around Hyderabad City within a radius of 15 miles to improve the sanitation, prevent epidemics and especially to protect the City and Cantonments from infection and will commence operations when funds are available.

MEDICAL EXAMINATION OF SCHOOL CHILDREN.

Prior to 1935 there existed no official medical inspection of school children, nor any arrangement for the medical inspection of school buildings. A scheme for the medical examination of the Government schools in Hyderabad City and in the districts was sanctioned that year. Civil Surgeons now examine school boys at District Headquarters while the Taluq Medical Officers examine Middle School boys. Women Medical Officers examine girls at Headquarters of districts. The inspection staff in Hyderabad City consists of an Assistant Surgeon, a Sub-Assistant Surgeon and a Woman Sub-Assistant Surgeon.

All candidates for appointment to the Hyderabad Civil Service are, during their training, given a course of lectures on sanitation and epidemics so that the causes of these diseases are known and the methods of prevention and control inculcated. This has resulted in a steady stream of capable young officers joining the executive whose sympathies have been aroused and who are interested in improving sanitation and checking epidemics. The result of this policy is already evident in many of the towns and villages.

ANTI-RABIC CENTRES.

Anti-rabic treatment is available at five centres in the Dominions, viz., Gulburga, Warangal, Aurangabad, Hyderabad City and Nizamabad.

The strength of the Vaccination staff now employed in the Dominions is 147. There is a Vaccinator for each Taluq and 13 for the Hyderabad City. Vaccination is compulsory for all children specially between the ages of six months and one year and 4,10,408 vaccinations were performed in all during last year. The majority of the people now realize the advantage of timely vaccination against small-pox, but there is no great demand for re-vaccination.

Vaccination work is inspected regularly by the Deputy Inspectors of Vaccination, and the officers of the Health Department.

Vaccine lymph is manufactured at the Government Vaccine Depot and supplied to Vaccinators and Medical Officers free of cost.

Deaths from small-pox recorded were as follows :—

1934	..	..	8712
1935	..	..	8825
1936	..	..	1166

INFANT WELFARE CENTRES.

In Hyderabad City three Infant Welfare Centres have been opened, one in Sultan Bazar, one in Begum Bazar and one in Darulshafa. A small subsidiary Centre is working in Bogalkunta. A fifth Centre for Kazipura has recently been sanctioned by the Municipal Corporation and will be opened shortly. Experience has proved the work to be of great value. Sixty indigenous Dais are employed at the centres and receive continuous and careful tuition; they conduct labour cases in the patients' homes and their work is regularly supervised by the Health Visitors. Mothers bring their children to Centres and learn the art of mother-craft, and many details in the rearing of healthy and happy children. Expectant mothers are encouraged to attend the Centres for advice by a qualified Woman Doctor. Anything which might militate against safe delivery is dealt with and they can, if they wish, be introduced to one of the trained Dais or secure admission to one of the

special hospitals for maternity. Sickly children are given simple home remedies where this is likely to be sufficient and the parents of those showing serious illness are encouraged to take them to a hospital for treatment. Milk and nourishing food is given to infants and to expectant and nursing mothers who are undernourished. Five similar Infant Welfare Centres will shortly be opened in important district towns.

MEASURES FOR COMBATING CERTAIN DISEASES IN RURAL DISTRICTS.

i. Malaria.—The aim of anti-malaria measures is to break the cycle of infection in two ways: by the destruction of mosquito larvæ and by attacks on the parasites in man. Both methods are used extensively here, the former being preferred as giving more certain results. The conditions and causes underlying the prevalence of malaria vary in different parts of the Dominions and no one anti-malarial measure is suitable for all. In anti-larvel operations it is not necessary to abolish all breeding grounds. A marked improvement in health follows if the more important breeding grounds of malaria-carrying mosquitos are controlled. Careful surveys are of the utmost importance and have brought to light important factors on which anti-larvæ operations are organized. A house to house distribution of Plasmoguin was tried in an attempt to sterilize the carriers; the results were carefully checked, but were disappointing. The incidence of malaria showed no great reduction and the curative effect was negligible. Better results are to be expected in dealing with the inmates of an institution under discipline, but the method is unpopular with the general population. Efforts are made to educate the public in the use of quinine, and the sale of quinine by Post Offices and Thanas in districts is encouraged. Free quinine is given at the dispensaries and hospitals and also by touring officers. The permanent clearing of water-ways is important in this scheme; activities in this direction include the sloping and straightening of banks, the clearing of hyacinth and water weeds, and the stocking of the water-ways with larvæcidal fish.

ii. *Plague*.—Hyderabad City and many of the districts have been subject to recurring epidemics of plague. Each epidemic lasts about 9 months disappearing with the onset of the hot dry season. A Special Plague Department was inaugurated some six years ago for combating the epidemic. Surveys have been made in the districts and it was found that several endemic centres existed where plague persisted throughout the year. It was from these centres that recrudescence occurred during the rains and rapidly spread over wide areas. Well-directed efforts in rat destruction in the endemic areas have effected a marked reduction of plague.

The methods of rat destruction in use are as follows, and they are employed throughout the year in the City:—

- (a) the systematic use of poison baits.
- (b) the fumigation of all rat-holes with calcid and their closure.
- (c) trapping.

In the City every rat caught in a trap is dissected and examined in the laboratory. Rat density, flea index and meteorological reports, particularly the mean temperature and the saturation deficiency are carefully chartered and the relation of these factors to plague incidence noted and recorded. During epidemics, in addition to these measures, disinfection, evacuation and inoculation are carried out. In every infected locality fumigation and closing of rat-holes is extended to 200 yards round the infected house. The City Improvement Board is gradually building rat proof dwellings. Gradually rat proof grain godowns (Gunj) will replace the old type of buildings so favourable to rats.

In the districts, during epidemics, disinfection, evacuation and inoculation are carried out and human migration to non-infected areas is as far as possible controlled.

The conclusions drawn from many years of experience are that plague is almost invariably carried from place to place by human agency, that is to say, by infected fleas carried in the personal effects of migrants and that inoculation is the most important measure of personal protection.

iii. *Tuberculosis*.—Tuberculosis is very prevalent in Hyderabad City and in the larger towns in the State and is primarily of the lung. The mortality is considerable though no accurate figures are yet available. The main cause of the disease is bad housing with want of light and ventilation in congested areas. For poor people who adopt the purdah system it is particularly difficult to avoid these fundamental causes of tuberculosis; a house once infected remains a danger to the whole family. Indian cattle are not commonly infected with this disease, and very few Indians drink milk unboiled.

An organization for combating tuberculosis is gradually developing. So far, two special out-patient clinics, a Ward at the Osmania Hospital and a special section of the Isolation Hospital are used for tuberculosis cases—all supported by Government. A scheme for combating Tuberculosis will shortly be brought into effect and the proposals include an up-to-date sanatorium, a modern clinic and a special tuberculosis hospital. There is no separate tuberculosis service in the Medical and Public Health Administration of Hyderabad State. But Doctors are sent for training to the Madanpalli sanatorium in South India and to the All-India Institute of Public Health and Hygiene.

iv. *Yaws (Koya disease)* is essentially a tropical disease common among nomadic and aboriginal tribes in many countries. It is found in the jungles of Assam and Ceylon, but was practically unknown in other parts of India. This disease has now been discovered by the Public Health Department to be prevalent in Warangal and parts of the Mahbubnagar District, and there is evidence that it has been present there for 200 years, though neither recognized nor reported. Investigations are continuing in the Karimnagar and Asifabad Districts. Regular treatment is given to patients by the Department with excellent results.

v. *Guinea-worm* disease is widely prevalent in several districts of the State. Experiments were carried out both in the laboratory and in the field in the hope of finding some simple measure by which cyclops could be eradicated from wells and 'bowlis.' As a result of experiments, lime has been

found to be efficacious in temporarily controlling cyclops in wells, and Medical Officers are instructed to treat infected wells systematically with ordinary bazar lime. Directly cyclops reappear, disinfection is repeated and a detailed report is maintained. It is necessary to treat each infected 'bowli' (step-well) once a month until the well can be converted into a draw-well and the people prevented from entering the water. The improvements in some areas has been marked. The Well Sinking Department and, in many cases, the District Boards are steadily at work transforming dangerous step-wells into draw-wells.

vi. Leprosy.—There is a Mission Leper Home and Hospital at Dichpalli where only applicants amenable to treatment are admitted. The daily average of in-patients is now over 700. There is a small attendance of out-patients. Dichpalli affords an excellent field for the study of early leprosy. A small Grant-in-aid is paid by District Boards and very generous grants are given by Government. Courses of instructions in leprosy and its treatment are also given at Dichpalli to students and Doctors. Most of the Doctors of the Medical Department have received this special training, and in all districts out-patient Leper Clinics are now at work.