

# BARODA

## *A Guide Book*



PUBLISHED BY  
THE INFORMATION OFFICE  
Baroda, January 1942

Baroda State Press  
1941

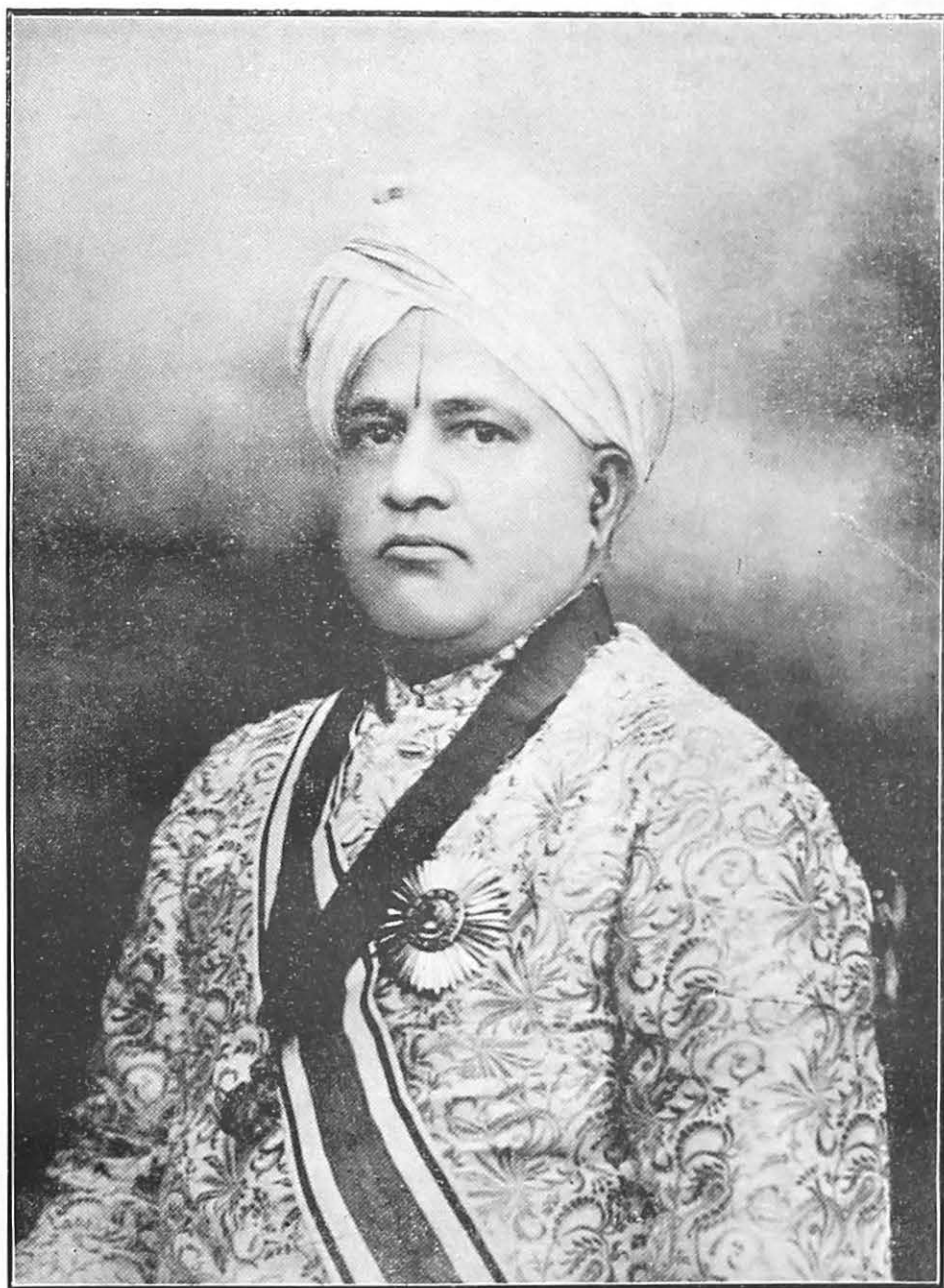
Price Re. 1-4-0



**His Highness Maharaja Sir Pratapsinh Gaekwad,**  
Sena-khas-khel Samsher Bahadur, G.C.I.E., LL.D.,  
Farzande-Khas-E-Daulate Englishia

## CONTENTS

	Subject	Page No.
1.	Baroda State—General ... ..	1- 7
2.	Physical Geography and Geology of Baroda ... ..	8- 14
3.	Places of interest ... ..	15- 28
4.	Gardens of Baroda ... ..	29- 37
5.	Museum and Picture Gallery ... ..	38- 50
6.	Science Institute and Laboratories ... ..	51- 54
7.	Agriculture ... ..	55- 69
8.	Roads and Railways ... ..	70- 74
9.	Fisheries ... ..	75- 78
10.	Forests ... ..	79- 83
11.	Industrial development ... ..	84-103
12.	Irrigation ... ..	104-110
13.	Education ... ..	111-127
14.	Technical education ... ..	128-134
15.	Library movement in Baroda ... ..	135-143
16.	Medical Aid ... ..	144-152
17.	Rural Reconstruction ... ..	153-157
18.	Archaeology ... ..	158-161
19.	Municipalities and Local Boards ... ..	162-179
20.	Backward classes and their uplift ... ..	180-186



**Dewan Sir V. T. Krishnama Chari**

## GENERAL

### Territories:—

The Baroda State consists of 5 territorial blocks which lie scattered all over Gujarat, one of India's historic tracts, which has an area of about 63,000 sq. miles. Thus this State forms only a little more than an eighth of this area, but its different districts are so spread over all parts of Gujarat, that they represent completely the different aspects of its composite life, its physiography, its linguistic and ethnical variations. Baroda State is one of the most dispersed of territories, and its interlacing particularly with British India and other Indian States in Kathiawad has contributed to the complications of its administration. This dispersal, though not so evident in the mainland of Gujarat where the three main districts lie, becomes acute in Kathiawad, where the territories of the Gaekwad are described as a "veritable archipelago". In a sense demographically, however, this dispersal has made for richness in its human material and the wide range of interest that their study reveals. Part of Gujarat, all the different sections of the State share its variegated life and the consciousness of its comprehensive unity. For inspite of the differences in its physiography, agricultural conditions, and the contrasts of culture and social development, Gujarat may be said to have "an ecological unity." It has well defined frontiers, and although the contours of its land widely differ, providing in this State, even within its limited extent, all the diversity of sea and plain and upland, and the soil and climatic variations are equally sharply divided,—the combination of natural influences, as well as the incidents of its history, have helped to produce something like a discernible and distinctive mental make-up for the Gujarati people. Their language has freely received influences from all sides and shows now the least dialectical differences, as compared to the other great regional languages—a most remarkable phenomenon. Their art and architecture similarly shows a like receptivity to outside influences. In respect of their social composition, the multitude of castes and sub-castes, the most diversified in India, has been preserved intact without making for any positive disunity:

Its extensive sea coast line has helped to produce in Gujarat a race "bristling with enterprise and initiative."

The southern district of the State, Navsari, lies on either side of the Tapti, forming a mosaic with the villages of the Surat collectorate, and separated from Baroda district by the territories of Rewa Kantha and the Broach district. The western talukas of the district, the Rasti—are flourishing and prosperous. Its rich soil grows the best varieties of cotton, fruit and sugar cane. The rivers Tapti, Ambika and Purna drain it from east to west. The eastern parts of the district forming the talukas of Songadh and Vyara are called the Rani and comprise areas of forests and backward people—the raniparaj.

The river Narmada with its picturesque banks forms the southern boundary of the Baroda district. Almost in the centre lies the capital of the State, Baroda, a city of palaces and stately public buildings, of parks and recreation grounds, of broad well laid roads and beautiful avenues, of colleges, schools and hospitals.

Further to the north, beyond Ahmedabad lies the Mehsana district with its historic towns of Patan and Sidhpur, and its numerous archæological ruins and monuments of historical interest, and Mehsana, the district headquarters, is an important junction on the B. B. & C. I. Rly. line to Malva and Rajputana and has a considerable future before it.

In Kathiawad, far to the West, isolated and dispersed territories form the districts of Amreli and Okhamandal. The central block of Amreli district is fertile and well cultivated except in the south where it touches the Gir.

Okhamandal has its headquarters at Dwarka, an ancient place of pilgrimage sacred to the Hindus. The country is bleak and barren "where even stunted trees are bowed low by the subservient winds in obeisance to Dwarka's lord". In recent years however unsuspected sources of wealth have been discovered. The port of Okha, with its excellent harbour, has become one of the principal ports of Kathiawar and west India; and great industrial concerns like the Associated Cement Company and the Tata Chemicals have been established here. These developments promise to turn one of the most bleak and barren areas of the State into one of the richest.

### **Population:—**

The State of Baroda has a total area of 8,176·12 sq. miles with a population of 28,55,010 of whom 14,72,909 are males and 13,82,101 females. The average density per mile comes to 349.

This population is distributed among 2,896 villages and 64 towns. The general distribution of population by communities shows that of the total population 25,65,056 are Hindus, 2,23,610 Muslims, 9,182 Christians, 46,866 Jains, 6,930 Parsis and the rest are miscellaneous communities including tribes who have been showing a marked tendency to return themselves as Hindus. Thus almost all the religious denominations of India are found in the State. Spread of modern education, and of liberal ideas is steadily softening the edges and angularities of different faiths and the resulting broad sense of tolerance reduces the chances of religious tension which was never acute in the State.

### **History:—**

The extraordinary configuration of the Baroda territory, its diversity and fragmentation, is the legacy of two centuries of military exploits, internecine wars and financial and administrative complications. When Pilajirao, the founder of the fortunes of the Gaekwad family captured Songadh, the hill fortress which commands the southern approaches to Gujarat, he laid the foundation of a new power, on the ruins of the Mughal Empire. The establishment of a principality at Songadh, its extension to include the territory which now forms the Baroda district, and the defeat of the other Maratha chieftains who disputed the supremacy of the Gaekwad's power, was the work of Pilajirao during his brief career of eleven years between 1721 and 1732. The achievements of his successor, the able and energetic Damajirao (1732-68) were equally brilliant. He completed the conquest of Gujarat, extended the Maratha power into Kathiawar, and so strengthened his position, that he was able to offer resistance to the Peshwas who were governing the Maratha Empire in the name of the Satara kings, descendants of the great Shivaji, and with whom Damajirao had his differences. Damajirao ceded to the Peshwas half of Gujarat and of all future conquests. In the course of the next half of the century the ceded territory passed into British hands, and now form the districts of British Gujarat. This fact explains the dispersed situation of the State territories.

The 50 years, 1768–1818, following the death of Damajirao, was a period of wars and quarrels of succession which followed the death of almost every Gaekwad and gave occasions to the rising power of the East India Company to establish political relations with Baroda.

Important names of rulers such as those of Sayajirao II, Ganpatrao, and Khanderao may be mentioned in the line of Gaekwad rulers. In 1802, 1805, and 1817 Baroda entered into an offensive and defensive alliance with the British Government, and it continues even to-day.

During thirty years of his rule Sayajirao II was much respected by his people for his courtly and considerate behaviour, his tenacity of purpose, his vigour and self assertion.

In Ganpatrao's reign, 1847–56, infanticide and the sale of children was prohibited, and the land for the B. B. & C. I. railway was ceded to the British Government. Khanderao's reign (1856–70) is memorable for the service he rendered to the British at the time of the Mutiny, for a number of fine public buildings, for the construction of the first railway line in the State between Miyagam and Dabhoi and for reforms which brought regularity in the administration of justice and of land revenue. But rapid deterioration set in during the short period of five years of Malharrao's rule from 1870 to 75.

Owing to misgovernment of the State Malharrao had to be deposed in 1875 and Jamnabai, the widow of Khanderao, was invited to adopt a son who might ascend the Gadi, and Sir T. Madhavrao one of the ablest administrators of those times was entrusted with the administration. Jamnabai adopted Gopalrao, a descendant of a brother of Damajirao, who, as Sayajirao III, ascended the gadi on 27th May 1875.

### **Sayajirao Gaekwad:—**

The sixty four years that this remarkable ruler was on the throne is the Golden Period in the history of Baroda State. His achievements were numerous: a scientific system of land revenue survey and settlement was introduced; great departments of State formed; social laws framed and enacted, compulsory education enforced; important programmes of rural reconstruction and industrial development carried out; the social services of the State extended; a net work of railways laid; the port.



of Okha developed, and above all a tradition of just and good government firmly established. In these numerous and great achievements, His Highness was assisted by a succession of able ministers, but the inspiration was always his. Modern Baroda is the great and fitting memorial to Sayajirao. H. H. Sayajirao died in 1939. The people who were so well served by him deeply mourned his death. The present ruler H. H. Maharaja Pratapsinh who ascended the Baroda Gadi on February 7, 1939, is a grandson and a worthy successor to H. H. Sir Sayajirao of revered memory, and a young ruler of many attainments.

### **The Present Ruler:—**

His Highness completed his primary education in the Princes' School, Baroda. Thereafter he spent some time in the Rajkumar College at Rajkot and a public school at Eastbourne in England. He passed his matriculation examination from the Baroda High School and read for the Intermediate Arts examination in the Deccan College, Poona.

His administrative training began in 1929 in the Revenue department which, after all, is the centre of the whole administration in a predominantly agricultural State like Baroda and which offers many opportunities of coming into the closest contact with the people. Starting from the lowest rung of the departmental ladder he filled appointments of increasing responsibility and thus came in direct touch with the people over whom he was to rule. In addition to this intensive administrative training, he received instruction in History, Economics and other allied subjects, the knowledge of which is so essential to a prospective ruler. In course of time he became Karma Sachiv and a member of the State Executive Council and also worked as Secretary to his grand father, His late Highness Maharaja Sayajirao. His Highness held this post for about eight years with great distinction. Here he mastered the details of the working and policy of all the departments in the State and enforced strict discipline in the administration. He had also occasions to deputize for his grand father on important ceremonial occasions, and thus became familiar with their routine.

The general education which His Highness thus received and the high traditions of the great Royal House in which he has been brought up, have indeed made him a very worthy recipient of a noble heritage. Keen on village uplift and extremely sympathetic

to the needs of the agricultural population he, immediately on accession to the gadi reduced permanently the land revenue tax by Rs. 22 lakhs and donated a crore of rupees to perpetuate the memory of his distinguished predecessor by creating a trust to be utilised for various purposes connected with the betterment of the people.

He is a great sportsman and a patron of learning and arts. The foundation of a Chair in the Benares Hindu University for the studies of Indian culture is one of the many items that show his abiding interest in cultural activities. He is very simple, almost spartan in his habits, and has been associating himself with the administration even while he was the Yuvraj. The distinguished traditions of Baroda will not only be maintained but will be enhanced a great deal under his watchful and benign regime.

### **The system of Government:—**

The Ruler is the source of all authority and power in the State, but he has delegated wide powers to the Executive Council, the Legislative Assembly and the judiciary, reserving to himself only important questions and those involving policy. The revenues of the State are regarded as public funds and the Privy Purse or Khangi which includes all expenditure on the Palace forms an item in the annual budget about 9% of the revenues of the State.

The Government of Baroda Act 1939 defines the constitution, the functions and powers of the Executive Council; the legislature and the judiciary. The Executive Council consists of the Minister called Dewan and three Naib Dewans, one of whom is a non-official gentleman with a record of public service. Each member is in charge of a portfolio in respect of which he exercises clearly defined administrative powers. The Minister and his colleagues are assisted by a Secretariat, the Huzur Central Office, organised on the system prevailing in British India. The entire administration is carried on through well organised departments.

The Dhara Sabha or the Legislative Council was constituted in 1908. It consisted of 26 members of whom 10 were elected members. It possessed neither financial nor legislative powers and its resolutions were in the form of recommendations. The Government of Baroda Act of 1939 however reconstituted the Council on a broad basis of representation and with extended powers. It now consists of 60 members of whom 37 are elected

by constituencies on a wide franchise. Every person who holds land assessed at not less than Rs. 30 or pays income tax, or owns immovable property worth Rs. 1,000 or more or has passed the matriculation or an equivalent examination is entitled to vote at the elections and to stand as a candidate. Of these 37, 10 members represent industry, commerce, labour and the co-operative movement as special interests. The other 23 members of the Dhara Sabha consist of 6 officials and 17 nominated gentlemen, of whom only one is official.

The Dewan is the President. There is also a deputy president, who after the first 3 years will be elected by the Dhara Sabha. Three parliamentary secretaries are appointed to assist the councillors in the Dhara Sabha work and a Dhara Sabha secretariat directly under the Dewan has been formed.

The Dhara Sabha has the power to initiate and pass legislation, to discuss and vote the budget and to ask questions and move resolutions on matters of public interest subject to certain limitations. All legislation require the assent of the Maharaja.

The judiciary is separate from and independent of the legislature and the Executive.

The policy and the spirit on which the constitution is worked will be evident from the following noteworthy features of the new constitution :—

1. It is based primarily on the complete identity of interest between the Ruler and the ruled and among all sections of the people.
  2. The electorates are joint and not communal, Government having firmly rejected all suggestions regarding fixing of constituencies on communal lines.
  3. There is a majority of elected members in the Dhara Sabha.
  4. An elected member of the Dhara Sabha has been appointed as one of the Ministers in the Executive Council, and as such is empowered to bring his influence to bear on the whole administration.
  5. Three Parliamentary Secretaries are appointed from the non-official members of the Dhara Sabha though the Committee had suggested only two.
  6. The deputy president is also a non-official member.
-

## PHYSICAL GEOGRAPHY AND GEOLOGY OF BARODA

### Location:—

The territories of His Highness the Maharaja Gaekwad of Baroda lie between  $20^{\circ} 05'$  and  $24^{\circ} 9'$  N. latitude and between  $69^{\circ} 5'$  and  $73^{\circ} 59'$  E. longitude. These territories are interspersed with others owning British or other sovereignty, from the northern extremity of the Thana district of the Bombay presidency in the south, to Palanpur in the north, and from the western limit of the Nasik district in the south-east to the extreme north-west of Kathiawad.

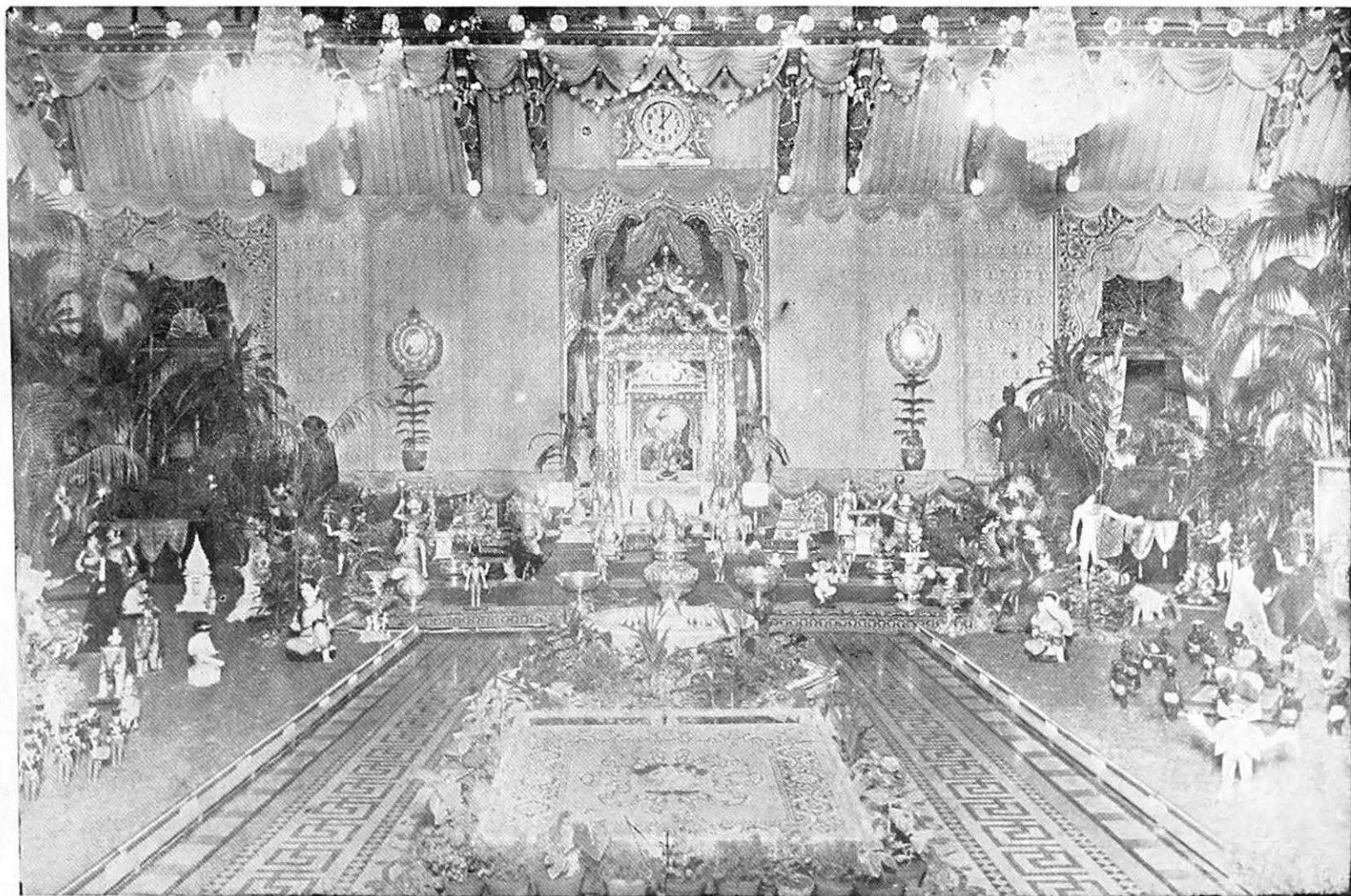
### Natural divisions:—

In the scheme of natural divisions, drawn up for the whole of India for census purposes, Baroda State is included in the natural division Gujarat, which may be divided into two main blocks, namely Cutch and Kathiawad, or peninsular Gujarat, in which the Amreli district of the Baroda State is situated, and mainland Gujarat, which includes the Gujarat districts of Mehsana, Baroda, and Navsari, which may be further sub-divided into north, central, and south Gujarat, each of which has its own peculiarities.

The territories of the Baroda State in peninsular Gujarat, have, on account of their detached position and large sea-board, developed and preserved peculiar traits and characteristics in population which is stalwart and adventurous. In Mehsana district, and around the town of Patan, the ancient capital of Gujarat in north Gujarat on the mainland, are located original settlements like Vadnagar, Khadat, Visnagar and Modhera, from which many of the Gujarat castes take their names. The four British districts of Gujarat, Ahmedabad, Kaira, Broach and Surat are situated in close proximity to Baroda territory.

### Rock systems:—

The rocks met with in the Baroda State are referable to the following systems and groups, arranged in a descending order:—



**The Ganesh festival in Laxmivilas Palace**

VI. *Recent and post-Tertiary*:— These are the alluvial and sub-aerial formations, and cover a large part of the State. Though agriculturally very important, geologically they are of a very minor value. These occupy mostly the central or western side of the country.

V. *Eocene (Nummelitic) system*:— The representatives of this system lie mostly near to and in the valleys of the Tapti and Kim rivers.

IV. *The Deccan-Trap system*:— The volcanic formations, which make up this great series of rocks of Upper Cretaceous age, lie mainly in the Navsari district.

III. *The Bogh series*:— Rocks referable to this group, are formed only in the southern parts of Sankheda, and along the eastern boundaries of Vaghodia and the Savli talukas of the Baroda district.

II. *Champaner system*:— This is an important group of apparently Azoic rocks. These constitute a distinctly sub-metamorphic series of rocks including Quartzites, Schists, Slates, and Limestone which is only met with in the northern and the south-eastern parts of Sankheda taluka. In the northern part of the taluka, they are seen in several hill ridges, which stretch east-west, close to the boundary between the Baroda and the Panch Mahals and Narukota territories.

I. *The Archaean Rocks*:— These are Granites and Gneisses, with associated crystalline limestones, occupying two areas of moderate extent in the Sankheda taluka, and a few small, and, with the exception of two, unimportant inliers which show here and there, through the great alluvial spread. A third Archaean area, of small extent, occurs far north in the bed of the Sabarmati river at Virpur, in Vijapur taluka.

The successions of geological formations met with in the Kathiawar territories of the Baroda State is shown in descending order:—

- |  |   |
|--|---|
| III. <i>Recent.</i>                      | } Alluvial and sub-aerial deposits;<br>Miliolite; |
| II. <i>Tertiary.</i>                     |   |
|  | } Dwarka beds;<br>Guj beds;                       |
| I. <i>Cretaceous—Deccan Trap series.</i> |   |

Of these, Deccan-Trap Series occupies by far the largest area superficially, and is much the most important formation in every way, being in many places of great thickness. It occupies the coastal plateau of the peninsula, and excepting for a few small local patches of river alluvium, forms the whole of the Damnagar, Amreli and Dhari talukas, while a few inliers of it protrude over the surface of the miliolite in the Kodinar taluka. It occupies also the Ishweria type of the Ratanpur peta taluka.

The Tertiary, Guj and Dwarka beds are met with only in the Okhamandal taluka.

The Post-Tertiary miliolite occurs only in the Kodinar taluka, together with a small extent of alluvium close to the coast. The largest show of alluvium in the Baroda territory is in the Ratanpur peta taluka, the whole of which, with the exception of the TAPA of Ishweria (four miles to the south-west) lies within the great belt of coast alluvium, which stretches from the Gulf of Cambay to the Ran of Cutch. The alluvium of the Okhamandal Ran covers an area of some size about 18 square miles, while the alluvium tract of Aramda, at the northern end of the Okhamandal taluka, is also too extensive to pass unnoticed.

### **Incline of land:—**

The greater part of the State lies within the area of the coastal band of alluvium which has been formed by the encroachment on the shallow Gulf of Cambay, of the detrital deposits brought down by the many rivers, large and small, which drain the province of Gujarat, the western slopes of Malwa, and the southern parts of Rajputana. The upward slope of alluvial band, from the sea-board outward is very gradual, so that, except where wind-blown accumulations of loam or sand makes small local eminences here and there the surface of the country appears to be a flat level plain. It is only as the eastern side of the alluvial flat is approached that it is interrupted by occasional low hills, or by surface irregularities formed by the courses of small rivers.

The drainage of the Gujarat divisions of the Baroda State falls westward into the Gulf of Cambay, in the Arabian Sea, which receives such a vast amount of silt brought down by the larger rivers that it is rapidly being silted up as is shown by the present conditions of the harbours of Surat, Broach, and Cambay. Not two centuries ago, these sea-ports were visited by fleets of shipping of the ordinary size of the traders of those days. Now they are with difficulty reached by vessels of 30 tons burden.

The four principal rivers falling into the Gulf of Cambay are: the Sabarmati, the Mahi, the Narmada, and the Tapti, all large rivers, flowing in parts of their course through Baroda territory: Of much smaller size are the Dhadhar between Mahi and Narmada, the Kim, between the Narmada and the Tapti, and the Mindhola, the Purna, and the Ambika, to the south of the Tapti. The only river of any importance in the Amreli district is the Shetrunji, which rises in the highest parts of the Gir forests and drains the central part of the division. The smaller ones are the Raval and the Dhatarwadi of the Dindari taluka, the Singuwada, which divides the Kodinar taluka into two unequal lobes, and the Rangoli of the Damnagar taluka.

### **The soil:--**

The inhabitants of the Baroda State are for the most part agriculturists. The principal crops are cotton, tobacco, oil-seeds, juwar, bajri, rice, and pulses. The coastline and the western talukas of the Navsari district are very fertile and yield garden produce, but the south-eastern parts are inferior in fertility, owing to rocks and mountains in some places. The Amreli district though inferior in fertility, has many fertile tracts especially in the Amreli, Damnagar, and Kodinar talukas.

The soil in the whole of the State is alluvial, except in the hilly parts of Navsari and Amreli districts, and in the south-eastern corner of the Baroda district, where it is mostly formed by disintegration of the underlying rocks. The alluvial soils of the Baroda State may be roughly divided into, (1) Gorat or sandy loam; (2) Kali, or black; and (3) Besar, or that formed by the mixture of the two. The rock-formed soils are, for the most part black, but where they have come into contact with alluvial soils, they have formed a variety of Besar. The soils of the Navsari and the Baroda districts may principally be classed as Gorat, Black and Besar. As a rule, the black soil of the Navsari district is far superior to the soil of similar kind found in the other districts. BHATHA lands or lands found in the beds of river from alluvial deposits are often found in the Navsari district, and are very productive. In the Mehsana district, the soil is mostly of the high sandy kind. Black soil is met with, but only in patches in parts of the district. The soils of the Amreli district (Okhamandal excepted), may be classed under two main heads, Black and Gorat, but the Gorat and Black soils of this district are inferior to the similar soils of Baroda and Navsari districts.



The soil in the northern half of Okhamandal is light red alternating with a tolerably rich black mould. Along the whole of the coastline it is sandy and unproductive, but inland, it is fairly fruitful. The soil in the southern portion is also light red with but few fertile ingredients, and in many places it is rocky and barren.

**The climate:—**

The character of the Kharif crops and the good prospect of the Rabi depend upon the regularity and seasonableness of the rainfall from the middle of June or the beginning of July to the middle of October. The late showers of October help the spring crops also. Satisfactory maturity of the crops, however, depends upon the September and October showers.

Small irrigation works are met with all over the Raj, especially, what are called Paddy tanks. The number of such tanks in each division varies with the nature of the staple crops, the soil, and the intelligence, skill, and capacity of the cultivator.

The climate of Baroda proper, that is the Gujarat districts is very different at the opposite ends of the State, the southern mahals having a climate that is decidedly moist, though less so, than that of the typical west coast or Konkan, while the northern mahals have a dry climate, nearly approaching that of southern Rajputana. The rainfall in the south averages about 58 inches. Around Baroda, it is 38 inches, and in the northern division, the average is as low as 32 inches.

It may be said in general that the weather is dry and hot in the hot season, which commences in March and ends in June, the hottest months being May and June. The climate during the rainy season – from July to October – is hot, moist and relaxing. During the cold season, which commences in November and ends in February, the climate is dry and cool. The coldest months are generally December and January.

During the hot weather months the average maximum temperature is about 104·8° F., the maximum daily temperature ranging usually from 98·4° F. to 115·5° F.

The average minimum temperature during this hot season is about 74·8° F. and it usually ranges from 60° F. to 84·8° F.

During the rainy season, the average maximum temperature is  $89.1^{\circ}$  F., while the average minimum temperature is about  $76.6^{\circ}$  F.

During the cold weather, the maximum daily temperature ranges from  $70^{\circ}$  F. to  $100.4^{\circ}$  F. and the daily minimum temperature ranges from  $30^{\circ}$  F. to  $67.1^{\circ}$  F.

### **Miscellaneous:—**

The territories of the Baroda State are usually situated inland, except at two prominent places in Kathiawar; one at Rupen in Okha, and the other at Mul Dwarka in Kodinar, and at one place in Gujarat, viz Billimora. The Okha port has considerably developed during recent years and cargo steamers from foreign countries regularly call at this port.

Billimora in the Navsari district, on the B. B. & C. I. Ry. mainline, is the only important river-port in the Baroda State in Gujarat. An old port, it flourished before the advent of the railways.

Of metals, only two are met with in the Baroda State, iron and gold, the former in fair and the latter in very small quantities. Considerable quantities of slag heaps near Phudeda, Mehsana district, Nani Naroli, Navsari district, and Samdhi, Baroda district, testify to the existence in ancient times of large smelting works.

Traces of gold are to be found in the high banks of the Heran river, a little south-east by south, from Sankheda, in the Baroda district. But the quantity procurable is too small to justify workings.

Of the chemicals, pyrites, bauxite, sea-weeds, for the production of iodine, salt, natural soda, Fuller's earth, are worth mentioning, and these are fairly scattered all over the State.

Quartz sand, suitable for the manufacture of some kind or other of glass, occurs in several parts of the State. There are large deposits of china clay, mostly on the right bank of the Sabarmati river.

Calcareous material, for the manufacture of lime and cement is available in large quantities in the beds and banks of the river Kim, near Dwarka, and near Aramda in Okhamandal.

Marble of different colours is available near Motipura in Sankheda taluka near Wadeli on the Heran river banks, and in the Dhari taluka.

Building stone is also available in different parts of the State.

---

## **PLACES OF INTEREST**

### **The City of Baroda**

A tour of the Western India will not be complete without a visit to Baroda. The city of Baroda situated on the Vishwamitri river has a population and area of 1,53,301 persons and 8.74 sq. miles respectively, and lies 244 miles north of Bombay on the B. B. & C. I. Rly. of which it is an important junction. Situated among the plains of Gujarat, it is the centre of a network of the G. B. S. Rlys. opening out vast territories in the interior.

The earliest discovered record about this ancient city is on a copper plate dated A. D. 812. The ancient name of the city was Chandanavati from Raja Chandan. This name was afterwards changed to Viravati, that is, the abode of warriors. Subsequently the name came to be Vatodar, i. e., in the heart of Vata or Burr trees; and, as a fact, these trees abound in the vicinity of the city; and from that it has at present naturally come to be known as Vadodara. In the earliest times of which we have any record, the city extended only over that portion which is at present comprised within its four walls now dismantled to accommodate the increasing needs of the population, and the country outside it was a mass of fields, fences, wells, and temples and mosques, lying scattered all about. It was after it came into possession of the Gaekwars and became their capital that it rose in importance. Suburbs were formed outside the walled town as the population increased. Of these the principal ones are Anandpura, Fatehpura and Shiyapura named after the past rulers of the Gaekwar family and Raopura and Babajipura named after the past Dewans. Even the roads and colonies were not laid out on the scientific methods of the present times. But now it is one of the important cities of Gujarat with wide asphalt roads running upto about 38 miles, palaces, gardens, offices, temples, recreation grounds and orderly streets, impressive housing colonies and a number of important industrial concerns.

To the visitors and tourists who are fond of sight seeing there are beautiful buildings, palaces, avenues, parks and play-grounds. For visitors with artistic inclination, there are a number of beauty spots varying in picturesqueness. To a student, who is in search of modernity in administration, education, and industry, Baroda as the capital of a front rank progressive and prosperous State will furnish ample materials in its administrative machinery, educational institutions and industry based on private enterprise encouraged by plans of State aid.

Visitors will notice the happy blending of the old and new ways of life and its expression in the corporate town planning which is the pride of Gujarat and to which it has set a great example.

As the visitor comes out of the Baroda Railway Station, he is greeted by the sight of the grand statue of His late Highness in commemoration of the Diamond Jubilee of his reign which constituted a golden era in the history of Baroda State.

#### **Baroda High School:—**

On the left side of the main road and close to the Railway station is the High School building. It was designed by Sir W. Emerson, Architect, London and was constructed in 1914-18. The style is Indo-Saracenic and is designed to suit the College building, with a dome in the centre and corner domes at the ends.

#### **Maharaja Clock Tower:—**

Just near the station is the Maharaja clock tower which was built by His Highness' subjects who were sent abroad for foreign studies.

#### **Science Institute:—**

Near the High School is the Shri Sayaji Jubilee Science Institute. This was constructed in recent years, and the design is of the retired State Architect, Mr. V. R. Talvalkar. This is also designed in Indo-Saracenic style to match with the College and High School buildings on either side. There is a central dome constructed for astronomical observations. There are science

laboratories of the College housed in this building together with the research laboratories of the Industries, Agriculture and Health departments. The Meteorological observatory of Baroda is also in the same compound.

### **Baroda College:—**

The building is situated on high ground on the left side of the road in a spacious compound which includes the students' hostels, a botanical garden, cricket and hockey grounds, tennis courts and a gymnasium. The college building was erected in 1887 at a cost of more than Rs. 6 lakhs. Its characteristic feature is a big dome over the central hall 60' square and 144' high. The style of architecture is Indo-Saracenic and the dome is possibly the largest of its kind in modern India. The design was prepared by Mr. R. Chisholm, the then architect of Madras Government but afterwards employed by the State as its own architect.

### **Equestrian Statue:—**

A little further from the College is the Public Park near the main entrance of which is the equestrian statue of His late Highness Maharaja Sayajirao III. It was raised by His Highness' grateful subjects and admirers in India and beyond the seas "in commemoration of his Silver Jubilee in 1907 and in token of loyalty and appreciation of his ever progressive rule". It is in bronze, and is the work of the famous English artist F. Derwett Wood and its cost was about Rs. 60,000.

### **Public Park:—**

This is on the outskirts of the city on the bank of the river Vishwamitri, and is a delightful centre of recreation for the public. In the Park are located the Museum and the Picture Gallery which contain one of the finest collections of Oriental and Western art in India and is an important attraction for the visitor for spending a whole day. The Museum in the Public Park was built in 1890 after the design of Mr. R. F. Chisholm and the picture gallery building was added in 1910, and was designed by the same architect. Both the buildings are connected by a gallery. In the precincts of the park is also located the Zoo.

### **Fatehganj:—**

Near the entrance of the Public Park and separating it from the College ground runs a road towards north, shaded by magnificent banyan trees, which leads to the Baroda Camp. Most of

the camp area is now retroceded to the Baroda Government in 1940 and is now called the Fatehganj. On the left side along this road are Government bungalows which are constructed for residential purposes for the State Officers. Further on, there is a column of Songhad stone which was raised by H. H. Sayajirao Maharaj II to the memory of Mr. Williams who was a Resident for 17 years. There is the Residency building in this area which was built in 1833-34. A marble tablet on the same records the fact that it was the dwelling place of Generals Outram and Meade.

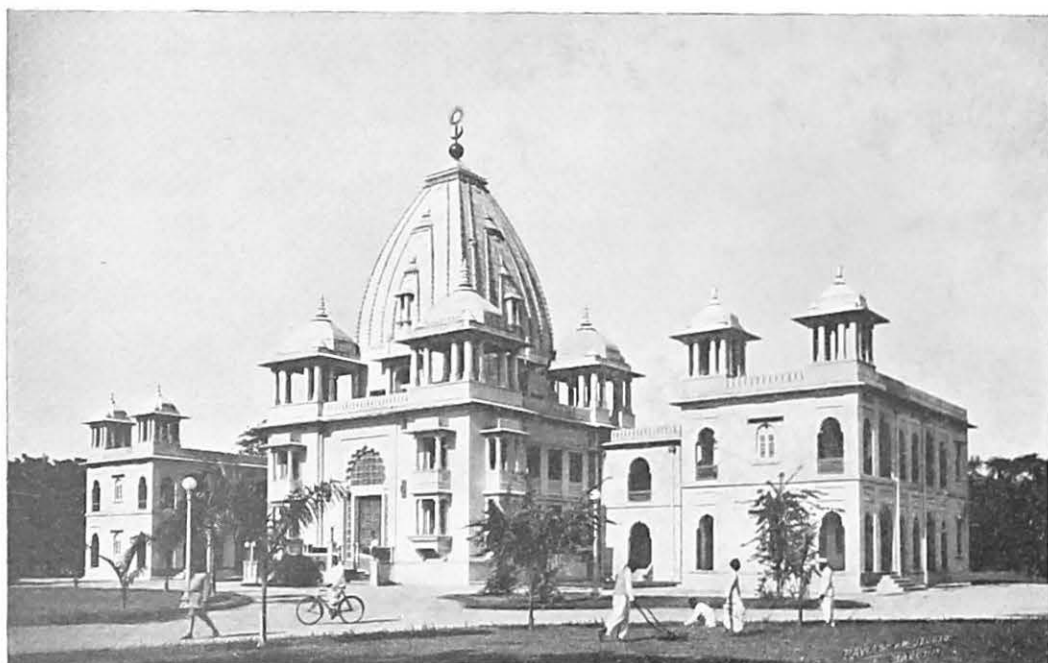
### **Kirti Mandir:—**

Coming back to the main road and crossing the bridge over the Vishwamitri, one is attracted by the sight of the 'Kirti Mandir', the temple of fame and remembrance. It was completed and graciously opened in February 1936 by His late Highness Sayajirao III at the time of his Diamond Jubilee celebrations. The Kirti Mandir was erected, to quote the words of His late Highness, "to commemorate the benefactors of my State irrespective of their race, caste or creed. It will be a reminder to all of the story of its rulers and of the men who have planned and toiled in the shaping of its destinies and a tribute thus to the most cherished qualities in humanity."

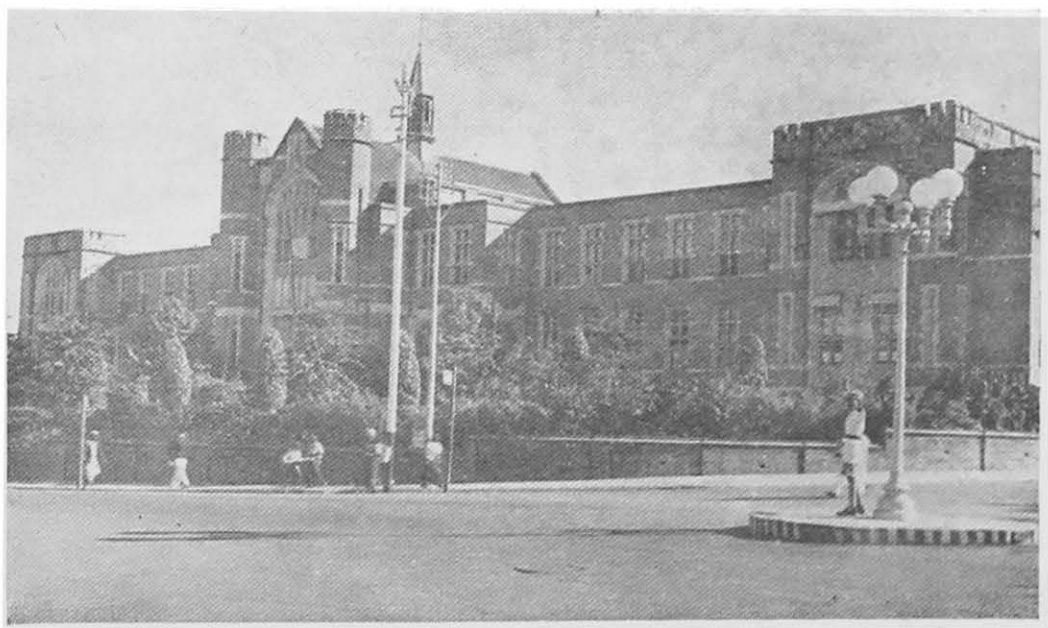
The main dominating feature of the Kirti Mandir is the central spire in the typical Hindu style. It is 110 ft. high and profusely decorated. The phinial on the Shikhar is in bronze and represents the Sun, the Moon and the Globe of the Earth with India in relief. The facing of the building is in Khimaj stone work and the lattice in the front is in red Bharatpur stone. The interior marble finish is partly in Makrana and partly in Italian marbles. The work of decorating the interior walls by mural paintings is entrusted to the very capable hands of the well known Bengal artist Mr. Nand Lal Bose. Two of the paintings "Gangavtarana" and "Meerabai" have been so far done. The total cost of the Kirti Mandir is just over 5 lacs of rupees. Mr. V. R. Talvalkar, was the State Architect all throughout and the late Mr. Stevens, Joint Architect for the central portion.

There is a small Dutt Mandir in the same compound which has been modified and rebuilt to harmonise with the Kirti Mandir.

The Kirti Mandir site had been used as a Royal Cemetery and among the important edifices built in memory of the deceased members of the Royal Family is to be seen the old Mahadeo



**Kirti Mandir**



**The Secretariat**



temple close to the road, built by H. H. Ganpatrao over the spot where H. H. Sayajirao II was cremated. It is of stone highly finished and remarkably graceful. Next to this is a still larger temple of Kedareshwar raised in honour of H. H. Govindrao by his son Sayajirao.

To the right of the Cemetery, the Dewan Sitaram erected a temple of Yavtेश्वर Mahadeo. Closer to the bridge and at the head of the two ghats or flights of steps descending to the water is a tasteful shrine of white marble which marks the spot of the Dewan's funeral. One of the ghats was built by him, and the other by Maharaja Sayajirao while a third on the left of the bridge by Govindrao Maharaj.

### **Indira Avenue etc:—**

After crossing the bridge, to the right, is the Indira Avenue. It is a beautiful road with magnificent banyan trees on both the sides, which keep the road well shaded and cool. To the left, are the State General Hospital and Government bungalows; and to the right, are the quarters of the Hospital Matron and the nursing staff.

### **The Central Jail:—**

At the top of the Avenue, on the right side, is the Central Jail. It has been built at a cost of 6 lakhs of rupees. It is a circular building of red bricks in the inner circle of which lines of buildings radiate from a central tower for the safe lodging of prisoners. The outer circle contains kitchens, the dispensary, solitary cells and a large enclosure for female convicts. The Jail buildings are arranged on modern principles and prisoners are employed on dyeing, weaving, sewing, cane work and such other industries.

### **State General Hospital:—**

Coming to the main road near the Kirti Mandir, on the right side is the State General Hospital. The hospital building opposite the Kirti Mandir is an old one and considerable additions were subsequently made to provide more accommodation and to make it a more up-to-date Hospital. This old building, originally a single storied one, was constructed after the design of Major Mant in 1886 and was named the Countess of Dufferin Hospital. The State

General Hospital Building on the other side of the nala was designed by Mr. Coyle and the construction work was completed in 1917. In the centre there is the Administration block connected by corridors with the wards on either side. The out-patients' block is behind the surgical ward. Two operation theatres are constructed on each side of the Administration block. Additions continue to be made from time to time to the Hospital buildings according to the growing needs of the institution. The Hospital is equipped with the most up-to-date equipments. In the Hospital compound, on the side of the main road, is an old temple to Udenarayan built by Shibandi Baxi Lallubhai.

### **State Press and Kothi Buildings:—**

The main road passes through Anandpura and then through Raopura. Near the bend of the road, after we pass the State General Hospital, is the State Printing Press and then further at the crossing of the two roads, the road up a slight ascent to the right leads to what is known as the Kothi. In the Juni Kothi, on the left, in old days, was the Residency Office (1802-1832); but the so-called fort now contains the Government Offices. To the north of the old Kothi buildings, is the new Kothi building, or the Secretariat, constructed in 1917-22 after the design of Mr. Coyle. It provides accommodation for the offices of His Highness the Maharaja Saheb, H. E. the Dewan saheb and other Ministers and the Legislative Council Hall. The style of the building is Gothic.

On the right side of the road, are the P. W. D., Police and other Government offices in the compound. In the same compound is the Jayasinhrao Library for the public which is housed in a small but handsome structure. The Oriental Institute housed in the Record Tower Building is of unfailing interest to persons interested in research of Indian culture.

### **Broadcasting Studio:—**

Proceeding by the north road from the Kothi crossing & then turning towards the east, one sees, by the side of the State Veterinary Hospital, a modern building under construction. This is the Broadcasting Studio which will be put in to operation in the near future. This scheme is taken up to commemorate the Diamond Jubilee of His Highness late Sayajirao III.

### **From Kothi to Becharaji Temple:—**

Returning to the Raopura Road and proceeding towards the City, we see the Raopura Police Station, the Improvement Trust Buildings, the Post and Telegraph Office, the recreation ground with the old Suryanarayan temple, then the Nawab Wada and a vernacular boys' school. Further up, is the Chimnabai clock tower erected from the funds contributed by the citizens of Baroda in memory of Her late Highness Chimnabai, the first consort of his late Highness Sayajirao III. The adjacent part of the City is called Gheekanta and adjoining to its north is the Nagarwada. If we descend through it into the low road we reach the Becharaji's temple. This is one of the most important temples in Baroda. Thousands of devotees visit the temple particularly during the Nav Ratri period in the month of Ashwin and His Highness the Maharaja also pays homage to it on such and other important occasions. The courtyard is the work of H. H. Khanderao but the old octagonal tank is of much older date.

Proceeding towards the east we reach the mental hospital and the Training school for men.

### **Jubilee Garden and Sursagar:—**

Again to return to the main road near the Chimnabai Tower and proceeding further, we come across the Jubilee Garden. It was opened in 1908 in connection with the Silver Jubilee of His late Highness Sayajirao III, for the use of the city people. In this garden is a colossal statue of Buddha. The Tarkeshwar temple built by Her Highness Jamnabai is just nearby. Then comes the Sursagar, a big tank of about 1060 ft. length, 665 ft. width and 12ft. average depth, and it has stone banks and masonry steps. Large and always full of water the Sursagar, with the magnificent buildings of the Training College for women and the Practising School on the road to Dandia Bazar on the South, the Boarding house for women, the Maharani High School for Girls, Chimnabai Industrial Home on the west and north sides and the well-lit cinema theatres, present a picturesque scene, particularly at night.

### **Nyaya Mandir:—**

Then comes in a prominent position the magnificent building known as the 'Nyaya Mandir' or the Temple of Justice. It was

designed by Mr. Chisholm in Indo-Sarcenic style. In the centre is a large hall which is used as the town hall. A beautiful marble statue of Her late Highness Maharani Chimnabai adorns the hall. The State courts are housed in this big building.

One faces then the Lehripura Gate which is the principal entrance through which the city proper i. e. the walled capital as it was before it expanded, can be entered. The old fort wall with 54 bastions where guns were mounted in the old days has been dismantled. Only the four gates are preserved.

### **Mandvi Tower:—**

The old city is intersected by two spacious streets dividing it into four parts and meeting at the place called Mandvi which is a square pavilion with a clock tower in the centre. At the ends of the four roads meeting at Mandvi are the four old gates; the western is the Lehripura Gate, the eastern Pani Gate, the northern Champaner Gate and the southern Gendi Gate. The main roads are met at right angles by the 'Poles', i. e. streets the entrances of which were barred by strong doors. Some of these remains of the original doors are still clearly seen. The 'poles' were occupied by distinct classes of people. The Narsinhji's and Hari Bhakti's poles for instance are the memories of the past opulence. There resided in old days the rich jewellers and bankers whom the luxuries and needs of the Gaekwads and their sardars attracted to the capital. In the Ghadiali Pole, on the street from Lehripura to Mandvi, is the old palace of Fatehsinh and the old State mint. The building is used as a school building at present. The Central Library near the Mandvi is one of the chief attractions of Baroda. Apart from the large collection of books and the system of free lending of books to the public, it has many striking features of interest. Near the Central Library, the stately building of the Bank of Baroda arrests attention.

### **Nazarbag Palace:—**

Immediately near the old palace is the Nazarbag palace. It is at a much higher level than the surroundings. It was constructed by H. H. Malharrao and afterwards much improved by His Highness Sayajirao III. It is in the old classic style and is still used on ceremonial occasions. The main attraction to the visitors is the State Zaverkhana - jewellery accommodated in the Nazarbag palace. The precious jewellery was valued at over 3 crores of

rupees. The chief diamond necklace worn by the Maharaja on State occasions is alone valued at Rs. 40 lakhs, the biggest diamond being estimated at Rs. 9 lakhs or so. The Nazarbagg adjoins the street from Mandvi to the Pani Gate. On the opposite side is the Jamnabai dispensary erected for the convenience of the population in the city and named after His late Highness' adoptive mother. Opposite the old palace is the Vithoba temple raised by Rani Gahenabai. The old paintings on the walls in the temple form one of the noteworthy features.

### **Bhaddar Building:—**

The half ruined Bhaddar Kot near Pani Gate is also historically interesting. The Bhaddar contains a solid old palace of the Muslims with a marble bow-window of singular beauty. In this palace lived for sometime the first two Gaekwads, Pilajirao and Damajirao after the overthrow of the Muslim power. There is also an old temple of Kalka Devi. The old palace is now used for holding district and taluka revenue offices. The Bhaddar dominates the Aggad or Arena which is just beyond the Pani Gate. Here public sports are held on festive occasions or when distinguished guests are to be entertained.

### **From Mandvi to Makarpura:—**

Proceeding towards the Gendi Gate from the Mandvi on the right side is the Jumma Masjid built during the Mohamedan rule. It was renovated by the city Muslims with liberal contributions from the State. On the same road is situated the Goya Gate Railway Station of the G. B. S. Railways and its workshops.

The south road is continued for some four miles out of the City to the village Makarpura where H. H. Maharaja Khanderao built a palace in which he delighted to stay. He was fond of hunting and practically daily he issued forth to hunt in the magnificent deer preserves which adjoin it.

His late Highness Sayajirao III not only renovated the old Makarpura palace but built a new one by its side in 1883-1890. It was designed by Mr. Chisholm in Italian Renaissance style. In the palace compound are the well-known Makarpura gardens of singular beauty.

To the left of the Makarpura Road are the cavalry lines and parade grounds with bungalows of military officers. Near the level crossing is the Dhairyashil Prasad.

**Pratap Vilas:—**

In the triangle between the two Makarpura roads and on the south of the G. B. S. Railway line is situated the Pratap Vilas Palace. Its construction was completed in 1918 and is after the design of Mr. Stevens in renaissance architecture. Herein His Highness the Maharaja Pratapsinh used to reside when he was the Yuvaraj. This palace is also known as the Lalbag palace.

To the north of this palace after crossing the G. B. S. Railway line are situated the second infantry military lines.

On the north-south road in the vicinity is the temple of Khandoba, the family deity of the Gaekwads, where is yearly commemorated the capture of Baroda from the Babis. Round it are the cells constructed by H. H. Khanderao for the Gosais whose ascetic character made them the most suitable medium for communicating news during warfare in those times.

**Maharaja Pratapsinh Coronation Gymkhana:—**

Coming back to the Palace Road from Makarpura Road we see to the right the newly constructed Maharaja Pratapsinh Coronation Gymkhana. The main building is exquisitely finished and structurally an important feature in it is the big cantilever over the rear verandah facing the Polo Ground. The unsupported width of this cantilevered slab is 20 feet and this is possibly the first bold modern building in Baroda. The main building is connected by a corridor with the covered badminton court and on the other side of the main building is the open air swimming Pool. The Swimming Pool with crystal clear water with strong electric lights inside, the diving stage and the open air aerator appearing like a fountain on the right side, presents a good spectacle. In the small room near the aerator is the purification plant with jewell filters to keep the water in the pool fresh and healthy. Another notable feature is the different designs of the electric clocks whose dials are ingeniously designed to give expression to the purpose for which the different rooms are meant. This Gymkhana is an excellent example of modern architecture. In the vicinity is the Furniture Factory opened under the patronage of His late Highness Sayajirao III.

**Laxmi Vilas Palace:—**

The road then passes by the Laxmivilas Palace. This is the main palace used by His Highness the Maharaja Saheb for his residence

in Baroda. This Palace was built by His late Highness Sayajirao III in 1878-90 at a cost of about 60 lakhs. The palace was designed in Indo-Saracenic style by Major Mant. The building consists of three portions. The central portion, in which is the great entrance hall and the main staircase of marble with a leaded glass dome, provides all accommodation for His Highness. To the right is the portion for Her Highness with a separate entrance and stairs. To the left is the Durbar hall which faces due north and is 93' x 54'. It is provided with two richly carved wooden balconies for ladies and visitors on the first floor. The spandrills of the arches in the Durbar hall are in glass mosaic work, the floor in marble mosaic. The marble and glass mosaic work was executed by Italian artist. The ceiling is of coloured enamelled work.

Its grounds include the Vishram Bag, the Motibag, the Mastu Bag and Chiman Bag, built in the times of the past Maharajas. In the grounds of this palace are to be seen two of the oldest and most picturesque of the antiquities of Baroda—the tomb of Amin Saheb built out of an ancient Hindu edifice and the Navalakhi Vav, a well with steps which is said to have cost nine lakhs of rupees in its construction. It was constructed by Suleman, Governor of Gujarat, in the Muslim regime in the year 907 of the Hajira.

#### **From L. V. Palace main gate to Khanderao Market:—**

Near the principal entrance of the L. V. palace is the Indumati Mahal and it is used as a Devghar—House of gods—of the Royal Family. The road towards the Lehripura Gate of the city from the main entrance of this palace is called the Chamrajendra Road in honour of the visit of H. H. the late Maharaja Chamrajendra Wadiar Bahadur of Mysore in 1888.

#### **Kalabhavan:—**

Just in the vicinity in front of the palace compound is the Kalabhavan or the temple of Arts. This grand building was constructed in 1922 after the design of Mr. Coyle in Hindu Saracenic style with Gothic fittings. This technical institute imparts training in diploma for Civil, Mechanical and Electrical Engineering, Chemical Technology, Weaving, Fine Arts, Commerce and Photography. Just near the Kalabhavan is the Diamond Jubilee Cottage Industries Institute where the artisans of the State are given practical training in various handicrafts and arts.

Going along the Chamrajendra Road, we first come across the Ashok Pillar, or the Kirti Stambha which is under construction. The pillar is 32' in height and has a seated lion at the top.

The Sayaji Vihar Club and the Khanderao Market are the important structures of note on this road reaching Lehripura. The Khanderao Market built in 1906-07—to which subsequently additions were made—was given by His late Highness Sayajirao to the City Municipality as a gift on the occasion of the Silver Jubilee of his reign. The building is purely Hindu in style, recalling to the mind a Hindu Temple, except the arches which are of Muslim type. On the ground floor are several stalls and on the 1st floor are housed the offices of the City municipality.

Near the Khanderao Market on a cross road is seen a new magnificent building known as the Govindrao Maharaj Central School. It houses vernacular schools and the State's Music School.

#### **New Suburbs of Baroda:—**

The new suburbs of Baroda are developed on scientific principles of town planning. The Sayaji Ganj is on the Station Road opposite the Baroda College. The Pratap Ganj is behind the Baroda College and the Alkapuri is to the North of Race Course Road after crossing the B. B. & C. I. Railway Line to the South just near the Baroda Railway Station.

#### **Race Course and T. B. Hospital:—**

On the Race Course Road only at three minutes' walk from the Railway Station is the Baroda Guest House. Formerly it was a State Institution used for the State guests only. It is now converted into a regular hotel, separate arrangements being made for gentlemen living in European and Indian styles. Accommodation for State guests is also reserved in this building.

Just opposite the Railway Station is the Damajirao Gaekwad Vishrambhuvan named after the founder of the Kingdom. It provides good accommodation for the middle class travellers.

On the Race Course Road mentioned above are some Government bungalows. The Race Course is one and a half mile in circumference and races and sports used to be organised occasionally by the State military officers. Beyond the Race



Course within  $\frac{3}{4}$  mile on the road to Gotri is the T. B. Hospital and Sanatorium under construction. It will be a full fledged T. B. Hospital and Sanatorium with modern equipments for about 80 patients, 40 in the general wards and 40 in the cottages. The estimated cost of the construction work is about  $3\frac{1}{4}$  lakhs of rupees. The amount is met from the T. B. Fund of H. E. the Marchioness of Linlithgow returned to our Government and from private donation.

### **Industries of Baroda:—**

The main industries of Baroda are the four cotton mills, one woollen Spinning & Weaving Mill, the Alembic Chemical Works, the Baroda Chemical Works, The Sayaji Iron Works and the G. B. S. Railway Workshop which all have their own buildings.

### **Agricultural Farm:—**

The Agricultural Farm to the North-west of Baroda Station, to which are attached an agricultural school, a museum, the agricultural research station and the Horticulturist's laboratory, represent some of the manifold activities of the department of Agriculture whose recent developments have been very phenomenal.

### **Sayaji Sarovar:—**

Within a short distance from Baroda, there is "Sayaji Sarovar" from where water is supplied to the City. This tank is situated at Ajwa, a place at a distance of 12 miles from the City. The scheme of water works was prepared by late Jagannath Sadashiv. It was prepared at a cost of 56 lacs of rupees some fifty years back. Water from this tank was found insufficient for the increasing needs of the increasing population and hence a new tank named "Pratappura Talav" was built 13 years ago and it is joined to the "Shree Sayaji Sarovar". The water is filtered at Nimetta, a village at a distance of 5 miles from Ajwa. The water is purified by mixing Chlorine and other insecticides. This water is carried to the Meter house near the City through 30" pipe line. Then it is distributed from the Meter house to the whole City through 3' to 30" pipe lines. A new 30" pipe line to increase the pressure of water is laid from Nimetta to the City recently at a cost of Rs. 9,00,000. The scheme of Water Works has cost Rs. 65 lacs of rupees uptil now. The yearly expenditure for water works maintenance amounts to Rs. 58,000 and the

income from the Water tax amounts to Rs. 1,91,000. A map of Baroda City inserted overleaf will give the detailed location of the chief places of interest in Baroda City.

### **Other places of interest**

Besides the city there are many other places of interest. The territories of Baroda State are spread over the whole of Gujarat, and have behind them a history of many centuries, of many dynasties, and of many clashes and assimilations of races and their culture. Gujarat has long been a seat of distinctive art and culture and many remnants of this glory of Gujarat now lie within Baroda territories. The principal places of interest are many and difficult to choose in order of preference. However the following places may be mentioned casually with the claims of many others not recalled here :—

Dabhoi, Pattan, Modhera, Sidhpur and Vadnagar are noted for their archæological monuments.

Chandod is a beautiful riverine town on the Narmada river from where the picturesque river side is approached.

Dwarka, Bet, Unai and Becharaji are well known places of pilgrimage. Unai is known for its hot water springs also.

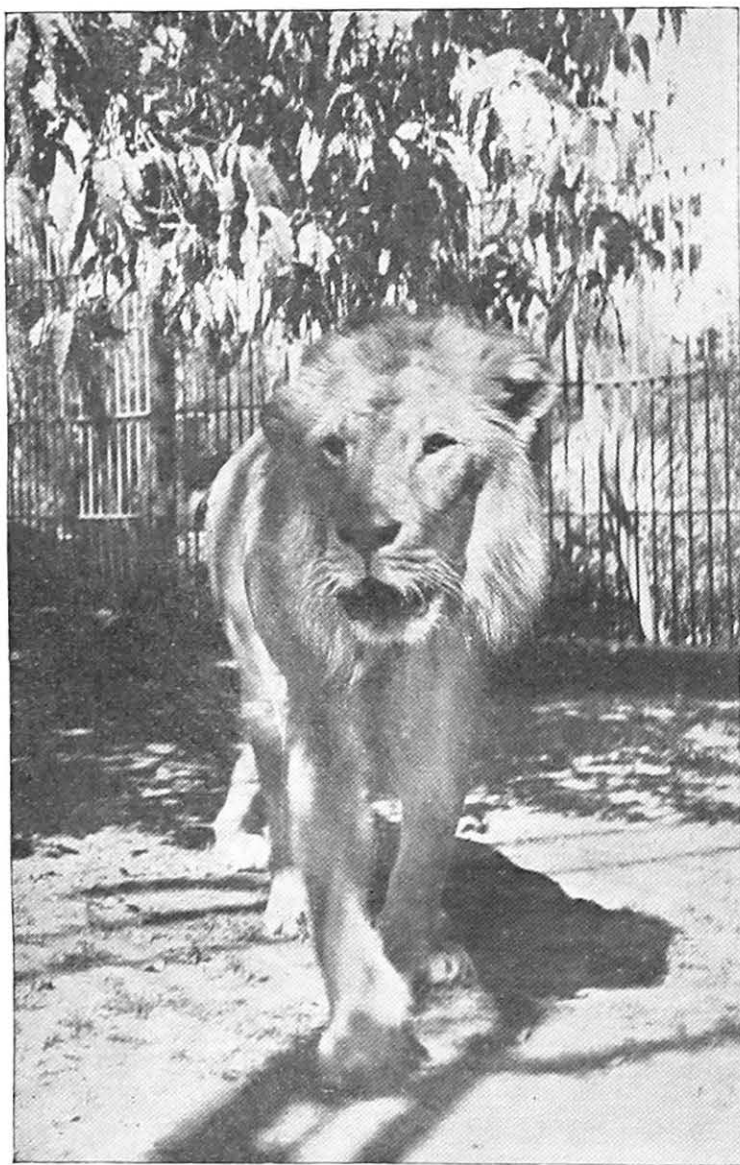
Umṛath is a summer health resort rapidly developing.

Songadh is the old seat of the Gaekwads, the hill fort of which is of historical interest.

Sankheda is known for its lacquer work and Visnagar for its metal work.

Port Okha and its surroundings are rapidly developing into an important commercial and industrial area.

---



A Zoo Lion

## GARDENS IN BARODA

### Gardens

A visitor to Baroda will immediately note a distinctive feature of the city, that it is studded with gardens, lawns, and recreation grounds. Baroda has already acquired the title of a garden city on this side of the country.

This wonderful change from waste land and fields into gardens may be ascribed to the enlightened rule of His late Highness Sayajirao III. He procured efficient artists and garden designers from Europe for this work, and the improvement begun during his regime is continued with vigour by H. H. the Maharaja Pratapsinh Gaekwar. Indeed, a few cities in India can boast of such extensive gardens.

The total area of gardens under departmental management is about 1,750 acres: In addition to this, there is a big garden in the heart of the city known as the Jubilee Garden and also many Vishrantisthans—recreation parks—dotted throughout the city and around it managed by the city municipality. Almost all the private and State bungalows have gardens around them, and some of them are certainly very beautiful.

A visitor starting his round of sight seeing from the Baroda Hotel will first notice the well maintained gardens in front of the Guest House, the Dilaram bungalow and other gardens in front of nearly all the bungalows on the Race Course road. Near the Baroda Railway station, he will find a small garden called the Station square around a beautiful bronze statue of His late Highness Maharaja Sayajirao III on a raised platform in a sitting posture on the throne. Just in front of the tower, there is a recreation ground with avenues and lawns. On the left side of the road the gardens in front of the Sayaji Jubilee Science Institute and the Baroda College continue the pleasant vista. The famous public park announces its existence of public utility by the sight of the magnificent equestrian statue of His

Highness the late Maharaja Sayajirao III almost at its entrance gate. This statue was prepared by Mr. Derwent Wood and is considered to be one of the best of its kind in India. The Public park has been beautifully laid out on the banks of the river Vishwamitri and full advantage of the natural situation has been taken. It is most famous for the Zoo, the Museum and the Picture Gallery located therein which are the chief attractions for visitors to Baroda. The park itself with its extensive lawns, riverside, a panorama of variegated flowers and greenery offers immense attraction to the public. The band stand surrounded by statues and lawns attracts crowd of people on Tuesday and Sunday evenings when the State band plays western music and the Indian orchestra oriental notes.

Further, across the bridge on the Vishwamitri river leading to the city, a series of gardens stretches around temples, the Kirti Mandir, the State General Hospital, the Kothi buildings and the beautiful Surya narayan Mandir. These gardens form a beautiful setting to the structures which they surround and add considerably to the picturesqueness of the main road. A little further up on the left a beautiful garden on a high level known as the Jubilee Garden arrests attention. This garden is in commemoration of the Silver Jubilee of the rule of the His Highness the late Maharaja Sayajirao III. It is in the midst of a fairly thick population and is mainly used as a recreation ground with the Government band playing there every Saturday in the evening, and the imposing bronze Statue of Gautam Buddha adding to its attraction. The Jubilee Garden is a favourite resort of evening strollers. The beautiful lake Sursagar reflecting the turrets of the magnificent Nyayamandir building and other Government buildings are round about. There is a recreation ground near its banks over and above the garden in front of the educational buildings, abutting on it. Near the Mandvi, the heart of the city, a lovely garden with marble footpaths, fountains and a band stand encircles the Nazar Bag palace. These are gardens on the main road from the station to the city proper. But these are not all the gardens; there are others aswell.

Near the bridge of the Vishwamitri, a beautiful road known as the Indira Avenue zigzags on the other side of the State General Hospital and skirting the approach of the central jail as well as a side of the Laxmi Vilas palace ground, it meets another main road from the Kothi buildings to the railway crossing. On this road recreation grounds, the extensive gardens of the Laxmi Vilas palace, a large popular play and polo grounds

and pretty gardens in front of bungalows would catch the eye of a visitor. A lovely temple garden known as Kashivishwanath gives a religious emphasis to the popular walks on this side as even the non-fashionable religiously inclined people are drawn to it.

Near the railway crossing there is a Bakul tree-Mimusops elingi, L.—planted by His Highness late Maharaja Sayajirao III to commemorate his 72nd birthday. Beyond the railway crossing there are pretty gardens on both the sides of the road. They are every day gaining in popularity as recreation grounds. Very near these resorts are located the Pratap Vilas garden and the Dhairya Prasad garden, from where the road leads straight on to the Makarpura garden about four miles away from the city.

A green spot near the municipal building on the Rajmahal road may also be mentioned.

It is difficult to mention all gardens, lawns and recreation centres spread throughout the town. It has been the policy of the Government to lay out small ovals and squares with lawns and gardens wherever possible so that the congestion may be relieved, people may get pure air and children their recreation. Benches and seats are also provided so that the public may enjoy rest in these places.

The State band plays regularly in the Public park, the Jubilee garden and the recreation ground near the Raj Mahal playground.

Swings, seasaws, may-poles and such other accessories for children are also provided in a number of recreation grounds. If gardens are the lungs of a city, Baroda has certainly very healthy lungs.

### **The Public Park :—**

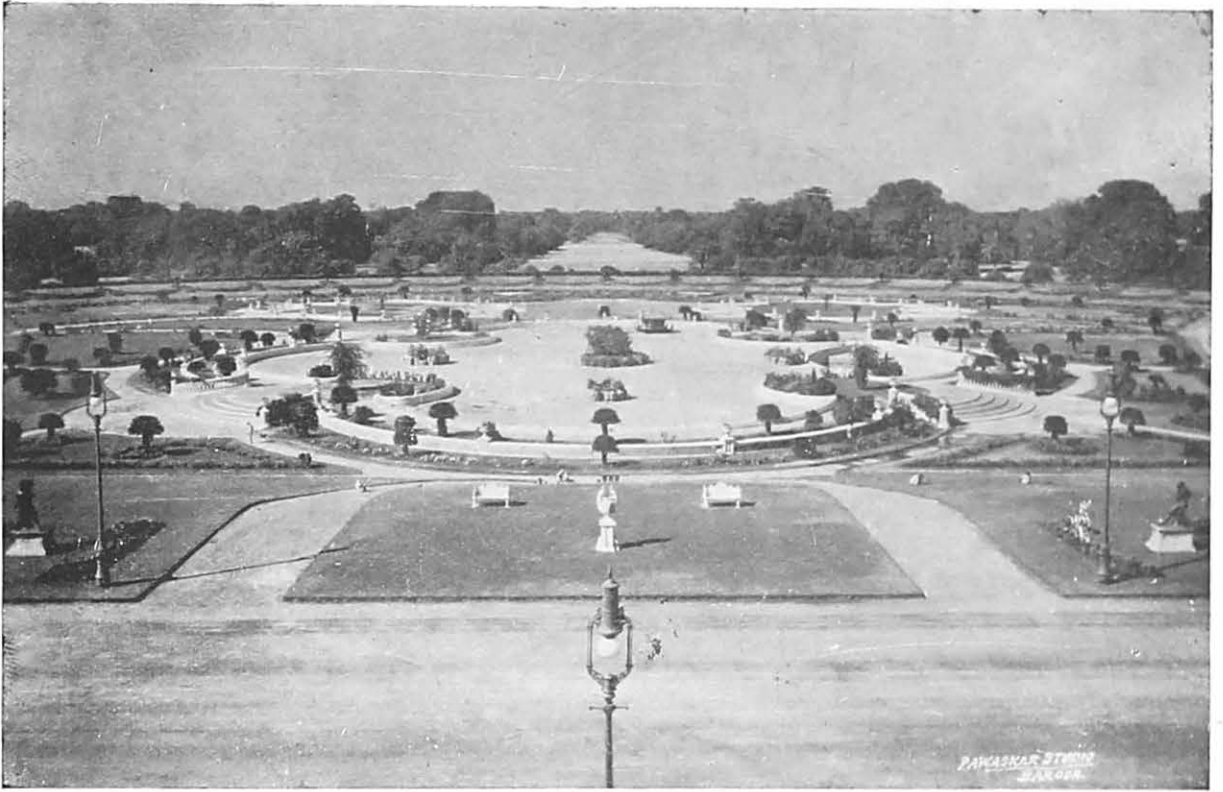
The famous Public park consists of about 150 acres of land including the arborium section. This garden owes some of its beauty to the natural riverside scenery with its ravines and slopes overgrown with foliage. It forms one of the chief attractions for a visitor to Baroda. The zoo which contains a variety of birds and animals from various parts of the world adds a good deal to the attractions of the garden. This garden was opened by H. H. the Maharaja Sayajirao III on 8th January 1879. It is situated not far from the Baroda railway station. On entering its precincts and

crossing the first bridge of the river Vishwamitri, one finds the natural scenery of deep valleys covered with greenery all round, on both the sides. Just in front is the White Pavilion with a small garden near its porches. A single arch bridge of Songadh stones has been constructed over the nala running by the side of a deer enclosure. At some distance on the left lies the magnificent equestrian statue of Chhatrapati Shivaji. This statue has been prepared by sculptor Mhatre and was unveiled by H. H. the Maharaja Sayajirao III on the 8th March 1934. Just behind the statue there is a beautiful fountain throwing up umbrella shaped jets of water. Just nearby a map of Gujarat and Kathiawar has been laid out on raised ground. Adjacent to this is situated the building of the Museum and a fine picture gallery which are introduced to the reader elsewhere in this volume. On the west side of the garden is situated the band stand, where musical performances are arranged by the State department concerned on two days, Sunday and Tuesday. On Sundays the Indian Orchestra plays its programmes and on Tuesdays the full State band is played. The time on both the days is 6 p.m. The bronze statues grouped around the stand give an artistic appearance which is heightened by beautiful green lawns all around with shrubberies and long avenues on both the sides of the roads and wooden promenade corridor in the front. The Vishwamitri takes three turns in the park and different types of bridges are constructed over it, such as a suspension bridge, an iron bridge and a single arch stone bridge. The Kamnath Mahadeo on the river bank is a place of historical interest.

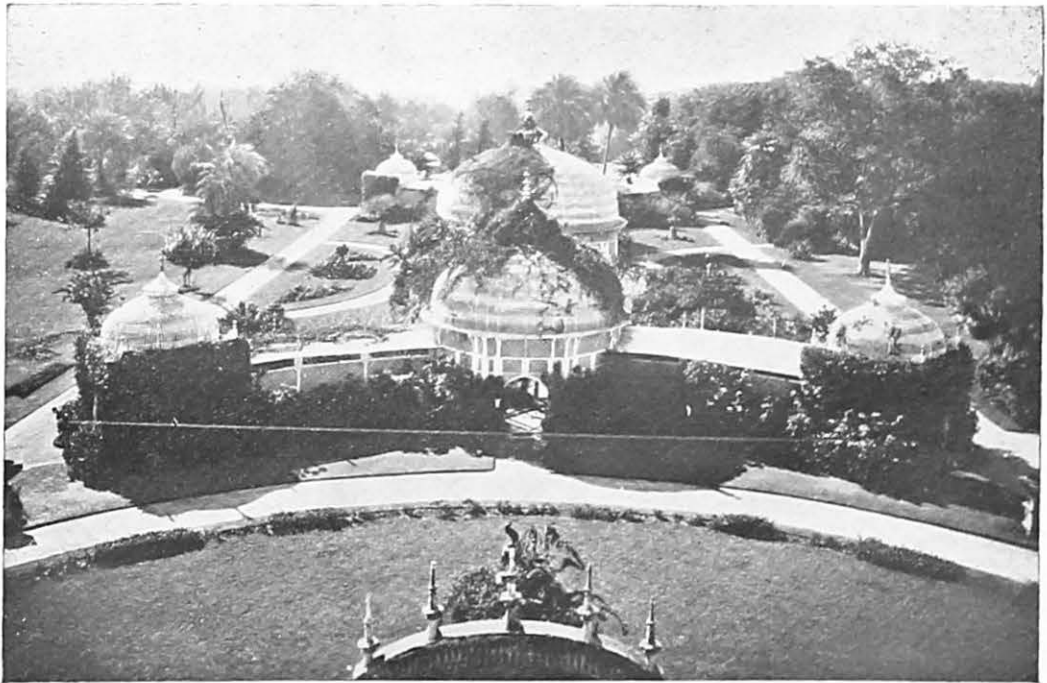
### **Laxmi Vilas Palace Gardens :—**

The Laxmi Vilas garden which covers 650 acres is laid out in the landscape style and produces an effect of grandeur and repose. It is the biggest of all the gardens in Baroda. As soon as one enters the main gate, a vista of beautiful lawns and a riot of lovely colours opens before him. The front garden is known as the terrace garden and is remarkable for its picturesque effect. It has some pretty fountains. Marble and bronze statues are set up at short distances. The further side of the terrace garden is covered with bouganvilleas which lend colour to the view. Beyond this stretches an avenue of trees, two rows on each side. Around the central avenue there is a big deer enclosure covering about 25 acres of land containing deer, giraffes, bisons etc.

The view from the first floor of the Palace is wonderful. From the terrace gardens, there is an underground passage which



A view of the Laxmi Vilas Palace Gardens



The Summer House, Makarpura Gardens



leads to a sunk rock garden, where there is a small Japanese bridge. On the northern side of the Palace, there is a very ancient stepwell known as Navlakhi-Wav built in 1404 A. D. by Suleman, Amir of Zafarkhan, Governor of Gujarat. It has domes and stone columns of archæological importance. On the southern side of the Palace there is a rose garden with a marble kiosk in the middle and at the upper end of the rose garden a shade garden is put up which remains very cool even in hot summer. There is a small marble kiosk at its entrance, beyond which one comes to a hoary tamarind tree supposed to be 500 years old. On the western side of this tree, there is an ancient monument known as Peerghoda, the tomb of Sultan Saiyad Azam built in 1411 A. D. by Gulam, son of Suleman who built the Navlakhi Wav. It has domes with beautifully carved stone screens. Going further we come to the tennis courts which are of the best of their kind in India. The central court is a covered one. There is also a magnificent cricket ground with a specially constructed pitch. An eighteen hole golf course has lately been laid out in the compound. There are about 17 miles of roads and foot paths and a riding track of about  $5\frac{1}{2}$  miles in length in the Palace grounds. In the Park section there is a fruit and vegetable garden for the royal kitchen.

### **Makarpura Gardens :—**

The area of the Makarpura gardens is about 120 acres. This garden has been laid out by Mr. W. Goldring in semi-Italian and formal style. Outside the main gate there are cultured asopalav trees cut in pyramidal shapes. Though they look very small, they are nearly 40 years old. As soon as one enters the main gate, he finds beautiful lawns and flower beds on all sides. The Park contains a nalla which is bordered by a rockery and a lovely duck pond spanned by a stone bridge. In the lawns in the front of the palace, there are four bronze statues of deer and bulls and masonry caskets full of flowers. This garden has very pretty fountains. At the back of the palace there is a flower garden laid in Italian style; passing through this garden, one comes to the plant house, the pergola and a corridor with marble foot-paths and a small fountain in its centre. Beyond this corridor, one emerges into a beautiful flower garden with similar marble features. The fountain in its centre is electrically lighted and when played, presents to view magnificent rainbow effects. A big lawn to the east has an ornamental lake and a grotto, where there are artificial caves and underground

passages and a waterfall. On the peak of the grotto, there is a pagoda. The lake is crossed by a Japanese bridge. Both the pagodas and the bridge are beautifully coloured in bright tints and the finials are gilded. Different kinds of white birds such as pelicans, ducks, swans, flamingoes, fowls are allowed to wander freely here. This presents a very delightful view. On the left there is a band stand around which multicoloured flowering bouganvileas are planted. Lower down there is a rose garden with a marble kiosk and marble foot paths. In the front of the band stand, there is an asopalav avenue, the trees of which are trimmed artistically. In the park section there are deer enclosures, where different kinds of deer are kept. This garden is considered one of the finest in this part of the country. The Makarpura gardens are laid out by Mr. Goldring, a wellknown landscape architect of England.

### **Recreation Grounds:—**

According to a Government order every town in the State with a population of seven thousand or more is required to provide a recreation ground or park. Thus recreation grounds are required to be put up on a scale of one bigha per every thousand inhabitants, to be located generally on the outskirts of the towns. These parks have to be laid with trees, shrubs and flowers and are required to contain such open spaces as will allow games and physical exercises for adults and children.

The upkeep of such recreation grounds and their maintenance is borne by the municipalities concerned but the expense on original outlay is being defrayed by the State. Such is the general policy adopted in regard to all municipal towns except Baroda.

### **The Zoo**

The zoological collection belonging to His Highness the Maharaja Saheb was transferred to the Public park when it was laid out in 1879. The important animal houses constructed then were the present pigeon house with the lake around it, the bear pit and the lion and tiger houses. The total cost of the park was about Rs. 1,75,000. The park was formally opened and generously dedicated to the public by His Highness Maharaja Sayajirao III on the 8th January 1897.

An aviary was added to the park in 1883. A new shed was built for the carnivorous animals in 1885. The Zoo in the park was thus gradually expanding, and it became necessary by the

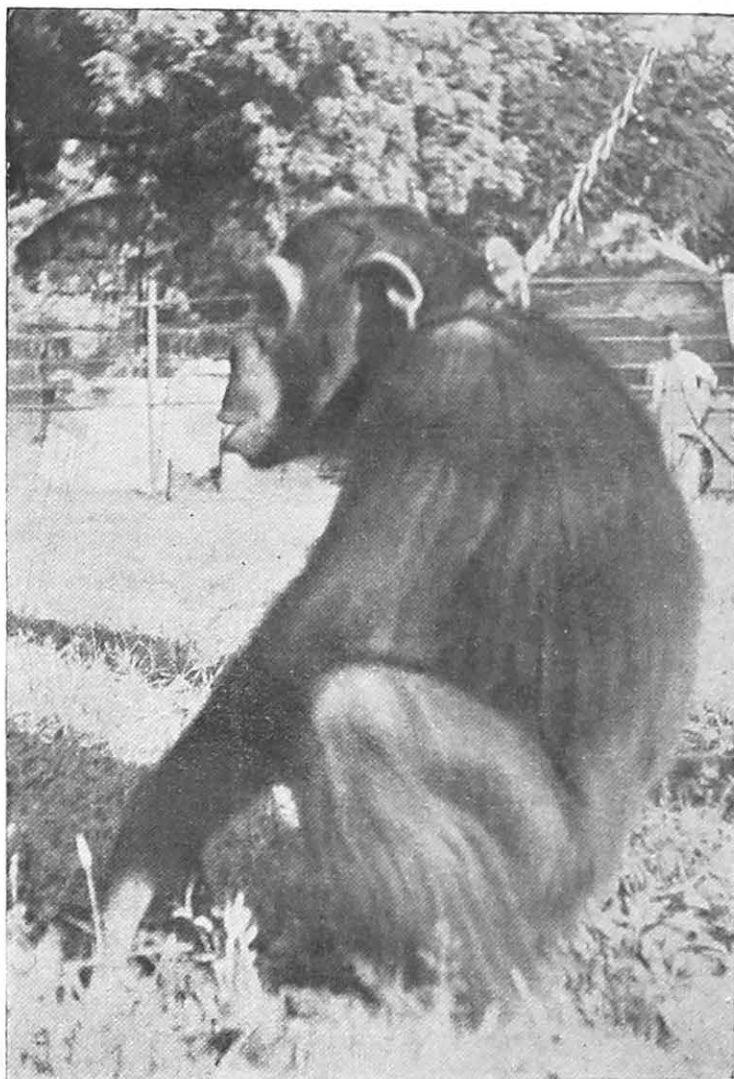
year 1909 to provide larger quarters for the animals. A new aviary for water fowls was also built. A park manager was appointed to look after the animals. Construction of a new lion house with a strong iron barred enclosure was started in 1911 and completed next year. The old lion house was made over for the small carnivora. New runs for the deer were constructed. A shed near the old lion house was converted into a monkey house and there was a general reshuffling of birds' quarters to suit new conditions. A new ostrich house was put up in 1914 and the aviary, the duck pond, the bear pit and the crocodile pit were thoroughly repaired and converted into healthier places for the animals during the next two years. The deer enclosure was reconstructed to look more like the natural habitat of the animals. A new rabbit run was added in 1917. In the years 1918-21 ostrich eggs were thrice hatched in an incubator.

A great calamity befell the park and especially the Zoo in the year 1927 when unprecedented floods swept the zoo menagerie almost out of existence. The park was several feet under water for 3 to 4 days. But with great patience and industry the Zoo was rehabilitated in subsequent years. To-day the Zoo is being gradually enriched, and special attention is being paid to collection of local birds and mammals from the State.

### **Visiting the animals :—**

The Baroda Zoo contains houses accommodating more than 150 different varieties of animals scattered all over the park in convenient places. The first enclosure that a visitor accosts on entering the park lies at the first turning to the right; it is the deer run containing deer, blue bulls, and sambars. The enclosure for the wellknown spotted deer adjoins it and facing it on the other side of the road a large summer house surrounded by different bird houses attracts attention. These accommodate rabbits, ducks, storks, pheasants, doves fantails and parrots. The parrot house presents more than twenty different types. Small cages a-flutter with beautiful budgerigars, love birds and Java birds are dotted near this aviary. The swan and cranes compound is just near these, where stately swans, crested cranes, different types of geese and the emu are on view along with many other birds. Crested cranes have bred here in India for the first time. There are two more aviaries to the east of this compound and on the opposite side of the road, the larger of which houses graceful peacocks, white as well as wild. The smaller aviary contains many

varieties of finches and small local birds. On the main road nearby grows the Silver Oak tree planted in commemoration of the Diamond Jubilee of His Highness Maharaja Sayajirao III on the lawn which runs along the roadside on the other side of which stands the Delhi Pavilion, a building constructed in 1911 for the Coronation Darbar at Delhi and reconstructed here subsequently. Opposite to this structure some tennis courts are laid out for public use. Going beyond these courts, we come to the crocodile pit. In the central pit, marsh crocodiles provide a great attraction while in the small cages which surround it are housed some varieties of monkeys and porcupines. The Arabian baboon is specially noteworthy among the monkeys. But the main monkey compounds lie a little further to the left. The golden monkeys, capuchins, and the lion-tailed monkeys are on view here, the fierce mandrills and playful gibbons being special attractions. We must now return to the main road along the river bank by a stretch of road lined by palm trees. Turning to the right we cross the well-known iron bridge and come to the chimpanzee compound. Edward, the chimpanzee pleases the visitors by his amusing antics. He is not alone in the compound, for white and hog deer keep him company. Passing them, and descending the slope to the right we see the Bear House and the Tiger House. The latter is a circular structure partitioned off into cages which house lions, tigers, leopards and hyenas; facing the tiger house, their western fences running along the main road are the ostrich and zebra compounds. A pair of ostriches is accommodated in one of them. They were hatched in the Zoo in an incubator. The striped zebras from Africa are housed in the other compound; they are found to breed quite successfully in this climate. On the other side of the main road stands a small snake house with huge Indian pythons. But to look at the *piece de resistance* of the menagerie, viz. the new lion house, the visitor must turn back from the snakery and return along the same road, for the time being resist the temptation of going up on the suspension bridge which beckons to the right, and descend a gentle slope which leads him to a beautifully designed lion house where lions and several massive Bengal tigers may be seen stalking majestically in the cages or the compound. The adjoining compound houses the famous pink-and-white fallow deer of Europe and large birds like adjutants and the sarras cranes. We come back to the main road, and recross the bridge. Just beyond, a duck pond is spread out in a delightful panorama. It contains numerous types of ducks and flamingoes. A little further along the road which skirts it.



**The Chimpanzee in the Zoo**

and which branches off to the right the pigeon house with its different types of pigeons, guinea pigs, ring-tailed lemurs and Malbar squirrels provides an interesting view. To the west of this we come up to a small aquarium where fresh water varieties of fish are exhibited. This road leads to the celebrated Museum and the Picture gallery.

A description of the Zoo menagerie would be incomplete without taking note of a big deer enclosure laid out in the Laxmi Vilas palace grounds. It covers about 25 acres of land and presents a marvellous view from the upper storeys of the palace. Deer, giraffes, bisons and other animals roam freely in this artistically enclosed compound. The Makarpura gardens make it a speciality to keep white animals and birds. Different kinds of white birds such as pelicans, ducks, swans, flamingoes, fowls etc. wander freely in its specious grounds. The park section of this garden has deer enclosures also.

---

## MUSEUM AND PICTURE GALLERY

The Baroda State Museum owes its existence to His Highness the late Maharaja Sayaji Rao III, who started it soon after his being invested with full powers of Government. From the very commencement of his reign he evinced great interest in works of Art, Indian as well as foreign. The State Museum of Baroda was one of the results of his love of learning and of his eagerness to educate his subjects in the various branches of knowledge. Libraries are certainly the storehouses of manuscripts and books, but museums and art galleries supply material for the study of different cultures in the form of concrete examples exhibited in them and their importance was recognised long ago. Thus came to be established and maintained in the State a large and representative Museum and Picture Gallery. These institutions were founded in 1887 when the late Maharaja Sayajirao Gaekwar was quite young.

### **The Museum:—**

The Museum including the Picture Gallery is situated in the chief public park of the capital. The situation of the institution is not only very picturesque and healthy, but also more attractive and safer than any other locality in the city could have been. The building was commenced in 1890 and completed in 1894. In design it is a combination of Western and Saracenic architectures. It is 150 feet in length and 40 feet in breadth. The entrance opens into the centre of the building, which forms a central court, other courts being built on the east and west of this court. Large rooms are provided in the basement. In addition there are several rooms, for the office, the special exhibits, and for storing purposes. A noteworthy feature in the decoration of the building is the replica of the frieze of the Parthenon of Greece, which adorns the northern wall.

In order to provide a nucleus for the Museum His Highness Maharaja Sayaji Rao III presented various objects of value from his different palaces, and he continued enriching it by similar

presents. Even while on his tours outside India he remembered the institution and procured very valuable articles for it from distant lands.

The section in the Picture Gallery representing European art consists practically of the paintings secured for his palaces—they were graciously presented by him to the institution despite their having been obtained at considerable cost and often with great difficulty. The choice of exhibits and their representative character add to the popularity of the institution. More than two lakhs of visitors visit it every year. In the beginning the daily average of visitors was about 296, but it has now risen to about 697, or nearly three times the previous number. During holidays and on festival occasions, the number of visitors becomes enormous, requiring special arrangements.

During the earlier years the amount of money spent on the institution was not fixed definitely, but large amounts were expended on different occasions. In 1919 permission was given to spend Rs. 50,000 and further sums that might be needed. Throughout the existence of the institution His Highness' Government has been pleased to give liberal grants for the acquisition of exhibits and the maintenance of the Museum and Picture Gallery.

#### **Educative importance:—**

A good reference library containing standard works on subjects represented in the institution has been added to increase its educational importance.

The whole institution consists of the following six main sections, the Picture Gallery being treated as a distinct branch:

- I Industrial Art.
- II Natural History.
- III Geology.
- IV Economic Section.
- V Archæology and Numismatics.
- VI Ethnography and Ethnology.
- VIa Arms and Armours.

#### **Industrial section:—**

The Industrial Art section has two main divisions, (I) Indian, and (II) Foreign. The method of arranging and grouping by



industries has been adopted in order to help the public in understanding the exhibits, and to afford facilities for research work. The following is the order of arrangement:—

- I Woodwork.
- II Models in clay, plaster-of-Paris etc.
- III Ceramics.
- IV Glassware.
- V Papier-mache.
- VI Carved and inlaid stone.
- VII Ivory, Shell, Marquetry etc.
- VIII Metalware.
- IX Leather work.
- X Textiles.
- XI Miscellaneous.

In the Indian industrial art the Museum possesses highly interesting exhibits. As the visitor enters from the main entrance he will find himself in the central court. The wall cases here contain select examples of brass, silver and copper wares of various designs and styles of workmanship, lapidaries, glass articles, mosaics, pottery, old tiles and carved stones.

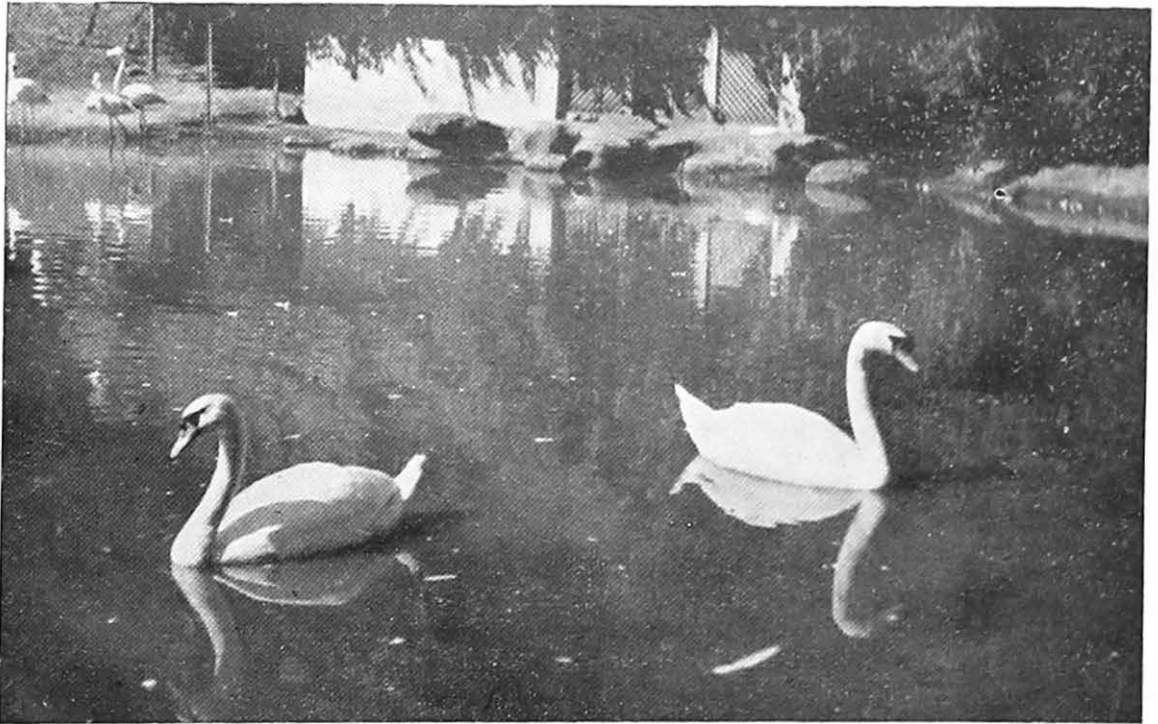
Some of the exhibits are hammered metal ware comprising large trays bearing embossed figures of animals and Hindu deities, vases of artistic Indian patterns and caskets as well as utensils of quaint designs. These have been collected from Bombay, Kashmir and Baroda. Other exhibits comprise remarkable silver castings, enamel and *bidri* work, as well as ornaments of various kinds.

Several kinds of *objets d' art*, the chessmen and other articles of costly stones like jade exhibited in the central hall cannot fail to arouse a sense of admiration for the skill of the Indian craftsmen.

One show case gives an idea of the costumes of the various people of India including the ryots, the fisherman, the hawker, the cultivator, the nautch girl and servants of different classes all of which are shown by means of coloured figures, mostly in clay. Another of these show-cases gives us in miniature some beautiful examples of fine marble carving both architectural and



**The Museum Building**



**Swans in the Public Park**

ornamental, models of the world famous Taj at Agra and inlaid marble works of Delhi, Agra and other places. Carved agate toys, paper weights, etc., from Cambay together with some antique specimens of the famous jade works of the Mughals are also exhibited in these cases.

Two of the terracottas are specially noteworthy here. One of them represents a devout Brahman reading the sacred scriptures, and another, a poor family of mendicants.

Beneath the arch leading to the industrial court one notices a beautiful specimen of Burmese wood carving. On both the sides of the large room are exhibited specimens of wood carving from an old temple of the State. There are brackets bearing exquisite carving in bold relief showing *makaras* and other conventional figures, musicians in an orchestra, doors, windows, lintels and lattice work etc., connected with various styles of architecture of Gujarat.

The large wooden house facing the visitor is a composite structure of different styles obtaining in Gujarat. The wooden structure on the right gives a faithful idea of a typical Hindu temple with its three serrated spires, main doors, and carved columns. A doorway with elaborated brackets and carved figures supporting a projecting cornice furnishes an example of Jaina architecture of which several specimens are exhibited in the gallery. Among these there are remarkable wooden carved door panels supplying good material which detain a student of old architecture of India. They have been collected from various places in Baroda State like Patan, Visnagar and from Ahmedabad as well. Other objects in this gallery like caskets, images of deities, writing cases, vases, marquetry, carved ivory, mother-of-pearl, ebony, horns, conch shell objects etc., etc., of remarkable ingenuity and skill add to the attraction and educative value of the Museum.

Works in painted wood and lacquer with their bright and gay colours selected from various parts of Western and Northern India and even Burma, are special objects of attraction in this court. The section includes some exquisite examples of candelabra, made of buffalo horn, while embroidered leather mats, seats made of elephant's feet, picture frames and boxes of rhinoceros hide are also noteworthy.

Before we enter the textiles branch the collection of Indian musical instruments exhibited in several show cases attract our attention first. Specimens of stringed instruments as well as of

instruments of percussion are carefully arranged in these cases. The collection contains the *Vīnā* with its various varieties, the *Rudrāvīnā*, the *Sarasvatīvīnā*, and the *Mahatīvīnā*, the *Bin-sitār*, the *Sitār*, the *Tambūra* which is the usual companion of Indian musicians, the *Sur-Sotā* of Indore, the *Ektārā* which is a crude form of *Tambūra* and is usually seen with mendicants, the *Kinnarī* of the hill tribes of *Songadh* and *Vyārā* talukas of the *Navsāri* district of *Baroda*, the *Rabāb* of the *Muhammedans* of upper India, the single stringed instrument of mendicants which is termed *Tuntunā*, the *Taus* or *Esrāj*, sometimes called *Mohur*, the well-known *Sārangi*, the *Chikārā* and others.

In instruments of percussion without parchment the *Burmese gong* used in the temples, the *Ghadiāl*, the *Manjira* or *Jalrā*, the *Khañjari*, the *Jalataranga*, the *Ghungrū* and the *Ghantā* are fully represented.

Amongst instruments with parchment the *Tablā*, the *Mridaṅga*, the *Dholak*, the *Nagarā* or *Bherī*, the *Khañjeri*, the *Daff*, the *Budbudi*, the *Damru* of the jugglers and the *Daklu* of *Gujarat* are to be seen.

In winged instruments the collection has got interesting specimens of *Phuñgi* in various forms generally used by snake-charmers, the reed instruments like the *Sarni*, the *Sur* and *Sundari*, the *Algojas*, the *Bānsri*, the *Conch* or *Saṅkha*, the *Tutari* and *Nafari*, the *Nagphāfi* of *Sādhus* or mendicants, the *Bhungal* of the ceremonies and the *Karna* trumpet.

### **Decorative textiles:—**

In the *Oriental Textiles* branch of the *Arts* section a considerable variety of fabrics is on exhibition. The pieces of printed cotton, silk and woollen fabrics in which the well-known mango-pattern and other designs including some artistic *Mughal* patterns are represented, form an interesting feature of the section. No machinery is used in printing these fabrics which are treated entirely by hand. This art of printing was known to India even in ancient days.

On the decorative side the section possesses beautiful specimens of garments which on account of the beauty of their designs and brilliance in colour are remarkable and call for special study. One of these exhibits is a splendid *Indian Saree* in red. Some nice vestments as well as the *patolas* or marriage robes for which *Baroda* is well known are also displayed in this section. The

method adopted in dyeing the *patolas* and other vestments is peculiar to Gujarat: the yarn is tie-dyed and then woven on the loom. In Jaipur and other parts of India the process is reversed.

Specimens of *Kinkhab* preserved in the court form a special feature of the Museum. One of them which is a most exquisite and gorgeous saree made to order for the Baroda State is exhibited in the case facing the ivory exhibits. It is highly artistic and a model of valuable fabrics for the weaver to manufacture. It is made of blue, rose, yellow, red and orange silk threads interwoven with very fine gold wires and can well be called 'cloth of gold'. The various designs in which it is woven, the fish, the parrot and the foliage patterns with charming colours, all testify to the wonderful skill of the Indian craftsmen responsible for the manufacture of such pieces.

The embroidery and needlework of India is also represented in the section. Both ancient and modern designs are exhibited in some of the show cases. They are fit subjects of study and would show that these arts are not altogether lost. Such specimens are invaluable for guiding people in reproducing similar works, as this art is not as thriving as it was before for want of encouragement.

The carpets exhibited in this court illustrate some of the designs and styles which were popular during the Mughal epoch of Indian history.

Beautiful illustrations of old embroideries of Kashmir shawls and other fabrics with ornamental patterns of figures are also exhibited here. Selected specimens of the Burmese applique works are also shown side by side with a view to help in the comparative study of this most interesting art.

In the Foreign section of the Industrial Art to which the eastern court is allotted, very valuable and selected articles representing the crafts of Japan, China, Persia and Europe are exhibited in suitable show cases. Here the collection of old Chinese Porcelain including examples dating from the early Ming Dynasty to the present times, is remarkably interesting. The red Chinese lacquer with the warmth of colour and the beautiful designs and other *objets d'art* will please every Sinologist. These objects belong to an archaic period and illustrate designs which have become very rare now. Here old English and Russian brass works are also displayed for comparative study.

To add to the cosmopolitan nature of this court a Mummy reclining on its immemorial sarcophagus beneath a vault has been displayed to remind the visitors of the mysterious old Egypt. Several casts in plaster of Paris and copies in stone or marble representing some of the famous sculptures of Europe, Egypt, as well as India are added to further add to the educative value of the section.

**Natural history:—**

The Museum possesses a fairly representative Natural History section to which a gallery in the second storey on the western side has been allotted. The value of the Natural History section to students is enhanced by the scientific method of its arrangement which deals progressively with the higher mammals and leads in a descending scale to the reptiles. The fauna, especially the bird life of India, is represented in this section on a fairly large scale. In order to complete a general survey of the animal kingdom and to afford facilities for comparative study, foreign animals not found in India are also exhibited. The Museum is also the repository of a representative collection of excellently mounted skeletons which are awaiting exhibition. The latter include such rare and interesting specimens as those of the Tautara of New Zealand and the duck-billed Platypus of Australia. The New Zealand lizard (Tautara) belongs to an ancient race of which it is the only living survivor. The Platypus is a curious egg-laying aquatic mammal the only representative of its family. There is also a stuffed specimen of the latter on display.

The wall cases in this gallery house the Vertebrates, while the Invertebrates will be found in the cases in the aisle. The latter contain an extensive and representative collection of Molluscan Shells, especially from Naples. Enlarged models of Invertebrata especially those of Foraminifera, Radiolaria and Ceelenterata are to be found in this section. The gallery cases over the central hall house fishes and casts of interesting animal fossils. Some excellent clay models of prehistoric dinosaurs also find a place here.

The latest addition to the Museum has been the acquisition of miniature habitat cases of some of the tropical wild animals. This modern method of setting out Natural History specimens impresses the imagination of the layman and gives him in a concrete form the results of years of patient observation on the part of many trained naturalists. The display and grouping of the objects is an exact reproduction of nature itself and the sight of wild creatures

in their native haunts is a source of much pleasure to the un-instructed visitor. These cases are to be exhibited in a special exhibition room.

Interesting ethnographical specimens of considerable educational value are collected in this section which is accommodated in the upper eastern gallery of the museum building. Some of the exhibits are accommodated in the central hall also. Models of Indian head dresses of about one hundred different types are displayed in two large show cases kept in the court. These are connected with various sects and classes of Indian society, the symbols being marked on the foreheads of the people they represent. Utensils, ornaments and figures of divinities and accoutrements of several hill tribes as well as other articles are exhibited in some show cases to give an insight into their modes of life. Many types of toys are also displayed here to give an idea of the inventiveness and humour of these simple minded aboriginal people. It is intended to develop and expand this section in the near future when the required accommodation is made available.

Varied examples of ornaments worn by the women of India, the articles of worship, pens and inkstands, smoking requisites, various kinds of shoes, beads and charms, are also exhibited in this section to facilitate the ethnographic study of this vast country.

Old arms and armours which were used in India before the advent of the British Empire are arranged in several show cases kept against the walls in the Textiles court and the adjoining room.

### **The Vegetable Kingdom:—**

The exhibits in this section mostly belong to the vegetable kingdom and comprise specimens of commercial and industrial value. Raw products from the various parts of India as well as from Baroda State are also exhibited in this section. Selected herbarium sheets of economic plants with instructions both in English and Gujarati are exhibited in wall cases, while the bulk of them are stored for scientific study. The old and valuable herbarium sheets are being arranged and properly catalogued. Building up of a grass herbarium of Baroda State is in progress. The collections in this section are arranged under the following heads:—

1. Gums and Resins.
2. Oils, oil seeds etc.

3. Dyes and Tans.
4. Medicinal products.
5. Food substances.
6. Fibres.
7. Timbers.

Food substances include cereals, pulses, grains, stimulants and narcotics, sugar and starches, vegetables and fruits, preserves, cattle food and fodder etc.

The show cases in the centre of this court exhibit clay models of fruits and vegetables, manufacture of quinine from cinchona, pressed oils, lac and lacquered articles, leather and leather articles, famous silk Patolas of Patan (Baroda State), models of tents, sugar cane press and model of an arrow root factory. The articles exhibited in them are made out of the raw material displayed here in the wall cases.

#### **Archæology etc.:**—

The section is divided into two parts, one of which represents Archæology and the other, Numismatics. Valuable objects have been secured for both of them. Further additions are being made through the Director of Archæology of the State. The sculptures so far collected are rather late medieval, the subject being Hindu, Jaina and Buddhist. Some of them are architectural pieces, mostly from Gujarat. A few images are, however, from the North West provinces or the ancient Gandhāra, and from Mathurā — some specimens being the product of the Magadha school. In the collection of the Buddhist icons the inscribed images of Manjusri and of the Buddhas are noteworthy. The bronze images of the Buddha recently dug out at Mahudi are a remarkable addition, for such specimens are very rare. On paleographic grounds they can be relegated to about the 7th century after Christ. Amongst the Hindu or Jaina articles the ceiling pendant from old Patan, now preserved in a pavilion built to the south of the Museum building may well be considered an architectural gem. It is a magnificent piece carved in the design of a large floral scroll with arabesque curls. The execution is superb and the skill displayed in workmanship reflects very creditably on the artisans of old Gujarat.

The collection of Tibetan and Nepalese articles exhibited in one of the rooms adjoining the Picture Gallery possesses special value for the comparative study of the Mahayāna school of Buddhism.



The epigraphical section has got several documents of considerable historical value. The earliest copper plate preserved in the Museum is dated in the Gupta year 207, 526-27 A. D. and records an order of the Valabhi King Dhruvasena I. Amongst the recent additions to this section are the two sets of copper plates excavated at Añastu near Karjan in the Baroda district. One of them is a charter of the Valabhi ruler Silāditya III and is dated in the Valabhi year 357, 676-77 A. D.. The other is a charter of king Kirk Suvarna Varsha of the Gujarat branch of the Rashtrakuta dynasty and is dated in the Saka year 739, 817 A.D.

The valuable antiquities excavated at Amreli including coins, terra-cottas, carved bangles, dies etc., etc, are still to be exhibited, the section being in the course of formation and reorganization. The Baroda Government has already proposed to add a wing to the museum building for the proper housing of the archæological exhibits.

The numismatic section possesses a large number of important coins. Many more have been secured for it by the Archæological department of the State.

His Highness the late Maharaja Sayaji Rao Gaekwar, during his extensive tours in both the hemispheres, secured many specimens of great educative value at a considerable cost and made them over to the Museum where they are now available to all for study.

### **Geology:—**

The Geological section occupies the major portion of the right wing of the first floor. The collection consists of specimens of almost all minerals, rocks and fossils obtained from different parts of the world. Casts have been obtained of many of the rare fossils which are not easily available. Among these have also been included numerous casts of the fossils found in the Sewalik Hills. The collection is self sufficient for a study of general geology and the arrangement and classification of the different specimens has been done on scientific lines.

There are no mineral deposits within the State, but a number of beautiful building stones occur at various places. These have been exhibited along with the rock specimens from different parts of the world. An interesting specimen in this collection is the set of beautifully polished and coloured marble set in two frames and hung on the northern wall.

The only show-case, however, which interests the lay man is the one containing a collection of glass models of large historical diamonds, of precious stones showing their variegated colours and modes of cutting and of representative minerals. The assorted colours and shapes attract the attention of even the most casual visitor. But for an earnest student of Geology the Museum possesses a fine collection of 250 geological and minerological microscopic slides together with twenty-five microscopic sections of rocks and minerals occurring in the State. These are also shown here to help the study of Geology. In addition to these exhibits models illustrating intersections of mineral veins, dislocation of coal strata, stratified rocks and valley of denudation and surface indication of coal are also shown here to help in the study of this subject.

### **Picture Gallery:—**

The Picture Gallery is the chief branch of the Museum. His Highness the late Maharaja Sayajirao III conceived the idea of having a gallery of art in Baroda which should exhibit the best examples obtainable of both the European and Indian schools of painting and this idea has grown gradually into the present state of comprehensive development. It may now be stated with confidence that the present collection of paintings now preserved in the Museum is fully representative and the student whether Indian or European will find ample material for the comparative study of the art of painting in the East as well as in the West. He will understand the history of its development by examining the choicest examples of the two different schools exhibited almost side by side. The influence of these divergent schools upon each other may well be traced in these interesting illustrations of the various European schools and those of the Mughal Emperors Akbar, Jehangir and Shah Jehan. The decorative elements in the art which Persia and India have contributed to the world are beautifully illustrated by the examples displayed in the Gallery. These examples will enable the student to appreciate the difference in the respective view points of the East and the West; the strength of the latter in the realistic and that of the former in the decorative element is realised at once by the comparative study of these exhibits.

Foreign sculptural art is also represented here by means of several models in plaster-of-Paris, marble and bronze.

In old Egyptian art copies of the statues of Scribe Dersenez, King Khapra etc. which go back to about 2800 B. C. and of King

Amenophis, his Queen Nofreteta etc., etc., belonging to about 1360 B. C. are displayed in suitable show-cases. In the Babylonian art of about 870 B. C. King Nabu-Apal-iddin etc., in the Assyrian art the monuments of Salmanassar II and Assur-nasir-pal of about the 9th century B. C. are represented. The Greek art of about the 4th century B. C. and the Indian plaster art of the Andhra and the Gupta epoch of Indian history are also represented.

In the galleries reserved for Indian pictures various subjects are represented. Several of the paintings are not only original but masterpieces, some being the works of the court painters of Akbar and Shah Jehan. A set of paintings from the Mahabharata and the Ramayana arranged in a suitable revolving show-case with labels written on them will afford excellent example of the paintings of the Akbar school. These and other specimens of the Mughal period illustrate the typical use of strong primary colours, the remarkable contrast of light and shade and the high skill in portraiture which the master painters of the Mughal Court had attained to a wonderful degree. One of the remarkable portraits displayed in the Gallery is reputed to be that of Sher Shah the powerful Afghan enemy of Humayun (1540-1545 A. D.). The picture (No. 460) representing a king studying stars is the work of Dhannoo, one of Akbar's artists whose name it bears. The decorative element which it possesses is exquisitely drawn, the colour is most beautiful. The spangled night sky, the gorgeous costumes of the courtiers and the whole arrangement of the details is remarkably impressive. Another noteworthy picture is a single figure (No. 469) composition representing a hunter seated under a tree in a fit of repentance with two deer shown as conversing together. The simplicity with which it is drawn affords a very pleasant contrast to the elaborately drawn portraits. The portrait of a spirited equestrian meant to be Faizulakhan, the Rohila Chief of Rampur (1774 A. D.) and the picture representing a Prince Visiting a Saint which is attributed to Firdausi, one of the court painters of Shah Jehan, are equally noteworthy. The latter is a charming combination of figure and landscape painting.

The collection contains select specimens of other Indian schools as well. The pictures of Ragas and Raginis, of the subjects connected with the legends of Krishna and Rama, and of the Nayikas are remarkably interesting. One of these pieces is by the famous artist Abdul Khwajah Abdul Samad and is a charming figure of a maiden discarding her jewels on account of her disappointment caused by the tardiness of her lover.

The fine and applied arts of Tibet are also represented in these galleries to enhance their representative character.

Some of the specimens of illustrated palm-leaf and paper manuscripts are also exhibited in the galleries. They contain beautiful miniature pictures of the various Buddhist and Jaina subjects and supply highly valuable material for the study of the history of the art of painting in India.

#### **Lecture Hall:—**

To add to the educative value of this important institution of the State, a spacious lecture hall has been provided in the basement of the building. In constructing it special attention has been paid to the arrangement for lighting and for accoustics. The hall can accommodate 150 persons. Several lantern slides of the exhibits in the Museum and Picture Gallery have been prepared together with some industrial cinema films for illustrating the lectures which are connected with the subjects represented in the Museum and Picture Gallery. A good epidiascope with a strong projector has also been set up in the hall to show the slides. They are worked by the Museum staff itself. These lectures are delivered by the officers in charge of the institution and also by other scholars. They are open to the public.

---

## SHREE SAYAJI JUBILEE SCIENCE INSTITUTE

### Baroda College:—

One of the first public acts, of the reign of His Highness the late Sir Sayajirao III, was the laying of the foundation stone of the Baroda College in January 1879, when even as a boy His Highness began to take keen interest and devoted his valuable time and energy towards the promotion of education amongst his subjects.

The Baroda College received recognition from the University of Bombay in 1881 and started working in 1882 with 30 students on its roll. It was then only an Arts College.

In January 1887, it embarked on the teaching of science, and in 1889 its status was raised to that of a college teaching the full graduate course up to the B. A. and B. Sc. degrees.

The University instituted about this time a course of study in agriculture and recognised the Baroda College for teaching the full course from 1890, which arrangement was subsequently dropped.

A Law Class was opened in 1891 for teaching students for the First LL. B. examination. The Law Class continued for 20 years.

At the Golden Jubilee celebrations of the College, His Highness Sayajirao III said: "Ever since the day when I laid the foundation stone I have watched with sympathy the growth of this - the highest educational institution in my State. I have regarded it as the eye of my domains. I should perhaps more correctly call it the beacon from which were to radiate the quickening rays of thought and inspiration to the remotest parts of my dominions. I had expected from it a constant supply of men with training and character for carrying on efficiently and economically the administration of the State and for exerting a healthy influence on the moral and spiritual well-being of the people.

“I have grudged no cost or endeavour towards the furtherance of these expectations. I have gone on instituting in it, as adjuncts to the arts studies with which it began, courses and chairs in Science, Agriculture, Law, Comparative religion with a singleness of purpose for the good of my people and their moral and material amelioration, so that they might avail themselves of them, each according to his need or inclination.

“In the mind of the present generation science has come to dominate the field of education. We accordingly hear on all sides the cry raised for greater facilities for scientific studies. I have sympathised with this wish to catch up with the times, and mindful as I am, and have always been, of the truism that educational needs like those of every progressive activity in life have to keep pace with the evolving forces of the day, I have, and with the greatest good will, sanctioned the construction of a Science Institute”.

### **The Science Institute:—**

At the same time, the Government felt that it was also time that a definite step was taken for the industrial development in the State, not only to strengthen the existing industries but also to start new ones. These objects, it was felt, could be achieved by locating the various science departments of the College in the Science Institute, with a technological annexe for the applied chemistry laboratories.

To commemorate the Diamond Jubilee of His late Highness, Sir Sayajirao Gaekwad, several industrialists and philanthropists came forward to make contributions towards the building of the science institute, which is now named “The Shree Sayaji Jubilee Science Institute” as a monument to the memory of His late Highness, and in deep appreciation of the forward policy of His Highness’ Government to help industries, agriculture, public health and such other nation building activities. The needs of the several departments of the State were ascertained by Government and proper provision was ordered to be made for locating the different laboratories in the technological annexe of the Science Institute. The Sayaji Jubilee Science Institute was formally opened by His Excellency the Viceroy, Lord Willingdon, in January 1936. In this Institute full provision is made for the undergraduate teaching of about 600 students and also for post-graduate research in each of the science departments, viz. chemistry, physics, botany and zoology.

The laboratories of the Industrial chemist, of the Agricultural chemist, of the Public Health analyst, and of the Excise chemist are located in this annexe. All these laboratories have a common library. Industrial research is now being carried out at the Technological annexe in collaboration with the Kalabhavan (Technical Institute). The Baroda College Chemistry department, the Technological annexe, the Chemistry department of the Kalabhavan and the Alembic Chemical Works, Ltd., are working in close consultation and collaboration. This planning of the scientific activities of the State has tended to minimise expense and yet secure maximum benefit to the Government and the public.

#### **Industrial research:—**

The industrial research section is carrying out the analysis of a variety of products such as type-metal, ink, starch, soap, waters, different types of ores, industrial raw materials, textile auxiliaries etc., both for the Government departments and the industries in the State. It has evolved a standard composition for the type-metal, which is utilised for the manufacture of the types at the Baroda State Press Foundry at almost half the market price. It helps the textile industry by handling its problems in sizing and finishing of cloth, analysing raw materials, auxiliaries, boiler feed waters and rendering suitable advice. It also advises the Public Health department on problems connected with water supply and food materials. It has investigated the conditions of manufacture of "lime washes" from China clay and has rendered immense help to small manufacturers by giving advice and guidance whenever these were sought. This research section is at present engaged in studying (i) the polymerisation of Indian vegetable oils with a view to their utilisation in the manufacture of patent leather, book binding leather, etc., and also (ii) the sulphonation of the same oils with a view to their utilisation as textile auxiliaries as wetting out, emulsifying and cleansing agents in textile industry. The possibilities of manufacture of ultramarine, water-glass and the whitening of the china clay of Ransipur mines have been investigated.

#### **Agricultural Research:—**

The Agricultural chemist's laboratory was a long-felt want in the State. With the establishment of the Sayaji Jubilee Science Institute, chemical analysis of soils is being undertaken and the Agriculture department now possesses a well-equipped chemical laboratory attached to the Institute.

Among the problems that are being investigated besides the routine work in this section, mention may be made of the following :-

(1) Effect of manures on the growth and quality of tobacco, (2) chemical examination of black cotton soils of Gujarat, (3) growth of different varieties of cotton on typical State soils, and (4) composition and nutritive value of *Trichosanthus diocea*.

#### **Other items of Research:—**

The Public Health laboratories work on the grading of ghee on the same lines as those carried out under the Agricultural marketing advisor to the Government of India. These laboratories are also equipped for carrying out the analysis of food materials such as milk, tea, coffee, flours, etc., with a view to detect adulteration. The laboratories are so designed that when the Food and Drugs Act comes into operation, space will be available for additional equipment to cope with all the work in that direction.

The Excise laboratories undertake the analysis of spirituous preparations with a view to determine the excise duties to be levied on such preparations. The laboratories are adequately equipped to meet the exacting requirements of scientific test and to enable spirituous medicinal preparations manufactured in the State to pass through the customs on the strength of the analytical reports of the Science Institute. Research work on indigenous drugs has been undertaken in this laboratory. The Sayaji Jubilee Science Institute thus embodies a unification of scientific efforts in research, both pure and applied.

---



## AGRICULTURE

### Department

Agriculture is the main occupation of the people. To stimulate agricultural activities on modern scientific lines an important department of Agriculture is established.

Sections under which the work of the department is dealt with are : (1) agriculture in reference to field crops, the main section dealing with field experiment, seed production and propaganda; (2) agricultural research covering agricultural chemistry, plant breeding and plant pathology; (3) veterinary and livestock improvement; (4) horticulture; (5) rural reconstruction; (6) agricultural engineering; (7) agricultural marketing; (8) agricultural education.

### History-1887 to 1909:—

Interest on the part of the State in agricultural development in the widest application of the word dates from as far back as 1887, when any attention to this was but in its infancy in British India and unheard of in other Indian States. It took the form of the initiation of an Agricultural class controlled firstly by the Education department, and subsequently by the Revenue department conducted at Hira Bagh. The Baroda Model Farm to which the class was transferred came into being in 1894. It then covered some 33 acres which still constitute part of the present farm. It was controlled in the early days by Sir Thomas Middleton, at that time Professor of Botany at Baroda College. The period 1887 to 1909 may be classified as the genesis of the department. During that period it was a branch of the Revenue department. Agricultural education, as given at Baroda, was extended to the formation of what are now classed as "bias" schools, giving a general education with a strong bias towards agriculture. These were started for the benefit of the backward Raniparaj farmers associated with the hinterlands of Navsari district. There were three of which the one at Songadh, together with its

small farm, carried on into the beginning of the next period. Agricultural effort was chiefly associated with the trial of exotics. But little was done on the Farm. Most of the experiments were of the nature of spasmodic trials of different crop varieties on farmers' fields. The work was devoted to cotton, tobacco and groundnut. It is probable, however, that the strong admixture of Upland Georgian under the name of Kodaya found in Kodinar taluka today, the spread of tobacco cultivation, then restricted to Chharoda, into Mehsana and the first appearances of groundnut in Kathiawar are directly traceable to this work done in this period. Other interesting features of this period of agricultural significance were the initiation of agricultural banks, the introduction of tagavi loans for agricultural development, the coming of the first co-operative credit societies and the development of agricultural associations and seed stores. There is no doubt but that even at that time Baroda was well in the vanguard of progress.

### 1910 to 1929:—

In the next period a good deal of what had been started enthusiastically was abandoned, to come again into being later in history in a changed form. The agricultural class, the *raison d'etre* of the department's existence originally, was closed in 1910, to resume in its present and much more popular and effective form in 1926. The period is marked agriculturally by the dropping of exotics in field trials and by the gradual incoming on a small scale of Indian made products, the earlier introduction of varieties created in Bombay or elsewhere, as for examples 1027 A. L. F. which in the following and last period has been enormously developed, Wagad 8 which is still the best of closed boll types, Broach 9 which, though it failed for reasons of wilt on the heavy soils, has been resurrected for use on the Gorat areas, Pusa 4 in Amreli and Pusa 52, which still hold their own as rust resistant if not entirely in the matter of yield, with other and newer varieties. The departmental farms were, however, very limited. During the major part of the period the original 33 acres at Baroda and another small farm at Jagudan were the only farms. The propaganda and effective agricultural staff consisted of four inspectors, one per district. Among other examples of useful work were the continued spread of groundnuts in general in Amreli, the beginnings of a demand for bone-meal, the increased use of ammonium sulphate in Baroda and partial adoption of copper sulphate as a safeguard against Smut in juar in Mehsana. Considerable attention was given to large scale

shows and the creation of agricultural literature. The first development in the improvement of fruit took place in this period.

The Horticultural section to be referred to later and now in evidence on the Baroda Farm came into being in 1921 and the general expansion of fruit cultivation, of recent years stimulated by its own section, in evidence in the State must be associated with the work done here and at Jagudan and in later years at Amreli. Agricultural engineering opened in this period was another section of very effective importance. Its primary work in that period was well-boring in improvement of open wells in the alluvial areas. As referred to in its own section, it came into being as a separate section in 1917, though the earlier boring work was started some seven or eight years earlier. One of the outstanding features of this period was the boom in tractor cultivation in evidence in Gujarat between 1920 and 1928. At this period there was probably more going on in tractor use in Baroda State than anywhere, perhaps with the exception of the Central Provinces. It was in part stimulated by the marked opening up of virgin lands and in part by good cotton prices and the realization by the farmer of the area south of Narmada of the value of periodic deeper tillage. The State furthered this by extensive loans at low rates of interest. Tractor utilization in another form reappears later in the third period.

### **Agriculture in 1930-41:—**

This period has been one of very rapid advance in all directions and most of the sections referred to above have really originated and developed in this period. A very important progressive factor has been the linking up of the work of the department with the Indian Central Cotton Committee and the Imperial Council of Agricultural Research and hence with like work elsewhere in India.

The period opened with three small farms, the last but newly started covering an area of 89 acres. At the present day there are eight farms exclusive of the fruit farm and with the cultivated areas of the original three increased the total area now commanded is 473 acres. They are so placed as to cover the soil and climatic conditions of the State with the exception of Okhamandal for which plans for a farm to handle its crops and primary livestock interests—sheep and poultry—under the arid conditions of that tract are in

process of application. It must be realized that Baroda State is scattered and has for its size a very big range of cropping conditions. In Mehsana we have the fringe of the conditions of the areas constituting south Rajputana and the States like Radhanpur to the north-west. The soil and rainfall of Amreli is typical of the larger part of Kathiawar, while in Navsari and Baroda are found the soils and heavier rainfall of south and north Gujarat. That inaccurate measure of agricultural conditions, the average rainfall, ranges from 70" in the south, 15"-25" in the north and tails away to 18" to 20" in Amreli and less than 10" in Okhamandal. On the system of farms which we now have these and the particular variations created by the soil are fully represented.

The function of these farms is two fold : effective field experiment and the creation and maintenance of the seed organization on which our propaganda rests. Today Baroda farms carry some 70 experiments, all laid out in accordance with the conditions required to secure modern statistical significance. The extent of their influence on seed is clearly shown in the schedule of general departmental activities recorded at the end of this chapter. Suffice to say that the 36 lakhs of seers of improved seed now issued by the department seed stores is based on the nucleus production of our seed farms. With these farms is closely linked our agricultural educational programme. The Baroda Farm, aided by the Agricultural Institute in which is housed a small but effective teaching museum, is the centre of such effort. It can at the present day accommodate close on 60 boarders taking the full year courses in agriculture and horticulture and is responsible for the annual education in 3 months' courses of some 180 lads in such subjects as farming, oil engines, tobacco curing and fruit preservation. Jagudan with a complete institute and residential quarters similar to that at Baroda, caters for some 24 one year course students and 24 short course farmers' sons. Amreli conducts a short course in agriculture, while the *raison d'etre* of the Deodarda village uplift experiment is its agricultural school taking about 100 boys of the Thakardas and Rabari communities from the third to the seventh standard, a type of institution designed for the more backward agricultural class boys. Specialized field research work in cane and paddy is associated with Vyara, cotton and paddy with Dabhoi, cotton root rot and general plant breeding with Baroda, cotton closed boll Dholleras with Jagudan and plant breeding, improvement of the short staple Mathio cottons, juar and bajra with Amreli farm.

### **Extension and propaganda:—**

Research, field experiment, implement designing and trial on such farms are the essential basis of an improved system of agriculture, but the results so obtained must be evaluated under farmers' conditions and when assured by such evaluation the goods must not merely be put into the shop window but on the basis of business must be brought to the farmer's attention and his confidence in their value established and the means to provide the demand guaranteed. The State has thus placed a considerable emphasis on effective propaganda. In addition to the farms it subsidizes some 20 farmers' plots on which under direct guidance the owners compare the new with the old, usually in duplicate or triplicate. Supported by this evidence in addition to that of the district farm, the department is in a position to demonstrate widely what it may have of value. This is done on a large scale, *vide* the record at the end of this note which indicates the number of comparative trials on which the village support is secured. Propaganda takes two forms, intensive and extensive. In the former, groups of 20-25 villages sub-divided to lesser units of 7 or 8 are controlled by a fieldman or overseer and three trained Kamgars each in charge of a sub unit. The majority of the field trials are conducted by this means. The number of villages represent about 14% of the villages in the State. In each village the work is done through the members of a better farming society. In the event of a seed variety proving effective in many cases a farmer or farmers undertake the seed supply of the village in one particular type as provided to them by the earlier stages of seed multiplication. In the latter the means of approach is by the use of carefully equipped touring carts fitted with Dunlop tyres and a pair of bullocks in charge of a graduate assistant. These carts tour steadily from early November to June visiting about 12 villages a month with a halt of two days at each village. There is at present one per district but this will shortly be doubled. From the present year in addition to an ordinary lantern they will be equipped with 16 mm., cinema equipment. Though they may not have the same close association with the farmer, they certainly keep the existence of the departmental work before the villager and are instrumental in the uptake of a lot of seed and many implements. The record of achievement in these respects is clearly illustrated in the schedule which indicates both the scope of the work and the results as measured in the uptake of better varieties, the making of more manure, the use of fertilizers and the demand for modern tillage implements.

Apart from its normal interest in the staple crops of the State largely dealt with by this organization, it has in hand several special lines of endeavour, the development of Virginia leaf tobacco cultivation on a semi-commercial scale, the re-establishment of the sugarcane industry in the south of Navsari centring on the revitalizing of the sugar industry and the institution of steps to cope in an adequate manner with the problems of soil erosion and the features of dry farming as conducted in areas of 20" rainfall and in areas where this is but 10"-12".

### **Agricultural Research, Plant Breeding and Agri. Chemistry:—**

This is purely the product of the last decade. It was initiated in 1932 with the help of the Indian Central Cotton Committee in an effort to cope with the losses arising from root rot on the Gorat or light loam soils, south of the Sabarmati river, but has since then developed to a state provided economic botanist, specializing in cotton but associated with the improvement of bajra, castor and til, assisted by two assistant plant breeders and a plant pathologist and linked with like work in cotton improvement, as in part financed by the Indian Central Cotton Committee, at Amreli (Mathio cottons) and Jagudan (Dholleras-longer staples) under the technical direction of the Cotton plant breeder, Viramgam and in the improvement of the open cultivation paddies of Gujarat, financed by the Imperial Council of Agricultural Research and established at the Dabhoi farm.

Associated with this kind of work, the State has also established an agricultural chemical wing which has already done a good deal of effective work in the study of the soil, well waters and common agricultural materials. Linked with this section we have the Sugarcane Chemist who controls the work at Vyara where at least four very decided improvements in the form of new canes over the existing locally grown types have been isolated and are now in course of rapid extension and whence an economic and effective basis of manuring has developed and is being put into practice on a considerable scale.

### **Veterinary and Live-Stock:—**

This section of the department, in particular that portion associated with veterinary relief has its roots like agriculture in the first period of development. The first veterinary dispensary was opened in 1880-81, and by the close of the

period these increased to three. By the close of the second period the number had risen to 23. Subsequently it has gradually increased till at the present day there are some 38 such institutions for the most part established in hired buildings, a condition which in recent years is being steadily relieved by the gifts on the part of local men and bodies of dispensaries constructed on approved designs. The establishment of the section as we find today dates from 1936. Prior to this the control of some 32 dispensaries was vested in one senior inspector. In 1936 the section was put under a highly qualified deputy director assisted by two inspectors, to whom have been added a special live-stock officer, directly in touch with the indigenous cattle breeders, and a disease investigation officer. The outcome of this can be traced in the schedule in the number of cases handled and in the expansion of preventive vaccination and inoculation, while the cost per head of effectively treated animal, by attention to the elimination of waste and the increase of animals so dealt with has fallen from nearly Rs. 3 per head to 8 annas.

### **Major live stock:--**

Linked with this there is now the beginning of a defined movement towards the improvement of village stock. The Makarpura Dairy farm has now a herd of Surti buffalo and Kankrej cows. A fairly large scale subsidized Kankrej breeding farm has been opened at Khoraj near Chharodi, the site of the Bombay department farm, whence it is anticipated 25 bulls will be available each year. Steps have been taken to grade up the village cows of Kodinar—primarily of Gir extraction—by the issue of selected Gir breed bulls, a position which will be improved when the proposed Bhavnagar—Baroda Gir breeding farm is established. The Mehsana she-buffalo of which some 14,000–16,000 find their way each year to Bombay stables and from which a considerable amount of ghee is made is in reality the product of the indirect grading up of local stock, with Delhi Murrah and Sind Murrah buffaloes. The department is now developing a buffalo bull raising farm for such sires, of which the number is all too small, procuring young males the product of known dams of Murrah breed at the age of 6–7 months. A further and recent development has been the settlement and colonization of Rabaris, on the blocks of Government waste lands. The biggest of these is that at Bellasar on which about 30 families are colonized on some 1,500 acres. These colonies and settlements seek to provide the Rabaris with sufficient land for the cultivation of grain producing and fodder

crops while finding substantial areas on which grazing can be controlled and steps taken to improve the grass yield. There are at present two colonies and some eight settlements. A colony is placed on a single block of fenced land. In the case of settlements local Rabaris are provided with areas of cultivable land over the village waste area, while the larger single blocks of this are set aside for grass. Sheep breeding and the more effective handling of the fleece of the existing sheep are marked down for early attention.

### **Poultry:—**

In association with this section but under the Poultry officer, appointed in 1936, there has been a considerable movement to improve the poultry of the State. These are owned almost entirely by the depressed classes. The department has at the present day poultry units on most of its farms, of which the biggest are those at Makarpura and at the Rural Reconstruction Centre at Kosamba. In much the same way as a Government farm can by itself do little to improve the seed given to the cultivator or indeed to get in touch with the cultivator without a wider organization, so the pure bred units maintained at these farms were as such ineffective. This difficulty is, however, being got over by the training of likely men, in a position to keep a poultry farm, and subsidizing them to the extent of Rs. 200. Their selection is governed by their ability to keep in touch with the poultry of 7 or 8 neighbouring villages. These men, once they are established as effective producers of cocks, are then put in control of development, being paid Rs. 2 for each cock adequately placed, and in a position to sell hatching eggs. There are at present some fourteen of these agents and in spite of many set-backs, the outcome of disease, in part being met by the posting of a poultry disease investigation officer, are beginning to show promising progress. They are also being developed as the agents of the egg grading schemes.

### **Horticulture:—**

As has been already recorded under agriculture, the first stages of fruit improvement date to 1921. It is, however, only since 1936 that there has been a separate section under a State horticulturist. This section is in the process of establishing a modern fruit station at Gandevi, the taluka growing the most fruit, and is supported in its work by substantial areas and nurseries on the Baroda, Jagudan and Amreli farms and



still more so by its two nurseries at Dhari and Kodinar in the Amreli district—both areas with considerable possibilities. In recent years the section has done a great deal to introduce better pineapple, lemon, Busra plantain and grape fruit. It has also under its control a small but useful fruit preservation laboratory at Baroda whence several effective products stand to its credit as a clear lime juice and lime juice cordial which have been, including the bye products made from the lime skin, developed by the laboratory on a semi commercial scale and since taken up by private enterprise. Another useful preparation is a first class jelly made from the little used wood-apple.

This section since its development has done much by shows, visits to orchards, the preparation of pamphlets and the issue of fruit plants either direct from its nurseries or on its advice or assistance from elsewhere to stimulate the development of fruit and vegetable cultivation, as witnessed by the markedly increased area viz. 3,665 acres as compared with 5,675 acres now under crops of this kind. Since its creation in its present form advice has been tendered to 6,439 growers, 183 students given elementary horticulture and 63 trained in fruit preservation.

### **Rural Reconstruction:—**

There are at present two centres viz. that at Kosamba, Navsari district, opened in 1931 and that at Karjan, Baroda district, opened in 1939. The former is already well known in India and a separate leaflet specially prepared for the Centre gives in short detail the work done in the first 10 years of its existence.

The primary objects were (1) to introduce into village life the improvement and features emphasized by the several beneficent departments, Agricultural, Educational, Industrial, Medical and Sanitary and Co-operative as likely to improve village conditions, as part and parcel of a general scheme and not as isolated entities; (2) to reduce the amount of wasted time and man power and hence in general to increase the village wealth by the introduction of subsidiary enterprises whether related to agriculture in the wider sense or to cottage industries; (3) to develop the co-operative spirit in all its aspects moving forward to the creation of multipurpose village societies centring on an organizing union to whom could eventually be left the general development of the

tract. In the first instance for the first five to six years efforts were restricted to 10 villages, subsequently extended to 35.

There is no doubt that, as by the uptake of better seed and the effective marketing of the cotton, the improvement of the village livestock, cattle goats and poultry, the wider cultivation of fruit and vegetables and the introduction of many subsidiary industries of value there has been a distinct improvement in well being. Education has come to the adult, the school boy has learned the elements of cooperation in his scout troop and the ways and means of garden cultivation. Efforts by the medical and sanitary departments, pushed forward by the Centre, have led to the introduction of the simple village dispensary, the use of bore-hole latrines and a greater idea of cleanliness. The creation of the cooperative spirit has been indicated by the rise of sale societies, thrift societies and credit societies and multipurpose societies and a cooperative gin.

The centre at Karjan has had the advantage of what has gone on at Kosamba during the look-round-and-see part of its development. It has some advantage in easier banking facilities and above all it has a more united group of leaders and is thus at present set fair for an early attainment of the goal of self management.

### **Agricultural Engineering:—**

This section dates back to 1917-18, though it was in 1922-23 when it took its present shape. Of recent years it has been strengthened by the addition of two assistant engineers, other subordinate staff, increased equipment and shop and storage facilities. It was originated in the first instance primarily to develop the cultivators' well water supplies. Its functions at the present day are (1) the boring of open wells, (2) the sinking of deep level tube-wells; (3) the sinking and expansion of wells in rock areas by blasting, (4) the installation and maintenance of oil engine and electric motor driven pumps, (5) the improving and designing of agricultural implements, (6) agricultural machinery demonstration, (7) the conducting of oil engine and tractor classes and (8) the handling of departmental operations calling for engineering assistance.

### **Water supplies:—**

The first of these activities which was at that time entirely dependent on departmental enterprise no longer takes a

prominent place, as the example set and the success attained has brought into the field a large number of private operators who take on this work in the relative easy conditions of the alluvial soils of Gujarat. It has, however, to its credit the boring of over 1,600 wells, work which has probably aided the grower by the addition of from 50 to 60 lakhs of gallons per hour. The number of wells improved by this means at the present day is placed at between 5,500 to 6,000.

Of recent years its efforts have been concentrated primarily on (2) and (3). It has to its credit 65 deep level tube-wells (200' and over) sunk for agricultural purposes, while under the improvement of wells in rock areas, primarily the basalt of Amreli district, as is shown in the schedule its capacity and effort has much increased, largely because in addition to the system of exploding dynamite in the base of wells in which the drilling to take the charges was done by the cultivator by hand, it has in its equipment two compressor drills operated by tractor power which enables blasting, when the equipment handles five to six wells at one centre, to be many times quicker.

#### **Contract ploughing:—**

The department has at its disposal some eight tractors of which three are high power Caterpillar tractors. Using these it carries out during the clear season, roughly February and the end of May, contract ploughing in the heavy soils of the Navsari district, where the value of this assistance in clearing kans and opening the soil is much appreciated. The extent of effective work in the year is largely dependent on the earliness or lateness of the cotton crop. Thus in 1939-40 it was full four months while in 1940-41 barely 6-7 weeks were available. This introduction in aid of the farmer dates to 1937-38. About 5,000 acres have been ploughed by this outfit. The record is shown in the table at the end of the chapter.

#### **Implements:—**

Of recent years the section has given a good deal of attention to agricultural implements, either in trial of different forms or as by designing effective implements. It has to its credit (1) the A.G. Baroda cultivator and hoe, designed to fulfil several functions of which over 2200 have been locally made, tested and sold in the past three or four years, (2) an effective wheat thresher, available (at least before the present cast of iron took effect) at Rs. 45 by which in many tests carried out on wheat there is a

saving of 300% in cost, (3) adoption of the Martin ditcher and grader for use by bullock power and other bund formers. In the matter of education, as provided by three months' course in oil engines and motor engines introduced to meet the marked increase of the use of power in water lifting and motor transport by the farmer, some 592 men have received training since these classes were first inaugurated in 1923.

### **Marketing Section:—**

This is, as elsewhere in India, a recent addition dating from 1935 when Government sanctioned the appointment for a period of three years of two marketing officers so as to deal expeditiously with the marketing surveys then starting. One officer concentrated on agricultural and the other on live-stock products. In 1938 on the completion of this work the section was stabilized under one marketing officer and one assistant and such assistants as might be called for with the expansion of regulated markets. Development work began in 1938.

The following have been the chief activities:—

- (1) the marketing of 1027 A.L.F. cotton,
- (2) the establishment of AG mark ghee grading centres,
- (3) the beginning of egg grading operation,
- (4) the Bombay-Baroda buffalo news service,
- (5) the salvage of dry buffalo from Bombay city,
- (6) the creation of regulated markets.

The first of these is distinctly the best and most important work done by this section in enabling the producer of a special product to get the advantage in price it merits. The work has the financial assistance of the Indian Central Cotton Committee. The table at the end indicates the expansion and increasing financial value coming to the producer by organized cultivation, ginning and marketing.

There are at present four ghee grading centres, though the output for various reasons first shown has not been maintained. There is at present one egg grading centre, but with the expansion of the work covered under poultry, it is anticipated that four more will be started. The chief aim of the egg grading scheme is the organization of egg collecting societies and the direct sale of graded produce.

One regulated market has now been in operation with considerable success at Bodeli in Baroda district for two years and the Act has now been applied at Amreli.

### **Agricultural Education:—**

Education of this kind was the first thing considered when improvement in agriculture was begun. As noted this was followed by a class at Baroda and bias schools in Navsari, which after a few years gradually petered out. The class at Baroda which catered for a limited amount of employment in the Revenue department of the day had but little real support, and had to be closed down.

Agricultural education in any intensive form, aimed purely at educating the young farmer in the job to which he will return, dates from 1926. Till 1936, apart from the short course in oil engine, the revised 10 months' course given at Baroda, catering for about 24 students, for which there was a big demand was the only outlet. Since then, however, there has been a marked expansion. Two well equipped institutes, one at Baroda and the other at Jagudan, have come into being, and short courses in farming, tobacco, fruit preservation, poultry and dairying have been added to that available at Baroda on oil engines while short farming courses have been introduced on several farms. At Deodarda in north Mehsana we have a very well found boys' school in which about half the education given is literary and the balance directed to agriculture and industrial work, a type of school which will be repeated in conjunction with the Dabhoi farm. The table following indicates the gradual rise in the number of students entertained.

PROGRESS OF IMPORTANT ACTIVITIES OF AGRICULTURE DEPARTMENT

Particulars	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41
1 No. of villages under intensive attention.	19	226	280	351	383	417
2 No. of villages directly visited for 2 days by itinerant cart service.	...	130	232	374	284	252

Particulars	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41
3 No. of villages associated with above brought into touch with departmental work.	...	160	341	475	573	462
4 No. of comparative field demonstration plots arranged on farmers' fields.	18	710	1,048	1,432	2,546	2,160
5 Seers of approved seed issued by departmental seed agency within the State.	4,65,632*	5,24,641†	5,90,398	9,76,410	13,77,166‡	33,13,015
6 Seers of cake, bone-meal, fertiliser, sulphur, etc. from departmental depots.	12,620	54,040	67,290	1,35,670	2,13,118	2,0,060
7 No. of demonstrations in manure conservation.	...	627	1,232	1,435	1,768	2,115
8 No. of demonstrations of implements and simple machines.	12	1,735	2,513	2,401	2,614	3,215
9 Cart-loads of new manure made by villages as a result of No. 7.	...	700	1,100	6,700	14,760	20,282
10 No. of major implements supplied to farmers.	27	113	1,033	859	913	735
11 No. of hand-tools, principally cotton pullers.	3,050	5,615	2,381	4,517	6,815	5,973

Particulars	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41
12 No. of cases of sickness dealt with by the veterinary surgeons.	31,871	28,974	43,074	49,447	61,602	53,529
13 No. of animals protected from epidemic diseases.	9,708	11,815	47,880	68,428	88,455	1,17,589
14 No. of wells dynamited.	20	86	95	445	589	242
15 Kos of water added.	15	65	46	227	181	171
16 Area ploughed by State tractors on contract.	...	35	595	1,867	3,215	1,439
17 Fruit plants issued by State nurseries.	1,749	5,997	7,094	6,665	11,139	5,153
18 Bales of cotton marketed by Marketing Officer.	...	...	2,146	2,760	7,612	5,575
19 Total premia per khandi over local secured by growers.	...	...	Rs. 5,677	Rs. 10,180	Rs. 34,716	Rs. 32,625
20 Persons taken in courses in agriculture and allied subjects for three months and over.	47	89	146	146	227	317

\* Mostly secured from Bombay.

† Partly secured from Bombay.

‡ In addition, the State seed organisation sold 3,30,000 seers cotton seed to Rajpipla, making the total seed handled for seed purposes 34,43,015 seers.

## ROADS AND RAILWAYS IN BARODA

### Roads

#### Land transport:—

The modern civilization depends mainly on the land transport consisting of roads and railways which are supplementary to each other. As 75% of Baroda population lives in villages, it is essential to have roads connecting villages with one another, with headquarter towns, markets and railway stations.

#### History:—

Till the year 1875 when His Highness the late Maharaja Sir Sayajirao III ascended the throne there was practically very little of what may be called 'roads' in its modern sense in the State. Most of the roads were more or less mere cart tracks. The present road development in the State is entirely due to the interest taken and far-sighted policy laid down by that illustrious ruler.

A programme of road policy devised with vision and foresight by His Highness the late Maharaja Saheb and steadfastly followed has yielded remarkable achievements in road construction which may be reviewed by well marked periods.

Construction of new roads was going on till 1907 in a slightly casual manner. The local boards constructed small roads, after consulting the Revenue and Forest departments, where urgent necessity of roads was felt. Till 1907, 456 miles of roads (224 miles metalled and 232 miles kunker, gravel or murrum or earthen roads) were constructed at an approximate cost of Rs. 37,62,000.

#### 1907 to 1926:—

A visit of His Highness the Maharaja to the Navsari district in 1907 brought about the second epoch in road construction lasting till 1926 wherein the necessity to provide more roads was definitely felt and a well thoughtout programme of road construction throughout the districts was evolved, which, though



could not be carried out in its entirety due to the great world war, enabled the State to have a system of roads with 374 miles of metal roads and 513 miles of kunker, gravel, murrum or fair-weather roads at a total cost of Rs. 64,34,375.

A further programme of roads was made and approved by Government and in 1931 a general memorandum of road policy of the State was submitted emphasising the necessity of still more roads for the Raj, outlining a road policy and proposing a concrete and definite programme that was sanctioned by His late Highness and according to which the works were carried out. Further road and bridge programmes were also sanctioned in 1939 and they are being pushed on.

### **Grand Trunk roads:—**

The State has got its share in the construction of the portion of Grand Trunk roads also. The portions of Bombay-Ahmedabad Road in Navsari and Baroda districts are instances of the participation of the State in the scheme. The portions in the Navsari district are already completed; while that in the Baroda district is recently started.

The portions of Surat-Nandarbar Road are also constructed in the State limits. The Baroda-Khandawadi Road forms a link of Baroda-Godhra-Indore-Delhi road. Two small pieces in the State limits of Rajkot and Bhavnagar and Gogha-Dhandhuka roads are also constructed by the State. The Kalol-Ahmedabad Road to be started this year within the State limits will perhaps form a part of Ahmedabad-Rajputana Trunk road.

The longest road in the State is located in Navsari district from Billimora to Mangrol. It is nearly 55 miles in length within the State limit, and joins 5 talukas of the district. Four big bridges on the Ambica, the Purna, the Mindhola and the Tapti rivers form a part of this system.

### **Present mileage:—**

The roads constructed upto 1940 with bridges come to 448 miles of metalled roads and 590 miles of kunker, gravel, murrum or fair-weather roads at a cost of Rs. 72,47,553.

The bridges of importance and note, constructed on these roads including the high level bridge on the river Tapti near Kathor recently completed, are fourteen in number.

### **Feeder roads:-**

A procedure has been laid down that all important metalled roads and district roads are to be constructed by the Public Works department, while Panchayats have to construct feeder roads to these main and district roads, roads joining villages and railway feeder roads.

The Panchayats were also busy constructing feeder roads all this time according to necessity and funds available. The Panchayat roads constructed upto 1940 comes to 31 miles of metalled roads and 643 miles of kunker, gravel, murrum, or fair-weather roads at a cost of Rs. 15,79,612.

The State has now nearly 1,712 miles of roads which work out to one mile of road for 5 sq. miles of area and 1,500 population in the State. The amount spent both by the Government and the Panchayats came to over Rs. 88 lakhs out of which over Rs. 72 lakhs have been spent by the Government.

The policy to give maximum benefit of road transport facilities to the people continues with vigour.

### **Gaekwar's Baroda State Railways**

The first Indian State to get the benefit of a rail-road was Baroda, for the first railway constructed and opened to traffic in the Indian India was from Dabhoi to Miyagam, a length of 20 miles in the Baroda State. This line was opened on 8-4-1873. Subsequent additions to this small piece of railway line were made during the illustrious regime of His Highness the Maharaja Sayajirao III. Until 1908, the railways in the State were constructed by the B. B. & C. I. Railway Company at the cost of the State. In 1908, the State opened a construction department of their own and the working of the railways concerned was mainly entrusted to the B. B. & C. I. Railway Company. In 1921, the working of the narrow gauge lines of the State was taken over and the Railway department began to function as an open line and construction department as well. In 1933, the working of the metre gauge railways was taken over from the B. B. & C. I. Railway and in 1934 that of the Khijadia-Dhari railway was taken over from the Gondal State railway.

It will be interesting to note that since the inauguration of railways in the State from 1873, the programme of construction of

railways has been on hand and great progress has been made. The last construction was of the Prachi Road Kodinar Railway of 16 miles in length opened lately in April 1938. Over and above the 723 miles of railway owned by the State, there are about 200 miles of railways serving the State area making a total of 923 miles of railways in the State. This works out to 112.8 per 1000 square miles of the total area of the State and 3.77 mile per 10,000 of the total population of the State. This compares very favourably with the whole of India which is 23.8 miles per 1000 square miles and 1.22 mile per 10,000 of the population.

### **The present position :-**

The total mileage of railway owned by the State is 723 miles consisting of 21.42 Broad Gauge, 345.85 miles Metre Gauge, and 355.73 miles Narrow Gauge (inclusive of Bodeli Chhota Udaipur Railway). The capital invested by the State on the railways amounts to about Rs. 5.58 crores. Besides these lines, the State territories are served by the B. B. & C. I. Railway trunk line, the Tapti Valley line and the Rajputana Malva line. Land for the portion of these railway lines passing through the State was ceded free of cost.

### **Welfare activities for the staff :-**

At Goyagate and Dabhoi, Railway dispensaries in charge of full time medical officials have been established. At Mehsana, the Civil Medical Officer looks after the railway staff with the assistance of an additional subordinate. At other places on isolated branch lines arrangements have been made with the medical department, to attend to the needs of the staff. Two travelling mid-wives have been appointed, one at Dabhoi on the narrow gauge railways and the other at Mehsana on the metre gauge railways. The railway co-operative credit society organised in 1922 renders useful assistance to the railway staff. The society has 1,161 members with 12,788 shares. The working capital is Rs. 76,109. There are railway institutes at Goya-gate, Baroda city and at Dabhoi; membership is compulsory for the staff stationed at these places. These institutions are managed by committees selected annually by the members. Sanitary committees have been established at several stations both on the narrow-gauge and metre-gauge railways.

**Effects on general welfare:-**

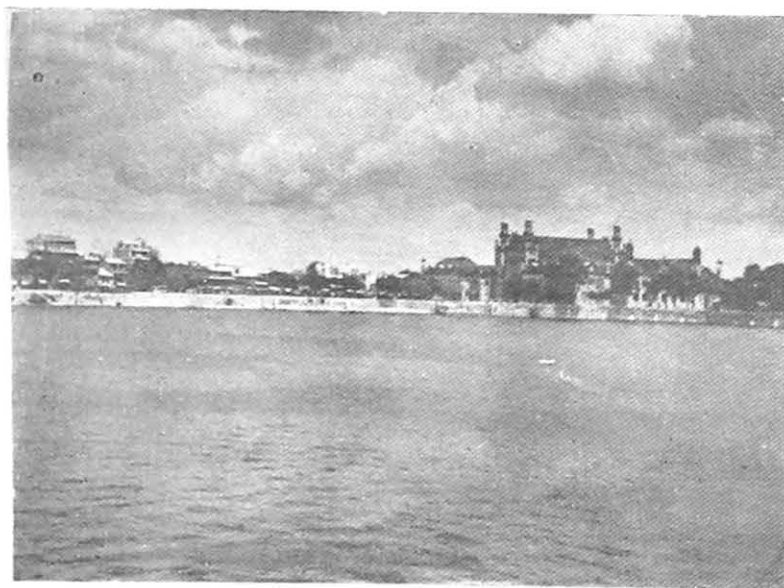
Inspite of the fact that some of the railway lines have short lengths and some branches are isolated, the indirect advantages due to the advent of the railway are very great. The undeveloped country alround has progressed, several new industries have been started in parts where raw material is available and the general cultural tone of the populace has improved.

---

THE SURSAGAR : BARODA



Recreation ground



The Nyayamandir in the background

## FISHERIES

### Resources:—

The Fishery resources of the Baroda State today while mainly relating to true fish both marine and freshwater, include the Crustaceans and Molluscs; among the last are the Conches and Oysters, the latter valued for the cheap pearls yielded.

### History:—

The earliest Fishery report was in 1909 by Mr. James Hornell, the marine biologist and inspector of pearl banks, Ceylon, who was directed by H. H. Maharaja Sir Sayaji rao to investigate the possibility of finding pearls on the Okhamandal coast, rumours regarding the occurrence of which were very rife. The report is in the form of two monumental memoirs on the marine zoology of Okhamandal and they contain, in addition to papers by specialists on the varied fauna of Okhamandal, many useful suggestions made by Mr. Hornell for the development of fisheries in the Okhamandal district. The conch fishery is an historic industry and apart from archæological evidence as to the existence of chank bangle factories round about, its antiquity is seen from the fact that Beyt island, the headquarters of the conch fishery then as now, is known in ancient literature as Shankhodhar, an island where Shankhasur—a conch-demon was subdued and regenerated by Lord Krishna. The monopoly of the conch fishery has vested in the Baroda Government since 1861 and up to the time of Mr. Hornell's visit the right to collect chanks from the Okhamandal coast was auctioned annually; but after his investigations which brought to light the existence of vast beds of the window-pane oyster yielding small pearls, the conch and pearl fisheries were leased out periodically. The pearls, however, are used in medicine, particularly in the Far East, but of late their market value has gone down very low. In 1913 Mr. Hornell who had then joined the Madras Fisheries department was again consulted and two State students Messrs. S. R. Gupte and K. R. Dotivala were sent to Madras, the first for training in pearl and edible oyster culture and

the other in fish-curing, canning etc. On their return two experimental stations were started, one at Okha and the other at Madhwad. At Okha besides studying the life-history of the window-pane oyster, new oyster beds were laid at Balapur, Gopi and Hamusar. At Madhwad, besides curing of fish, experiments in canning particularly of pomfrets were successful. In 1918 their work was reviewed by Mr. Hornell who made further suggestions. In 1927 the experiments were completed and the section was closed. In 1929 Mr. Hornell who had then retired after being Director of Fisheries, Madras, again visited both the Okhamandal including Kodinar and the Navsari coasts and in his report of 1930 made practical suggestions for the further development of the marine fisheries of the State. While these were under consideration, His Highness desired that the freshwater resources may also be given some attention and fishfarming done in the State. A department of Fisheries was, therefore, sanctioned for two years in 1937 and the Government of Madras was requested to lend the services of a trained officer with practical acquaintance with the various aspects of fishery administration and research. Dr. S. T. Moses of the Madras Fisheries department joined duty as Director of Fisheries, Baroda State, at Baroda on 14th September 1937. Various schemes, industrial, statistical, biological, piscicultural and socio-economic, are being worked out.

#### **The Present position:—**

The first year since the opening of the department (1937-38) was naturally spent in fishery surveys mostly of maritime districts though a few localities round about Baroda were also included in the itinerary and scientific research mainly identification of the biological material collected. One major work carried out that year was the revival of the pearl fishery, the departmental fishing of the window-pane oyster pearls being undertaken more as a relief work for the coastal population of the State in Okhamandal. In the second year additional items of work started were the industrial experiments in fishmanure, fish oil, packing fish in ice etc. and a statistical enquiry into the fish supplies of Baroda City. The departmental pearl fishery was on a larger scale than during the previous year. In the third year fishculture was added as a new item. The pearl fisheries which have once again drawn the attention of the contractors are being leased out annually since this year. The Hatchery at Mul Dwaraka and the Estuarine fish farm at Velan are intended to be started. The scheme of an aquarium and biological station at Port Okha which attracts

annually by its interesting fauna and flora, groups of research workers, students and professors from Allahabad, Ahmedabad, Bombay, Calcutta etc. is also intended. Among the excursions arranged for the delectation of the delegates to the Science Congress is one to this 'Naturalist's Paradise'. In the fourth year (1940-41) an additional scheme worked was the preparation of oil from livers of sharks and their relatives which abound in the waters round about and fishing for sharks was done departmentally with nets as well as hooks and lines from aboard the Okha Port-Country Craft "Yeshwanti".

### **Some Noteworthy Items:—**

While the Conch fishery was securing for the State some revenue annually—the lease amount for 1941-42 is Rs. 650—the pearl fishery ever since the slump in the market and the troubles in the Far East was not worked at all for about 10 years. It has now been revived and the lease amount for 1941-42 has risen to Rs. 850 from Rs. 410 of 1940-41. A recent undertaking of the department was to demonstrate that these pearls can be utilised also in ornament making and a few bangles and chains were made and sold.

### **Fishery Stations:—**

There are now three fishery industrial stations, the one at Vanchi-Borsi being mainly concerned with demonstration in the conservancy of fish offal and conversion into manure and experiments in refrigeration of fish. At Madhwad where the preliminary experiments in fish oil were made as also demonstrations in manure conservancy, is the substation for fish oil serving the Kodinar area. Okha is the departmental headquarters of the fish oil industry and the 'Shark Liver Oil' prepared here and sold as a cheaper and better substitute for 'Cod Liver Oil' is standardised to contain 2,000 international units of vitamin A and 200 of vitamin D per gramme.

### **Fishculture:—**

Freshwater Fishculture as a subsidiary occupation for the ryot is being gradually introduced, a beginning having been made at some villages served by the Kosamba Rural Reconstruction Centre. Cultural operations and studies have begun and besides local fish, Gourami and Pearlsport ordered from Madras are stocked in the Timbi tank, Baroda Park nursery cisterns, tubs, glass-bowls etc. The Baroda Park Aquarium has been revived and 4 tanks glazed and fish let in.



One great handicap to fishery development is the paucity of local fisherfolk. For example the famous Kodinar fishing grounds which supply almost all pomfrets for Bombay are exploited by fishermen, all outsiders from Bassein to Daman and elsewhere, who merely camp in the State area during the season. A Fishermen's colonisation scheme whereby fishermen could be induced to settle permanently in the State area at Madhwad or Kotdah by the grant of concessions both afloat and ashore is being considered. The few fisherpeople who do live in the State need the benefits of 'cooperation' and 2 co-operative societies have been started one for the Machhis of Navsari and another for the Badhelas of Beyt. The Baroda Municipality was induced to supply a long felt want in the city viz. properly built Fish Markets and one was put up in 1939-40.

#### **Effects on General Welfare:—**

The fisherfolk have slowly started appreciating the usefulness of departmental schemes. Technical advice eagerly sought for by interested people is given and all information supplied to enquirers. As regards pisciculture in the inland areas, work has to proceed very cautiously since the people show traditional antipathy to fishing or as it is called in the vernacular 'fish killing'.

#### **Publications:—**

Mr. Hornell's reports on the marine zoology of Okhamandal and his later reports with suggestions for the development of fisheries in the State have already been referred to. Besides the annual reports of the department from 1937-38 Government have issued as priced publications three departmental bulletins—1. Fish Culture in and around Kosamba, 2. Cold storage of fish and its potentialities in Baroda and 3. A statistical account of the fish supply of Baroda City. A number of useful and interesting papers of Dr. Moses read before the Indian Science Congress have been published in the Journals of the Bombay Natural History Society, the Royal Asiatic Society of Bengal, the Mythic Society of Bangalore and the Gujarat Research Society.

Mr. D. S. Dighe, the chief assistant in the department, who is now in charge of the Fish Liver Oil scheme has written a pamphlet on 'Shark Liver Oil' which is sent as a folder along with each bottle of the oil sold.

---

## BARODA FORESTS

### Location:—

The main valuable forests of the Baroda State containing teak as the main species are situated in the hilly tracts of Songadh, Vyara, Mahuva and Mangrol talukas of the Navsari district. The river Tapti runs through the midst of these tracts for about 40 miles, dividing them into two unequal portions lying north and south of the river. The northern portion includes the ranges of the Vajpur and Vankal, while in the southern area are the Vyara, Songadh and Sadadvel ranges. Other forest areas are in Baroda, Mehsana and Amreli districts. The Sankheda range in Baroda district is composed of a few scattered patches of scrub forest badly grazed and very open. In Mehsana district some of the ravine areas are under a scheme of afforestation for soil conservation. The forests of Gir hills in Amreli district are mainly pasture areas interspread with patches of pole-forests of mixed species.

The bare salt areas of Okhamandal are being tackled for soil cover and soil improvement.

### Area of different ranges:—

The areas of the different ranges are as follows :—

District	Ranges	Area Bighas
Navsari.	Vyara.	1,41,341
	Sadadvel.	79,689
	Songadh.	1,24,425
	Vajpur.	1,75,952
	Vankal.	1,12,765
Baroda.	Sankheda.	18,932
Mehsana.	Attarsumba.	12,419
Amreli.	Gir.	87,510
	Okha.	22,747
<b>Total</b>		<b>7,75,780 i. e. 712.8 Sq. Miles.</b>

### Communications :—

A greater part of the forest produce is carted to the railway stations of Vyara, Songadh, Navapur and Chinchpada on the Tapti Valley Railway. The southern forests of the Vyara range are served by the Billimora Kala-amba Railway and the Vankal forests by the Kosamba Zankhavav Railway. Bamboos and some timber are also rafted down the river Tapti. River Purna is also occasionally used for this purpose. Good fair weather roads radiate towards all the forests from the main railway stations. These are being extended into the interior and a scheme of inter-connecting fair weather and feeder roads is in progress. The main roads will be gradually metalled up.

### Products :—

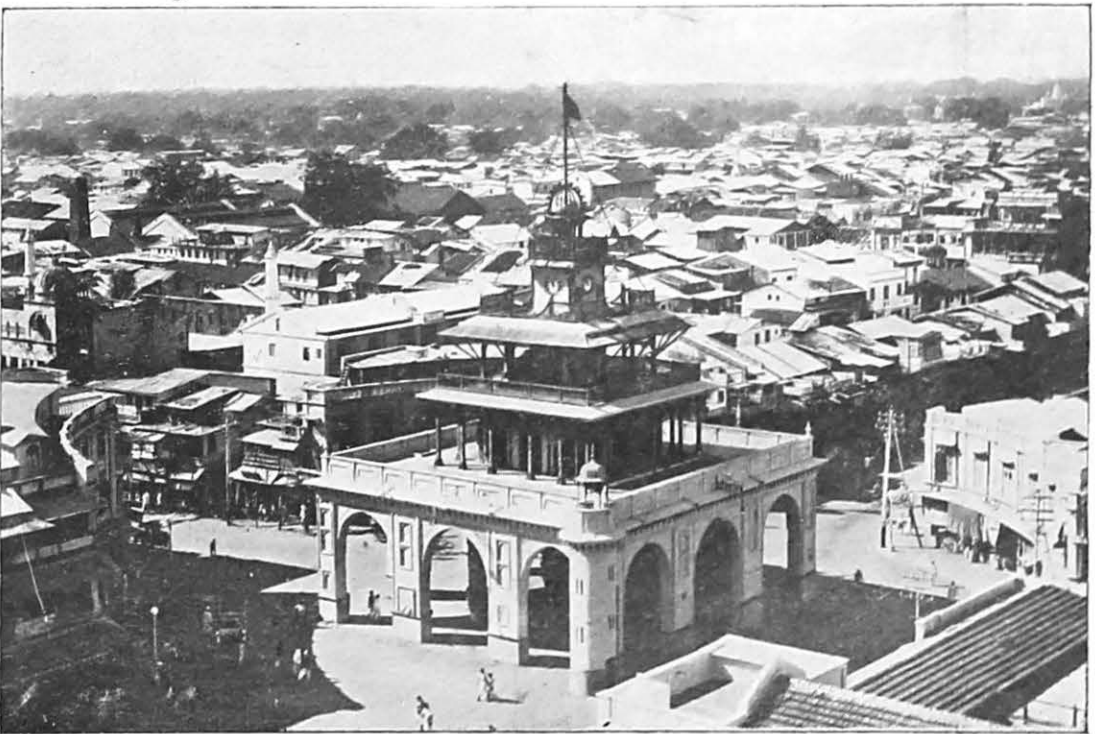
Timber is the main major product. The forests are of the dry deciduous miscellaneous type with a distinct predominance of Teak. Teak forms about 40 to 60% of the growing stock in the Navasari forests which yield good timber. From among the usual associates of Teak, the more important timber-species are Sisam, (*Dalbergia Latifolia*), Tanach (*Ougenia Dalbergioides*), Sadada (*Terminalia Tomentosa*), Khair (*Acacia Catechu*), Haladwan (*Adina Cordifolia*), Biyo (*Pterocarpus Marsupium*), Kalam (*Stephegyne Parviflora*), Dhaman (*Grewia Tilifolia*), Dhamodo (*Anogeissus Latifolia*), Samar (*Bombax Malabaricum*), and Kanti (*Acacia Ferrugina*). Others are firewood species rarely extracted here as timber.

Two species of bamboos (1) *Dendrocalamus Strictus* and (2) *Bamboosa Arundinecea* are found throughout the Navasari forests. The former is more abundant and is in good demand. The Vajpur and Nanchal forests contain a preponderance of bamboos which are an appreciable source of revenue from these forests.

The main minor products are leaves of *Asindra* (*Bauhinio-racemosa*) and *Timru* (*Diospyrus melanoxylon*) which are used as wrappers for 'bidies'—country cigarettes, fruits and flowers of *Mahuda* (*Bassia Latifolia*), raw fibres from *Atai* (*Helicteses isora*) used for tying bamboo, and timber rafts, gums of *Babul* and *Dhamoda*, fruits of *Terminalia Chebula* and *Zizyphus Zylopyya* used as tannins, Lac cultivated on *Butea Frondosa*, *Katha*, catechu extract from *Acacia Catechu* and *Rosa* oil extracted to a limited extent on the *Salher Hills*. Development of most of these items on systematic lines is in progress.



The Dussera Procession



A view of the City with the Mandvi in the foreground

### **Administration :—**

Prior to 1875 the forest revenue was realised by giving farm contracts or ijaras, when permits were issued on a schedule scale. This continued till 1877 when a separate Forest department was formed. The Ijara method led to very heavy and irregular fellings of trees, as the farmer selected for removal the best of the trees as suited his requirements or purposes. From 1877 to 1884 the department was put in charge of a sub-assistant Conservator. Then for 6 years upto 1890 the department was a branch under the Revenue department. During this period the permit system persisted. The fire-conservancy was then an unknown factor and protection against thefts and mischief was not systematised. Damage by shifting cultivation was also usual.

In 1891 Mr. Fernandes was entrusted with the administration of the forests, when settlement and demarcation of the reserves began and a Forest Act was introduced. Till 1913, the reserves could not be well developed.

In 1913 the department was placed under the charge of Mr. R. H. Madan. Under his administration the department began to function energetically. The staff was reorganised, necessary buildings were constructed and working plans were introduced. The system adopted was "Coppic with Standards" under a 40 year rotation and definite prescriptions were laid out for marking, felling, tending and fire protection, grazing etc. A system of rab plantation has been recently introduced. The working plans had run through nearly half the rotation when two years back the services of Mr. R. W. Inder, a retired conservator of forests from the Bombay Forest service, were engaged to inspect the working of the forests and report on the results of the management and to suggest new measures if necessary.

As Mr. Inder suggested a change of the system to 'Selection-cum-Improvement' based on a girth limit, lengthening of the rotation period, a silvicultural operation in the 25th year and cultural operation in felled coupes, the working plans are now under revision. During the interval the present working of forests is carried on according to provisional prescriptions in the light of Mr. Inder's suggestions. In the dry areas of Mehsana and Kathiawar, measures are being adopted to stop erosion and promote tree growth under the direction of a soil conservation committee. A scheme for control grazing in the badly grazed area is under preparation.

The Constitution of the Forest department is as shown below:—

The conservator of forests assisted by two assistant conservators of forests, one in the Southern Division, and one in the Northern Division, and a staff of rangers, deputy rangers, foresters, round guards and beat guards looks after the working of the department.

#### **Forest tribes :—**

The main population of the Navsari forest tracts consists of animistic tribes called "Raniparaj people". The prominent tribes are Gamits, Chodhras, Dhodias, Vasawas, Nayakas and Koknas. They live in detached huts in scattered hamlets. They used to carry on a sort of primitive farming and their standard of life was low; but now through special efforts of Government and frequent touch with towns their progress is ensured. They derive a substantial income through employment in forest operations and carting of timber and other forest produce. Villagers adjoining the reserved forests are given free hutting material from forests and the cattle are allowed to graze in the forests at nominal rates. Literacy is also increasing. There are free primary Government and Missionary schools in several villages and free boarding schools in the taluka towns for children of these people. Special measures have been passed by Government to protect them from money lenders. Free travelling dispensaries, co-operative societies, marketing organizations and rural development activities are all having a marked improvement in the life of these once primitive people.

#### **Yield, revenue etc.:—**

The average annual yield of timber and fire-woods from the State forests is about 15,30,000 cubic feet out of which 7,40,000 cubic feet is timber and 7,90,000 cubic feet is fire wood. The average annual yield of bamboos comes to 13,00,000 equivalent to nearly 3,200 tons.

In the forest areas open to grazing about 80,000 to 90,000 number of cattle graze on permits.

The revenue realised from different sources in the year 1940-41 is as under :—

Item	Rs.
1. Timber	3,66,083
2. Bamboos	13,209
3. Grazing and grass	45,081
4. Miscellaneous.	39,772
	<u>4,64,145</u>
	<u>4,64,145</u>

Navsari prant forests abound in games for sport. The main games found are tigers, panthers, hyena, sambhar, chital, pigs, and wolf. In Gir forests of Kathiawar a few lions are also found.

Publications issued by the forest department are as under :-

1. Bulletin of the forest resources of the Baroda State.
  2. Forest Manual.
  3. Constitution and organisation of the forest department.
-

## INDUSTRIAL PROGRESS OF BARODA

### Progress:—

Baroda State is industrially one of the most advanced regions in India. The position attained by the State in this respect has been achieved by a steady process of industrialisation during the last fifty years as the result of a systematic policy of industrial development followed by the State.

The total amount of paid-up capital of joint-stock companies working in Baroda State is Rs. 166 lakhs, which compares very favourably with figures of provinces and States regarded as industrially developed, in spite of the fact that there are no important mineral resources in the State, except various kinds of stone and clay, nor any natural resources for hydro-electric power.

The rate of progress of the State's industrial expansion during the last twelve years is really noteworthy. The number of operatives employed in factories in the State increased from 17,000 in 1927 to 41,104 in 1940-41 which is nearly two and a half times. Together with these figures a brief account of the expansion in some of the major industries in the State in recent years, will give a better idea of such expansion.

### Textile Industry:—

In regard to the textile industry, the number of mills in the State increased from 11 in 1928-29 to 19 in 1940-41. During this period, the capital invested showed an increase of 150 per cent. The number of looms increased from 2,500 to 6,874 and the quantity of yarn produced increased from 150 lakhs lbs. to 398 lakhs lbs. As, during this period, there has been a tendency to produce more and more yarn of finer counts, the actual progress would be much greater if we considered the value of the yarn produced.

The Dinesh Mill is the only woollen mill in the State, and it is a matter of gratification that Baroda State has been able to contribute towards the military requirements of the Government



of India, to a certain extent, through this mill which is now engaged fully in manufacturing blankets for the British Government.

### **Cement Industry :—**

The cement factory at Dwarka has made progress at a rate which is comparable to the growth of the textile industry in the State. Its production was only 40,000 tons in 1931-32. They have recently set up an additional plant for increased output of cement in this factory from 90,000 tons to 1,20,000 tons a year.

### **Chemical Industry :—**

Perhaps the most notable industry in the State is the chemical industry. The Alembic Chemical Works Co., Ltd., is one of the biggest chemical works in India, and the increase in its sales from Rs. 6 lakhs in 1927 to Rs. 16 lakhs in 1940-41 indicates that the company is making good progress. The starting of the heavy chemicals industry at Mithapur will constitute an important landmark in the history of industrial development of the State.

*The Tata Chemicals Ltd.*:—This company started in the year 1939 has made considerable progress. Necessary buildings, sheds, godowns, roads are being put up and machinery is being erected. It is expected that production will begin next year. The manufacture of salt and its bye-products was continued. Out of 44,859 tons of salt produced in 1940-41, 29,356 tons of salt were exported to Bengal.

*The Hindustan Colour, Chemical & Manufacturing Co., Ltd., Kathwada*, (about four miles from Ahmedabad):—It is organised by an important firm of industrialists from Ahmedabad with an authorised capital of Rs. 50,00,000.

Construction work has made considerable progress and it is proposed to manufacture modified starches, hydrogen peroxide, textile auxiliaries, Paris green etc. The Pankaj products, Baroda and The Nar Chemical Works, Nar (Petlad) are two small concerns, manufacturing textile chemicals.

The Visnu Industrial Works manufacture white paints and Paris Green on a small scale as also malaria oil and other disinfectants, mosquito coils, textile soap, insecticides etc.

*The Petlad Turkey Red Dye Works, Petlad* :—It owns a plant for the manufacture of sulphuric acid with a capacity of about one ton per day.

### **Match Industry:—**

There are two match factories at present in the State, of which the one at Petlad is the better established and the bigger of the two. Although, a few years ago, there were many match factories in the Bombay presidency, in recent years, practically all of them have ceased to exist. But the factory at Petlad has made considerable progress.

### **Oil Industry:—**

Baroda State is one of the important oil-seeds producing areas and there is an enormous scope for the development of the oil-crushing industry. The total number of oil mills increased from 5 in 1929 to 13 in 1940-41. During the same period the output increased from about Rs. 7 lakhs to Rs. 15 lakhs in value per year. It may be noted that the cotton oil mill at Navsari is the only mill crushing cotton seeds in the Bombay Presidency.

### **Miscellaneous Industries:—**

As regards miscellaneous industries, mention may be made of the china clay works at Ransipur, which commenced operations in 1934-35. The quantity of China clay recovered and refined increased from about 280 tons in 1935-36 to 840 tons in 1940-41.

### **Enamel Industry:—**

The Vijaya Enamel Works, Goyagate, Baroda is the expansion of a small enamel concern helped by Government loans in its initial stage and is now in a position to supply enamel ware sign boards etc. Sheet enamelling work is also done on a large scale.

### **The Gujarat Rubber Works, Baroda:—**

This factory undertakes the manufacture of rubber and ebonite articles like rollers used in textile and sugar mills, stoppers, corks, ground sheets etc.

**Paints Industry:—**

(1) The Baroda asbestos and Paints Works Ltd., Baroda has been organised within Baroda with an authorised capital of Rs. 5,00,000. Government have agreed to participate to the extent of 20% in half the share capital to be issued at present. It is still in the preliminary stage.

**Rolling Mill:—**

Messrs. N. Jivanlal & Co. of Bombay have now constructed a rolling mill in Baroda. The building is complete and the necessary machinery is being installed. It is proposed to manufacture bars and sheets from brass and other metal-scrap.

**Paper Bags Factory:—**

A loan of Rs. 5,000 has been given to Mr. Kersandas Gordhandas of Bombay by the Government for starting a paper bag factory. It is recently started in Billimora.

**Power-loom and other factories:--**

In the last five years, four power-loom factories have been established, of which two are in Billimora, one at Patan and one at Karan all of which are weaving artificial silk yarn partly or wholly. Another important industry, which has been developed in the last three years, is the wood work factory at Navsari which is manufacturing bobbins, hanks and other textile equipment. In two years its output has reached the level of Rs. 2 lakhs a year and it is able to sell its products in Bombay, Ahmedabad and Calcutta, as also in the State. A new concern has also been started at Vijapur this year for crushing and refining coloured earth and refining chalk. The raw materials in this case are imported from Kathiawar and the Idar State.

**Prospects for Developing New Industries:—**

The possibilities for starting new industries in the State are now briefly discussed. These industries may be considered under two classes:

(i) those industries for which there are raw materials available in the State; and

(ii) those industries for which no special raw materials are required and which can be started anywhere, provided sufficient financial and technical resources are available and there is a considerable local market.

The industries coming in the first group are paper industry, cigarette manufacture, oil and allied industries, and wood work factories, glass industry and power alcohol industry. Industries falling under group (ii) are manufacture of electric bulbs, plastics industry and biscuits manufacture.

As regards most of the industries mentioned above, there are proposals for starting them in the State, and the department is scrutinising the schemes put forward and making enquiries.

As regards paper industry, there was some doubt whether sufficient bamboos would be available for a fairly large sized factory having a plant with a capacity of, say, 10 tons per day. A survey of the State's bamboo resources which has been recently carried out has, however, shown that the quantity of bamboos available near about Vyara would be much more than would be required for a factory of this size or even a larger one.

There are also similarly good prospects for starting a straw board factory as the necessary raw materials can be available from the surrounding forests in the Navsari district.

#### **Plywood Industry:—**

Soft woods of different species such as Modad, Kakad, Bondaro etc. are available in forests in the Navsari district and the test reports about the suitability of these soft woods for the manufacture of plywood industry are now obtained from the Forest Research Institute, Dehradun. The results are encouraging.

As regards cigarette industry, although all the Indian Virginia tobacco required will not be available locally, the steps, which have recently been taken for developing the growth of Virginia tobacco in the State, ensure that, in future, probably all the requirements of a big factory will be met from local supplies.

#### **Glass Industry:—**

Investigation into the possibilities of starting the manufacture of glass were made and data obtained during previous inquiries and investigations was collected. Dr. V. S. Dubey, Head of the department of Glass Technology of the Benares Hindu University

was invited by the Government and he has now submitted his survey report. He has expressed quite a favourable opinion about the prospects of starting manufacture of glass industries in Baroda and Okhamandal districts. There is a definite move from Messrs. Gor & Co. of Sunthrod (Godhra) who have been granted concessions to start shortly a glass factory in the State with an authorised capital of Rs. 25 lakhs.

### Marble, granite and flooring tiles Industries:—

A few miles away from Baroda lie the Motipura mines in the Sankheda taluka where green marble, red granite and sand stone are available in large quantities, Dr. Dubey visited this area and submitted a detailed report which will soon be available to the public.

### Labour:—

The following table gives details of labourers employed in certain specified industries in the Baroda State:—

Industries engaged in	Men	Women	Adolescents	Total number of operatives
Textile Mills ...	21,823	2,030	100	23,953
Ginning and Pressing factories	6,577	3,075	4	9,656
Chemical industry ...	2,794	751	116	3,841
Iron Works ...	568	...	...	568
Cement Works ...	736	...	...	736
Oil Mills ...	243	24	27	294
Other industries ...	1,987	195	74	2,056
<b>Year 1940-41 ...</b>	<b>34,708</b>	<b>6,075</b>	<b>321</b>	<b>41,104</b>
„ 1939-40 ...	31,039	5,789	315	37,143
„ 1938-39 ...	28,763	5,390	162	34,315
„ 1937-38 ...	28,677	5,311	220	34,208
„ 1936-37 ...	22,653	4,677	207	27,537

### **Progressive Policy of the State:—**

The industrial development in the Baroda State is largely the result of the active policy followed by the State. The activities of the Government, directed towards the development of industries in the State, extending over a period of over 50 years, would form in itself a very interesting subject for detailed study. To be brief the activities of the Baroda Government in carrying out its policy of industrial development may be considered under four main heads, as follows:—

- (1) Pioneering efforts to start new industries.
- (2) Scientific investigations and experiments.
- (3) Economic surveys and enquiries.
- (4) Grant of financial help and other concessions to industries.

### **Early Pioneering Efforts Recalled:—**

As early as the nineties of the last century, His Highness the late Maharaja, with his great wisdom and foresight, started several industries as State enterprises, such as a cotton mill, a sugar factory, a brick factory and a leather factory. At the same time considerable financial help was given to private companies and individuals to start textile mills, cement works and other large industries.

Between 1916 and 1920 loans exceeding a lakh of rupees in each case were sanctioned to 15 proposed industrial concerns, the total amount being about Rs. 80 lakhs. Although some of these loans were not utilised by the persons concerned, it had its beneficial effect in attracting private capitalists to start industries in the State.

### **Scientific Investigations and Experiments:—**

One of the important functions of all progressive investigations and experiments of a State is to carry out scientific experiments for the industrial development thereof and the utilisation of raw materials, minerals and other resources therein. The following list of experiments made in the State shows the type of work done:—

- (1) Experiments on various sands found in the State for glass manufacture as early as in 1887.
- (2) Investigations regarding the oil contents of cotton seed oil.

(3) Investigation ( by an American expert ) regarding the possibilities of oil industry and the manufacture of soap and other products.

(4) Investigation of salt deposits of Dwarka and Kodinar for the manufacture of various alkalies.

(5) An experimental station was started at Okha for window-pane and pearl oyster culture and another experimental station was started at Madhavvad in Kodinar for fish curing in 1917-18. Investigation was also carried out as to the value of shells found on the coast of Okhamandal for making buttons.

(6) Experiment in wood distillation was carried out to find out the value of different kinds of wood available in the State forests for this purpose.

(7) An investigation was also carried out in the year 1919-20 to find out the suitability of clays found in the State for the manufacture of potteries.

### **Technological Laboratory and the Industries Board:—**

In recent years, the work of carrying out scientific investigation has been given a new impetus by the establishment of the Technological Laboratory in the Science Institute which has been started in commemoration of the Diamond Jubilee of His late Highness the Maharaja Sayajirao. Similarly, the Industries Board which was established in 1937 has been carrying out several experiments to investigate the possibilities of starting new industries in the State. The following are the experiments which have been either completed or are being carried out, during the last three years:—

Manufacture of ultramarine.

Manufacture of dry cell batteries.

Manufacture of lime washes.

Manufacture of lime juice and lime oil and fruit jellies.

Manufacture of glue.

Manufacture of liquid gold.

Experiments regarding uses of lac.

Experiments regarding the manufacture of inks.

Experiments regarding the polymerisation and sulphonation of vegetable oils.

### **Surveys and Enquiries to Promote Industries:—**

The first Geological Survey of the State was made by Mr. George Foote of the Madras Geological Survey in 1892. Subsequently, further investigations *re*: geological deposits were made by Prof. Sambashiv Iyer in 1908-09 and 1921.

A survey of marine fisheries was carried out by Mr. James Hornell of the Madras Fisheries department in 1905. Further surveys were carried out by him in 1917 and 1929.

The first industrial survey of the State was started in the year 1893 and a report was submitted in the year 1896. Subsequently, in 1918, a comprehensive enquiry into the economic life of the State was carried out by the Economic Development Enquiry Committee. In recent years several socio-economic surveys of villages were carried out and also surveys of certain important cottage industries like weaving and metal industry have been carried out. A technical and economic survey of the oil-crushing industry of the whole State was carried out during this year, and a survey of small industries in the State is under progress.

### **Forest Resources Survey in Progress:—**

A detailed survey of the various forest materials, which can be utilised for various industries, is being carried out this year under the Industries Board. This survey will provide useful information as to the possibilities of various industries such as paper making, strawboard making, and other small industries like manufacture of katha, rope making, brush making, etc.

### **Financial Assistance and other concessions to Industries:—**

One of the most important features of the policy of the Baroda Government is the grant of financial assistance to industries. During certain appropriate periods, however, this policy has been followed more actively. These periods also characterise certain changes as to the form in which, and the agency through which, loans were granted. The active periods as regards the grant of loans were as follows:—

(i) 1891 to 1894; (ii) 1908 to 1909; (iii) 1914 to 1920 and (iv) 1931 to 1940.

During the first period about Rs. 2,32,000 were advanced to 13 concerns. During the second period loans were granted to



three concerns to the extent of Rs. 2,90,000. Reference to the third period has already been made above. During this period loans exceeding in all Rs. 80,00,000 were sanctioned, and, of this, about Rs. 10,00,000 were availed of by about 15 concerns. During the period between 1931 and 1940 loans to the extent of Rs. 6,30,500 were granted to 45 concerns. This is over and above the sum of Rs. 25,00,000, which has been subscribed as share capital of the Tata Chemicals, Ltd. Out of these, 26 loans amounting to Rs. 2,29,100 have been granted during the last three years.

The loan policy of the State in the last three or four years not only reveals a marked increase in the number and amount of loans given\* but also reveals certain important developments which are particularly helpful for the development of small industries.

In the first place, these loans are increasingly being given to comparatively small industries. Secondly, the terms for granting these loans have been more liberalised in respect of the rate of interest, the period for which loans are granted and the nature of security taken.

It may here be stated that loans are being given for a fairly long period and the instalments for repayment are made progressive in time so as to impose as little a burden as possible in the early years. It has also been found that many of the small industries, although deserving Government help, cannot offer security according to the rules. The liberalisation of Government policy in the above-mentioned directions has enabled many of the small industries to receive the benefit of financial help from Government.

#### **Intensive Drive in recent years:—**

A reference has already been made to the remarkable industrial development in the State during this decade. This intensive drive towards the economic development of the State in the industrial sphere is mainly represented by the following measures and policies:—

(1) Appointment of the Industries Board and the establishment of the Science Institute.

(2) The combined irrigation and electrification schemes for the Mehsana district. As a result of these schemes, not only will

---

\*Attention is invited to the statement on page No. 96.

certain industries like sugar factories obtain the necessary raw materials required for their proper working and expansion, but also the provision of cheap electric power for industrial purposes will tend to promote the development of many small and medium industries. It may be mentioned in this connection that, although the number of units of electrical energy consumed in the State has increased by 150 per cent in the last ten years, the average *per capita* consumption is only 2 units in the State as compared with 7 units for the whole of India and 5 units in Madras and 156 units for an agricultural country like the Argentine. The highest average in the world is 2,760 units *per capita*, in the case of Norway. It need hardly be stressed that the supply of cheap electric power is one of the most essential requirements for the development of small and medium industries.

(3) The scheme which is being carried out by the department of Agriculture for the cultivation of and curing Virginia tobacco in the Baroda and Mehsana districts is an essential step for the starting of a large-scale cigarette manufacturing concern in the State.

(4) The importance of the heavy chemicals industry at Mithapur can hardly be exaggerated, not only because of the association thereby of the foremost industrial house in the country with the Baroda State, but also because this is a basic key industry the products of which are the essential chemicals required for most of the other industries. The participation by the State in the share capital of the company to the extent of 20 per cent has a great significance in view of the future industrial development. The principle of State participation in the case of new types of industries of a pioneering nature may, to an extent be regarded as being necessary for promoting the industrialisation in the State and the country in general, although there is a certain amount of risk involved even in its limited adoption.

(5) Several schemes for starting new large industries in the State are under consideration and there are good prospects for establishing industries for paper and strawboard manufacture, cigarette manufacture, biscuits manufacture, manufacture of electric bulbs, and manufacture of potteries.

### **Development of Cottage Industries:—**

Of not the least importance are the various measures which the Government have taken in recent years for developing cottage

industries in the State. The establishment of the Diamond Jubilee Cottage Industries Institute and a sales depot is of special significance not only because of its great value as an institution for training in various cottage industries but also because it indicates a new orientation of the policy of the Government for developing cottage industries. New training classes for developing the leather goods industry, the metal industry, and metal and wood engraving industry have been opened in the Cottage Industries Institute, and a leather class has also been started at Ladol in Vijapur taluka. The number of training centres for improved methods of tanning and the number of students receiving training have increased from 31 in 1937-38 to 122 in 1940-41. Two centres have also been started for introducing eri-culture as a cottage industry in the State. A demonstrator has been appointed for introducing improved Wardha ghanies in the place of the ordinary country ghanies for oilseeds crushing.

Proposals for starting additional classes for imparting training in cutlery, smithy, gota weaving as in Bangalore and Surat are sanctioned. A hand made paper factory has been recently started at Vyara.

As regards the development of the handloom weaving industry, not only are new designs being introduced but new kinds of cloth such as table covers, curtains and other household textile materials are also being introduced among the weavers. Efforts are made to introduce cotton carpet weaving industry on handlooms. One of the most satisfactory developments in the last two years is the expansion in the production of *khadi*, particularly in the Amreli and Navsari districts, with Government help. Chalala is now the biggest *khadi*-producing centre in Gujarat and Kathiawar, and in two years the production and sale of *khadi* has increased from Rs. 6,000 to Rs. 30,000 a year. Similarly, the Charmalaya at Tarvada is fast becoming a first-rate centre for tanning and leather industry with Government help.

### Loans for Cottage Industries:—

The Baroda Government passed an order in 1938 that an amount of Rs. 28,000 be sanctioned every year for granting small loans, free of interest, to various cottage industries like tanning, weaving, knitting, calico printing, block making, lacquer work, metal casting etc.

x

x

x

The Baroda State is thus pursuing a comprehensive policy for developing cottage industries by introducing improved methods of production and imparting training in them, by giving adequate financial assistance for buying implements and raw materials, by adopting a judicious policy of granting financial help to institutions engaged in promoting cottage industries and by providing facilities for marketing the products through the Sales depot in the Cottage Industries Institute and also through exhibitions.

### Financial help:—

*Statement showing financial help given to various industries*

#### PART I

#### LOANS

Serial No.	Name of the concern	Amount of loan sanctioned Rs.	Nature of industry helped	In what year
1	Messrs. Chandulal Ambalal & Bros., Baroda	16,000	A Match Factory	1931
2	Bhavsar Punjaram Trikamdas & Bros., Dadhial (Visnagar Mahal)	5,000	Dyeing and Calico Printing Works	"
3	Okha Salt Works ...	2,50,000	Okha Salt Works	
4	Jadavlal Jekisandas, Baroda	2,500	Powerloom Weaving Factory	1931
5	Messrs. B. Baban & Co., Baroda	500	Enamelling Works	1934
6	Nabubhai Rehemubhai, the Baroda City Bakery	3,000	Biscuits factory	1937
7	The Brown Handle Factory, Baroda	2,000	Brown Clips, Tin Bags, etc.	1938
8	Messrs. B. Baban & Co., Baroda	2,900	Enamelling Works— for Purchase of Machinery	"

Serial No.	Name of the concern	Amount of loan sanctioned Rs.	Nature of industry helped	In what year	
9	The Baroda Industrial Corporation, Baroda	25,000	Bakelite Factory	1938	
10	Maganlal Lallubhai Contractor, Baroda	20,000	Manufacture of Leather Articles	"	
11	Mahmad Abusaleh Abubakkar Nizami, Patan	5,000	Tannery at Patan	1939	
12	Khadi Karyalaya, Chalala	1,500	Cottage Industries, i. e. Hand Spinning, Weaving, etc.	"	
13	Sarvodaya Mandir, Taravada	2,000	Tanning and Leather Manufacture	"	
14	Bhimbbhai Dahyabhai, Karan (Palsana taluka)	7,000	Manufacture of Rice and Pulse Mill Machinery and Agricultural Implements	"	
15	Hiralal Motilal Bakhtarwala, Baroda	7,000	Starting a factory for the manufacture of spare parts of Sewing machines, Gramophones, Rifles, etc.	"	
16	Messrs. Tata Sons Ltd., Bombay	25,00,000	Manufacture of Soda Ash, Caustic Soda and other Chemicals	"	Invested in the Share-Capital of the Company
17	Hirvania Safe Co., Kheralu	4,000	Manufacturing Safes	1940	
18	Bavabhai Musabhai, Amreli	40,000	Oil Mill	"	
19	Yusufali Tejani, Navsari	1,500	Silk Yarn Reeling from Silk Waste	"	
20	Bapubhai Naranji, Raniamba, Songadh	1,500	Improved types of Charcoal Kilns	"	

Serial No.	Name of the concern	Amount of loan sanctioned Rs.	Nature of industry helped	In what year
21	Dharamdas Mulji, Karakhdi, Padra	700	Power-loom Weaving	1940
22	Girja Raman Litho Works, Baroda	10,000	Purchase of modern machinery for Litho-Printing Works	"
23	Kashibhai Chhagan-das Patel, Shikshana Sahitya Karyalaya, Dekgani	5,000	Machinery for the manufacture of Geographical and other School Apparatus	"
24	Sankhari Village Uplift Society, Sankhari, Patan	1,000	Hand Spinning and Weaving	"
25	Billimora Electric Power Supply Co., Billimora	13,000	Rural Electrification and Irrigation	"
26	The Mehsana Electric Supply Co., Ltd. Mehsana	40,000	Rural Electrification and Irrigation	"
27	Brush Factory at Baroda	3,000	Manufacture of Brushes of various kinds	"
28	Mr. M. Abusaleh Nizami	2,000	Additional Working Capital for Tannery	"
29	Shantilal Maganlal Patel, Vyara	3,000	Manufacture of Hand-made Paper	"
30	Mahmad Nabi Campwala, Baroda	20,000	A biscuit Factory in Baroda	"
31	Madhukar Parashram Dighe, Baroda	2,000	Dyeing and Calico Printing Works	"
32	Dalichand Sobhagchand Shah, Jamnagar.	4,000	Hurricane Lantern Factory at Baroda	"
33	Parashram Balvant Ganpule, Baroda	50,000	A pottery works	1940-41

Serial No.	Name of the concern	Amount of loan sanctioned Rs.	Nature of industry helped	In what year
34	Nurmahmad Jivabhai Khervada, taluka Visnagar	1,500	Tannery	1940-41
35	Bhanushankar Shivshankar, Kodinar	1,500	A printing press	"
36	Messrs. Vithaldas Makanji & Sons, Navsari	25,000	Increase in the working capital for a saw mill	"
37	M. S. Toorabally, Baroda	5,000	A factory for tiles and boot laces etc.	"
38	The National Chemical & Pharmaceutical Works, Navsari	5,000	Working capital for factory	"
39	Baldev Ganpatram Mistry	1,500	Working capital for wood carving and engraving gold, silver and other metal sheets	"
40	Messrs. Maganlal Lallubhai and Sons, Baroda	15,000	Furnishing boots and shoes to the Government of India	"
41	Messrs. Ramchandra Lallubhai & Co., Baroda	9,600	Do.	"
42	Karsandas Gordhandas, Bombay	5,000	A paper bag factory at Billimora	"
43	Dharamdas Muljibhai, Karakhadi	1,300	Purchasing materials for Weaving Factory	"
44	Rasiklal Ratanlal Shah, Patan	5,000	An oil Mill at Patan	1941-42
45	Dr. N. B. Pandya, Baroda	2,000	Research Laboratory	"
46	Toorabally Akbarally, Dhinoj	3,000	Oil-seed crushing industry	"

## PART II

## GOVERNMENT PARTICIPATION IN SHARES CAPITAL

Sr. No.	Name of the Company	Amount invested	
		Rs.	
1	The Gandevi Sugar Works and Distillery Co., Ltd.	50,000	Debentures
		2,00,000	Shares
2	The Jaya Cotton Mills, Sidhpur	Shares worth Rs. 50,000	
3	Messrs. Tata Sons Ltd., Bombay	25,00,000	

## Okha Port

## Introduction:—

The development of Port Okha has got a romantic history and its pre-eminent position on the coast of Kathiawar and North Gujarat, achieved through a capital expenditure of about Rs. 45 lakhs, is substantiated through the considered opinion of the Davidson Committee, which runs as follows:—

“The port of Okha is wholly dissimilar from all other Kathiawar ports. It is not, like them, an evolution from beginning, lost in antiquity, of the foodstuff trade which they still conduct. It is an entirely modern conception, begun and completed with great enterprise, for the express purpose of dealing with ocean-going traffic in commodities unconnected with the trifling requirements of the scanty population of Okhamandal.”

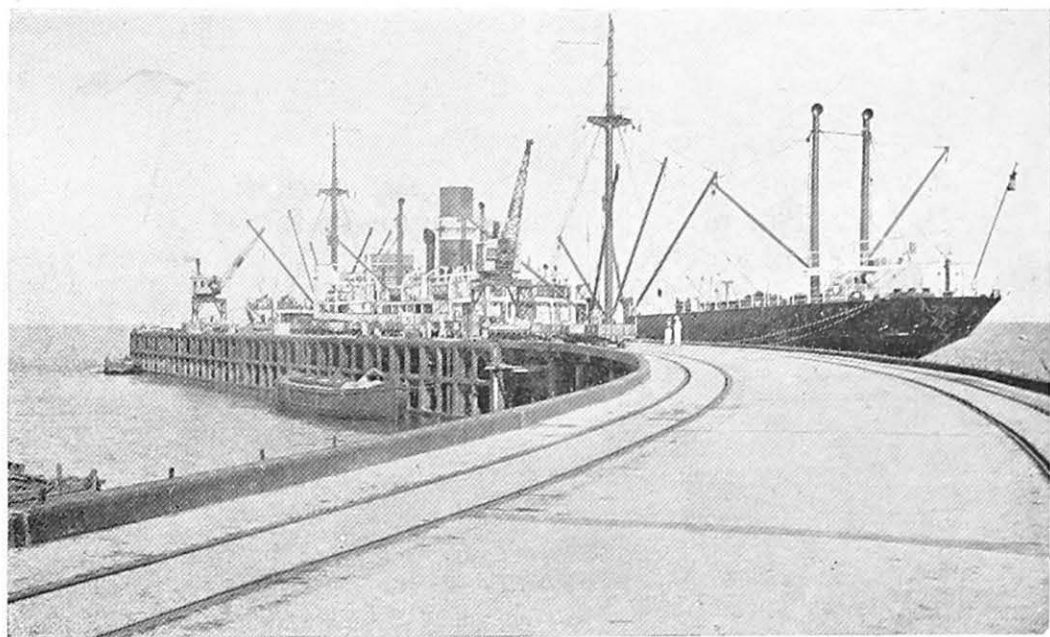
## Development :—

The harbour was surveyed by the Royal Indian Marine in 1882, and the question of constructing a port had since then engaged the attention of the Government. However adverse factors like thin and scattered population in the surrounding areas, absence of railway communications, ill-distributed rainfall and poor soil delayed the fulfilment of the objective. It was in the year 1922 that the idea was mooted to develop it, as the railway connection with Jamnagar was established, which was essential to connect the port by rail with other parts of India for economic and profitable services and for the development of the adjoining State territory economically and industrially.





**The Sayaji Sarovar**



**The Pier at Port Okha**

Opened in 1926 Okha is the only well equipped and up-to-date port between Bombay and Karachi where ocean-going steamers come right to the pier and discharge cargo directly into railway wagons.

### **Situation:—**

Okha is on the extreme west point of Kathiawar at the mouth of the Gulf of Cutch midway between Bombay and Karachi. It is endowed with a natural harbour providing a shelter to steamers throughout the year. Steamers from Europe, America, Africa, China and Japan visiting Bombay and Karachi can easily call at this port without any extra expense, loss of time or deviation from their regular route. By diverting their regular course only a few miles to the east they can touch at Okha during all times of the year. This spacious natural harbour is approachable all the year round by large vessels which can remain at anchor, sheltered from the storms on the open sea, even during the south-west monsoon and discharge their cargo directly on the pier. Being nearer by land with the producing and consuming centres and by sea with the European ports it commands a more favourable position for trade with Gujarat, Kathiawar, Central Provinces, Rajputana and Malva.

### **Equipment:—**

The port is well equipped with godowns, cranes, tugs, motor-launches etc. and the railway siding on the pier enables easy loading of breakable and damageable goods as well as heavy machinery directly into the wagons from the steamers. Electricity, telephone system, water works, adequate banking facilities, salubrious and bracing climate, rest houses, clubs etc. are other attractions of the port.

The port is the terminus of the Jamnagar and Dwarka Railway (metre gauge). The station has been built very near the viaduct. The Railway forms an all metre gauge system connecting the port and thus affords direct service without transshipment enroute with Ahmedabad and Viramgam on one side and with Ajmer, Delhi, Agra, Bhatinda and Cawnpore on the other, thus serving the rich agricultural and mining districts of Kathiawar, Gujarat, Central India, Rajputana, Malva and other provinces.

**Facilities:—**

It is the policy of the port administration to help importers, exporters and others in all possible ways and a special department is maintained which besides being an information bureau helps the merchants in getting freight, insurance and transport facilities, or in getting cheaper finance.

The port offers the following special facilities:—

Wharfage dues and other charges at the Port are very low.

Pilot service charges are included in the general port dues.

Labour is abundant, cheap and hardy.

Loading and unloading charges are therefore very cheap.

Working season is practically the whole year round.

Water supply is sufficient.

Cheap warehousing facilities are available at the port.

Land connected with railway for stacking coal, minerals, salt &c. can be obtained near the Pier at attractive rates.

Land for private warehouses, business offices and residential purposes is available from the State on lease at very favourable rates.

**Imports:—**

The principal imports are petroleum products, sugar, milk stores, machinery, chemicals, lubricants, sizing materials, rubber goods, automobiles, iron and steel goods, corrugated sheets, brass and copper sheets, medicines and sundries too numerous to be described. Exports include oil seeds, cotton goods, oil cakes, wastes, cotton, salt, cement etc.

Only within eight months of the opening of the port and after arrival of hardly a dozen foreign steamers, the Viramgam cordon was re-established and the duty on goods going beyond the cordon including those going into the State territories in Gujarat was received by the Government of India and most of the customs revenue collected at the port was lost to the State.

The Customs agreement of 1936 set at rest the long-standing dispute with the Government of India about the customs duty on goods imported at, and exported from the Baroda State ports.

**Revenues:—**

In 1927-28, total customs revenue derived from this port was Rs. 10,14,822. This has risen to Rs. 26,74,307 in 1940-41. The total number of vessels that took advantage of the port rose from 450 in 1927-28 to 929 in 1940-41; and the total cargo handled rose from 52 tons in 1927-28 to 1,69,366 tons in 1940-41.

The Okhamandal peninsula with its extensive creeks and large deposits of lime-stones, offers excellent facilities for the production of cement, salt, alkalies, magnesium chloride and other allied chemical industries. The opening of the port helped in developing many industrial concerns round about Okha and the progress of some of these industries is recorded in the previous pages.

Besides the above-mentioned big factories one ice factory, one flour mill, and one oil mill are located at Okha itself. There are still prospect for establishing industries for manufacturing copper and brass wares, tin wares, paper bags and others for manufacturing refined articles from the raw materials available in the district.

The Burmah-Shell Oil Storage and Distributing Co. of India Ltd. have put up an oil-installation at Okha at a cost of about Rs. 15 lakhs, for storage of various petroleum products. In addition, a plant is installed for the manufacture of kerosene tins. The tankers discharge direct by pipe lines into Burmah-Shell tanks whence the oil can be distributed in railway tank wagons, barrels and tins.

The Motor House Ltd. have put up a plant at Okha to assemble motor cars from component parts imported from foreign countries. The firm hopes to assemble 200 to 300 cars per annum in the beginning. Their idea is to manufacture all types of motor vehicles at Okha, importing from foreign countries very few parts that cannot be economically manufactured in India.

---

## IRRIGATION IN BARODA

### **Brief History of Irrigation:—**

Prior to 1885 irrigation was practised in the several districts of the State by means of crudely managed rice ponds or small tanks. This was particularly prevalent in the Navsari district; where due to very favourable conditions of rainfall and the undulatory nature of ground surface, paddy cultivation from such small tanks was fairly easy and efficient. A regular, well defined and controlled system of irrigation commenced with the progressive rule of the late H. H. Sayajirao III.

In the year 1885, a temporary administrative division for irrigation was created under an executive engineer for the development of irrigation and drainage works. It undertook drainage of khar-salty lands of the Mehsana division.

A great impetus to the installation of well-defined and controlled irrigation systems was however given by the unprecedented famine of the year 1899-1900 when several major and minor tank irrigation works were undertaken by the Baroda Government to provide relief to famine stricken people and also to find sources of water for irrigation.

A special irrigation division under the Irrigation Engineer was formed in 1900 and the enthusiasm for a bold irrigation policy was so great that irrigation works costing about Rs. 50 to 60 lakhs were undertaken and put into operation within a span of a few years.

The principal irrigation works of this period still functioning are briefly as under :—

### (A) BARODA DISTRICT

#### (1) **The Orsang feeder and Wadhvana tank system :—**

The Wadhvana tank situated about 5 miles east of Dabhoi, has a capacity of 500 m. cft. It was constructed at a cost of about Rs. 12 lakhs and is capable of irrigating about 10,000 bighas. It

receives its supplies by a feeder of about 150 cusecs capacity from the Orsang river which was bunded up by a masonry weir near Jojwa about 15 miles further east. Direct irrigation is made possible from the Wadhvana tank by 3 to 4 distributaries taking off from the outlets in the tank bund. This is a fine specimen of a combined river and tank irrigation work, but the land under command of this tank being of a heavy black cotton type, irrigation facilities under the tank are not fully availed of. It, however, serves as a very good protective work in case of failure of late rains. The department of Agriculture has recently opened a model farm near Dabhoi to popularise irrigation in this area and it is expected that people will soon be making a much better use of this tank.

**(2) Muwal Tank:-**

This tank is situated to the north of Baroda at a distance of about 20 miles. Its capacity is 150 m. cft. and its cost about one lakh rupees. It is capable of irrigating about 7,000 bighas.

**(3) Sipore Timbi Tank:—**

This tank has a capacity of 91 m. cft. and was constructed at a cost of Rs. 1,26,000. It is situated at a distance of only about 5 miles from Baroda and apart from the little irrigation that it does, it is used as a duck shooting tank by distinguished guests visiting Baroda.

**4) Vadadla Tank:—**

This tank is situated about 12 miles north east of Baroda and about a mile from the Samlaya railway station. Its capacity is 69 m. cft. and was constructed at a cost of about Rs. 70,000.

**(5) Haripura Tank:—**

This is very near the Vadadla tank and being situated above it, its surplus discharges into Vadadla tank. The capacity of this tank is 51 m. cft. and its cost about Rs. 65,000.

**(6) Karachia Tank:-**

Karchia tank situated in the Saoli taluka, half way between Samlaya and Savli, has a capacity of 105 m. cft. and has cost Rs. 1,15,000.

The last three tanks, all situated in a black soil area are mainly used for rice irrigation and serve as good protective works.

## (B) NAVSARI DISTRICT

There is only one major irrigation work namely the Dosuwada tank. This tank is situated about 8 miles to the east of Vyara and is formed by blocking the Mindhola river near Dosuwada village by a masonry weir. Its catchment area is about 22 sq. miles and its present capacity 75 m. cft. Irrigation is practised by taking off a channel from a pick up weir four miles downstream at Chikhali and as the rainfall conditions are usually favourable, the Dosuwada tank gets its filling at least twice every year and the irrigation under it is as much as 2,000 bighas including 150 bighas of cane. Over and above this, it is also the source of water supply for the Vyara town. The cost of the work is in the neighbourhood of Rs. 3 lakhs. There are several other minor tanks in this district which are useful in rice irrigation.

## (C) AMRELI DISTRICT

## (1) Mota Ankadia tank:—

Constructed at a cost of Rs. 67,000 it has a capacity of 67 m. cft. and though very slight use is made of irrigation facility it has indirectly contributed towards raising the sub soil water level and thus benefited the lands nearby.

## (2) Mota Bhandaria tank:—

Situated in the Amreli taluka it was constructed at a cost of Rs. 1,12,000 and has a capacity of 67 m. cft. This is a shallow tank and its use is mostly of a protective type.

## (3) Kumbhanath Tank in Damnagar taluka:—

This is a small shallow tank of 34 m. cft. capacity and was constructed at a cost of Rs. 32,000. It irrigates about 250 bighas of land.

## (4) Pichvi tank:—

In Kodinar taluka constructed at a cost of Rs. 2,10,000 this tank has a capacity of 372 m. cft. It is capable of irrigating 2,500 bighas.

## (5) Bhimgaja tank:—

This tank situated in the very dry area of Okhamandal and constructed at a cost of Rs. 56,000 has a capacity of over 370

m. cft. and is a very good asset against the usual shortage of water in Okhamandal, though in years of good rainfall the tank water has not found much use for irrigation. This tank has now become the principle and the only source of supply for the industrial development of the Tata Chemicals Ltd., a chemical industry recently started at Mithapur near Port Okha. This tank is now proposed to be supplemented by another tank called the Mithikhadi tank which was undertaken in 1939 and is now nearing completion. In case of failure of rains, both these tanks together will supply the needs of this important industry as well as the irrigation needs of the area. The Mithikhadi tank has also a capacity of over 200 m. cft. and is expected to cost about Rs. 1,00,000.

Several other irrigation schemes were thought out and investigated, but due to complications arising out of different territorial jurisdictions, no great headway has been possible so far.

#### (D) MEHSANA DISTRICT

##### (1) Kadarpur tank:—

The biggest of the existing irrigation works in Mehsana district is the Kadarpur tank otherwise called the Chimnabai Sarowar. It was constructed at a cost of Rs. 7,24,000. It is situated  $3\frac{1}{2}$  miles north of Kheralu. It has a catchment area of 30 sq. miles and a capacity of 767 m. cft. The irrigation under this tank is in demand, but the catchment of the tank being dry and sandy and the country being very porous, the tank does not receive its filling in years of scanty rainfall. It has however contributed much towards the indirect advantage of raising the sub soil water level in the neighbourhood.

##### (2) Thol tank:—

This tank was constructed at a cost of Rs. 1,23,000 and is fed by a system of drainage called the Eastern drain with a catchment area of 60 sq. miles. The capacity of the tank is about 450 m. cft. This tank which was lying in a breached condition since 1927 has recently been remodelled and improved at a further cost of one lakh rupees.

A weir across the Saraswati river at Anavada in the Patan taluka is now utilised for diverting fair weather flow.



There are several other minor tanks and also a system of drainages called the Dharusana system of drainages which cuts across low lying pockets and serves alternately as a drainage and an irrigation work according as the rainfall is more or less than normal.

### **Revival of Irrigation Policy:—**

Most of these works were originally constructed as productive works; but the irrigation under them has not yet developed so as to justify their being classed as such. Unwillingness of the agriculturist to adopt new methods is, to an extent, responsible for this state of affairs. But their protective value in case of failure of late rains is considerable. They effect a substantial saving of crops on such occasions. The area irrigated in the different districts during the last 5 years has increased from 8,319 to 11,444 bighas. The annual repairs and maintenance of these works cost about Rs. 52,00, and a sum of about Rs. 1,00,000 is provided in the budget every year for original Irrigation works.

Poor response by the ryots to these facilities necessitated slowing down of enthusiasm in the irrigation policy for several years. But subsequently the position was reviewed and investigations were carried out to find ways and means of remodelling and improving useful works and suggest new work.

As a result remodelling of the Wadhwana and Thol tanks was carried out.

### **Zankhari Irrigation Scheme :—**

Investigations for a major irrigation scheme in the Navsari district, called the Zankhari irrigation project, which was contemplated for the last forty years and for which investigations were carried out in several stages by several engineers, were recently completed and project estimates were made out for Rs. 90,00,000 which were also examined and generally approved by a committee of two outside experts and recommended for adoption. The scheme consists of forming a reservoir of 5,500 m. cft. capacity by bunding up the Zankhari river near the village of the same name in Songadh taluka by a masonry dam 90 ft. above the river bed and taking off right and left bank canals from a pick up weir at Tichakia 6 miles lower down for irrigating 50,000 to 60,000 bighas in the Vyara and Mahuwa talukas of the Navsari district including 14,000 bighas of sugarcane. The project is intended

more as a commercial venture rather than for protection against famine as Navsari district does not usually suffer from scarcity of rains.

Another attractive feature of the project is the possibility of developing hydro-electric power along with irrigation from several canal falls that occur along the main canal in case a direct canal is taken off from the reservoir.

### **Sabarmati River Project:—**

Another major irrigation scheme, called the Sabarmati irrigation scheme is intended to protect the Mehsana district, parts of which proverbially suffer from lack of rainfall. There is an apprehension also of the northern desert gradually spreading out towards it. These circumstances call for immediate attention and the Sabarmati irrigation project is the measure investigated by the Baroda Government in reply. The investigations are nearing completion.

The scheme as at present contemplated consists of bunding up the Sabarmati river at Dharoi, about 30 miles north of the Baroda boundary adjoining the river, by a masonry dam forming a big reservoir of 18,000 m. cft. capacity from which water for irrigation would be let down and picked up at a pick up weir near the head of the Baroda boundary and diverted on to the lands by means of suitable channels and intermediate storage works. This reservoir when it comes into effect is expected to irrigate an aggregate area of about 1,00,000 bighas in Baroda, Ahmedabad and Idar territories and is expected to cost about Rs. 1,65,00,000. As however several jurisdictions including Bombay and Idar are concerned in the question, it will take some time before the project comes into being.

### **Irrigation by pumping:—**

Over and above the flow irrigation works, pumping irrigation on a large scale for rich crops like sugarcane was recently undertaken in Navsari district. One electrically worked pumping station at Manekpura in Gandevi taluka of a capacity of 2,40,000 gallons per hour was installed on a 'Dhara', a deep water pit in the Ambika river from which water is pumped and passed down small irrigation channels which in their turn supply water to lands for sugarcane cultivation. This scheme including the power station at Gandevi has cost about Rs. 2,20,000.

Another similar station is also under construction at Umra on the same river about 20 miles upstream and sugarcane cultivation has already started there. The pumps at this station will be worked by power supplied from the Gandevi power house over a 23 miles long high tension transmission line. As these stations are yet in their development stage, their progress is being watched and further stations of similar nature will evolve in course of time depending upon the satisfactory results shown by the stations already put up.

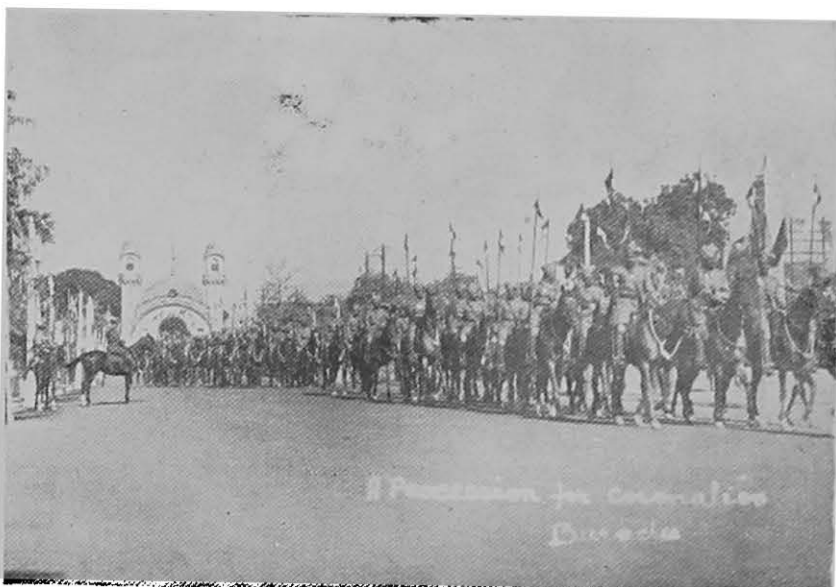
#### **Irrigation by tube wells:—**

Attempts at developing and utilising the sub soil water supplies for irrigation are being made in the Vijapur taluka of the Mehsana district by sinking cavity and strainer tube-wells on the lines of the tube wells scheme of the Gangetic Valley in U. P. and several wells have so far proved successful. Some of the successful wells, have for the time being, been fixed up with engines and pumps and irrigation under them has been started; but the ultimate scheme is to work all the successful wells by electrically driven pumps supplied with electric power from a central generating station to be installed at Vijapur. The cost of this tube well scheme as at present undertaken, is Rs. 4,28,000 for sinking 30 tube wells and Rs. 4,65,000 for the central power station and electric grid making a total of Rs. 9,63,500.

---



**Laxmivilas Palace**



**Procession coming out of the main gate of the Palace**

# EDUCATION

## A. INTRODUCTION

Baroda is known for its State wide and profound educational policy. The Government is spending 17·6% of their income on education. It offers to the whole of India a unique example of what could and should be done by way of education to develop conditions favourable to an all round uplift of the people. A short history and the present position of the educational activities of the State will be of interest to visitors, social workers and students.

### **History and expansion:—**

State efforts in education in Baroda go as far back as 1871, when for the first time two Gujarati and two Marathi schools were opened by the Government. Progress was at first slow, and when the late Maharaja Sayajirao III assumed full powers in 1881, there were as many as 180 primary schools with 7,465 pupils. Under his inspiration, however, education developed rapidly. In 1893 compulsory primary education was introduced as an experimental measure in Amreli district, and rapidly extended, till in 1906, it was made applicable to the whole State. Education is now compulsory between the ages of 7 and 12, and all compulsory education up to the primary class V is free.

The period since then has been one of consolidation, the efforts of the department being mainly directed towards the effective administration of the compulsory act, training of teachers, improvement of the quality of education and the establishment of a network of libraries.

### **Institutions and pupils:—**

The total number of educational institutions at the end of year 1940-41 was 2,504. The total number of pupils attending these is 2,98,063. The percentage of boys and girls under instruction to

the total male and female population is 14.4 and 9.7 respectively. The table given below will give some idea of the rapid and speedy expansion of education in Baroda:—

Year	No. of schools	Number of pupils	Expenditure Rs.
1871 ... ..	4	...	13,000
1881 ... ..	180	17,465	96,805
1891 ... ..	503	50,978	2,97,031
1901 ... ..	1,189	83,277	6,06,366
1911 ... ..	3,026	1,85,477	14,06,085
1921 ... ..	2,797	1,98,816	25,42,031
1931 ... ..	2,736	2,44,505	34,84,243
1941 ... ..	2,504	2,98,063	38,81,754

#### **Administration and inspection:—**

The administration of educational work is carried on by the Education department which is divided into two sections, the Primary and the English education branch; needless to say that these two sections are in close harmony with each other, and the whole departmental work is under the direction and control of the Vidyadhikari (Commissioner of Education) who is assisted in his work by the Naib Vidyadhikari. For purposes of educational administration the State is sub-divided into six divisions each under a divisional inspector. For the inspection and supervision of the secondary schools there is one inspector of secondary schools. Besides these there are two inspectresses of girls' schools for the Baroda and Mehsana districts, and special inspectors for the Urdu, the Antyaj and the Raniparaj schools.

#### **Expenditure:—**

The total expenditure of the department amounted to Rs. 38,81,754 during the year 1940-41. The average expenditure for the last ten years has been about Rs. 37 lakhs per annum.

## B. SECONDARY AND COLLEGIATE EDUCATION

### (1) *Baroda college*

The Baroda college was first recognised only for the First Year examination, by the University of Bombay in 1881. Today from amongst the members on the college staff, 24 are recognised as University post graduate teachers. In addition to all the subjects usually taught in an Arts College, post graduate research work is now carried out in several subjects such as Indian philosophy, cottage industries, agricultural banking, Vedic hymns, etc. as well as various aspects of chemistry and physics.

The number of students at the end of the academic year (March 1941) was 1559 including 139 women students and 91 Post graduate students. Out of these 1,051 belonged to the Baroda State. Of the rest 69 came from other Indian States and 419 from British India.

About 160 students can be accommodated in three separate hostel blocks attached to the college, i. e. about 10% of the total number on roll.

The college has also a Training Corps, of 200 students. They are trained by the members of the staff.

Physical training has been made compulsory in the State from 1-8-41. The college students are given regular P. T. by members of the staff.

#### **Meteorological Observatory:—**

The college contains a meteorological observatory which is housed in the recently constructed building of the Jubilee Science Institute. Routine observations of temperature, pressure, humidity, wind velocity and direction and the like are regularly made. Weather telegrams are sent every morning and evening to the Director General of Observatories at Poona and reports are supplied to various Baroda Government offices.

#### **Seminar:—**

A Seminar class for the comparative study of religions is also run in the college, and a number of students are taking advantage of it.

(2) *Secondary education***Number of institutions:—**

There are a number of Government high and Anglo vernacular schools distributed all over the State. There is at least one Government school in every taluka town, and encouragement is given to members of the public to open secondary schools. Government grants for maintenance as well as equipment are given. The response from the public has also been fair. At the end of the year 1940-41 there were 37 high schools—18 Government and 19 private, and 102 Anglo vernacular schools and classes. Of these 73 were run privately. These figures include a number of girls' schools. At present each of the districts has a girls' school run by the Government, though only one at Baroda is a high school. Plans, however, are afoot for providing a high school for girls in each district within a short time. Indeed Patan, and Navsari will have girls' high schools within a short period.

**Number of pupils:—**

The number of pupils in secondary schools at the end of the year 1940-41 was 26,365. Out of these 10,715 including 1,649 girls were in Government schools, 7,780 including 883 girls in aided schools and 7,870 including 283 girls in other recognised institutions. A notable feature is the increase in the number of girls studying in secondary schools, from now standing at 2,554.

**Grants-in-aid:—**

It is the declared policy of Government to encourage private enterprise by giving grants-in-aid to deserving bodies. The total number of schools and institutions that received grant-in-aid from Government during 1940-41 was twenty, thirteen high schools and seven Anglo vernacular schools. A sum of Rs. 50,000 is set aside in the budget for grants but the department has usually to ask for additional amounts. Of late the principle of paying grants on a *pro rata* basis, has been adopted, in order to enable a larger number of schools to receive grants.

**University Matriculation results:—**

The University matriculation results of the high schools are generally quite quite satisfactory. In the year 1940-41 the percentage was, in some cases, much higher than that of the University which was 51.





**The Baroda College**



**Shree Sayaji Jubilee Science Institute**

### **Physical education in schools:—**

Physical education has been made one of the compulsory subjects in the school curriculum. P. T. classes are conducted regularly in all schools. For imparting intensive physical training to the untrained teachers, centres are opened and camps organised. It is a matter of satisfaction to record that schools are freely taking part in the sports, cricket matches, and other competitive games.

### **Special activities:—**

Extra curricular activities are given encouragement. Many such activities were carried out in schools such as circulation of important educational publications, magazines and journals, demonstration lessons, debating societies, gardening, organisation of co-operative stores, junior red cross societies, nature study, etc., These activities make the school life of both teachers and pupils lively and interesting.

### **Manual training classes:—**

In order to give an industrial bias to the school curriculum, manual training and sloyd classes are started at most of the big high schools in the State, at Mehsana, Patan, Visnagar, Padra, Petlad, Bhadran, Kathor, Gangadhara, Amreli and Dwarka. They are excellently equipped with materials and students take keen interest in the work.

### **Selection and qualifications of teachers:—**

Teachers are, as a matter of policy selected from amongst candidates with honours and training qualifications, and allotted to schools in accordance with their needs.

At the end of the year 1940-41 the number of trained teachers in Government schools was 128 graduates and 157 undergraduates. It is laid down that all untrained teachers already in service must get themselves trained, and also that only trained hands shall be selected in future.

### **School buildings:--**

Almost all Government high schools have been provided with Government buildings. But the building accommodation at some places falls short of actual requirements with the result that the

department has to restrict admission according to the accommodation available in schools. This measure gives scope to private bodies to come forward with schemes for opening new schools. Government gives them every encouragement.

### **Scholarships:—**

A very large number of scholarships are awarded from Government funds, according to rules which are carefully laid down. There are separate scholarships for girls, for Muslims, for Antyajas, for Marathas, etc., in addition to merit scholarships. Again, scholarships are also awarded for their higher collegiate study, as well as for study abroad. Before the war on an average, three scholars a year were receiving higher education in various branches of knowledge in Europe and America through State scholarships. In addition, numerous grants, on a generous scale, are made to enable students to study at other colleges in India.

### *(3) Primary Education*

#### **Schools and pupils:—**

The primary education branch of the department includes all primary schools, the Kalabhavan and the industrial schools and several special institutions such as the training schools for men and women and the boarding houses for special classes and communities. During the year 1940-41 there were 2,320 primary schools and 43 special institutions having 2,66,589 and 3,081 pupils respectively on roll. Of the 2,320 primary schools 2,207 are run by Government and have 2,59,605 pupils on roll.

#### **Efforts to reduce wastage and stagnation:—**

The administration is fully alive to the causes of wastage and stagnation in primary schools and is making steady efforts to check them through the following measures:—

- (1) Improving the attendance.
- (2) Making efforts to see that all children get enrolled in the beginning of the school year.
- (3) Improving the qualifications of the teaching and the inspecting staff.
- (4) Increasing the number of women teachers.

- (5) Improving the tone of schools by amalgamating single teacher schools with adjoining bigger ones.
- (6) Stricter and more systematic supervision by the inspecting staff.

The results of these efforts are slow but satisfactory. The proportion of pupils in class V to pupils in class I is gradually improving every year as will be evident from the following figures:—

Year	Class I	Class II	Class III	Class IV	Class V	Proportion of number in class V to number in class I
1930-31	72,840	50,649	38,204	30,014	21,480	31.4
1940-41	72,702	55,996	52,119	42,089	36,275	50.0

The figures of pupils in class V continue to advance steadily year by year which show that wastage is being gradually lessened.

#### **Enrolment and attendance:—**

Out of the total enrolment of 2,66,589 pupils, 1,54,135 were boys and 1,12,454 were girls. Efforts are made to improve the attendance in primary schools and the percentage of average daily attendance during the year 1940-41 was as high as 82.3.

#### **Qualifications of teachers:—**

The efficiency of teaching depends to a large extent on the qualifications of teachers. Since 1929, therefore, steady efforts have been made to train up all the primary school teachers in the department, and improve the training given. Admissions to both the training schools are greatly increased and the candidates are admitted after an entrance test. Formerly one year's training was considered sufficient but now a minimum course of two years' training is made compulsory for all teachers. As a result of these efforts there has been a marked increase in the proportion of trained teachers. In the year 1930-31 the percentage of trained teachers was 62.8, in the year 1940-41 the percentage has risen to 76.7. At present out of a total of 6,496 teachers in primary schools, 4,985 are trained teachers. Over and above these ordinary

teachers, there are 127 special teachers for the subjects of drawing, gymnasium, music, knitting and embroidery.

#### **Extra curricular activities:—**

Several extra curricular activities are introduced in primary schools with a view to inculcate useful civic and social habits amongst the school children. Of these gardening, scouting, Junior Red Cross and students co-operative stores are found to be flourishing. During the year 1940-41, 885 schools had gardens, 783 schools had scout troops and 217 had students co-operative stores.

#### **Infant education experiment as suggested by Mr. Wood:—**

Several school teachers have taken up the work of conducting infant education experiments as suggested by the well known educationist Mr. Wood. The experiment in its present form is intended to induce the educated women folk of villages to take an active interest in the education of their little children. At the end of the last year there were 120 such classes attended by 2,742 children mainly infants. These classes are a sort of children's gathering held once or twice a week where children play games, have dialogues, recite songs and tell stories, enjoy stereoscope pictures etc. under the guidance of one or two teachers and some interested educated ladies of the village. As many as 739 ladies have shown interest in this work and attended and helped these classes.

#### **School buildings:—**

Eight hundred and four schools have Government buildings and 90 schools have rent-free buildings while the remaining are housed in hired buildings.

#### **Girls' schools:—**

The total number of girls' schools is 283, of which 276 are Government and 7 are aided and unaided private institutions with 43,697 and 851 girls respectively. Besides these there are 67,906 girls attending mixed schools. Thus the total number of girls attending schools is 1,12,454.

#### **Kindergarten schools:—**

The total number of kindergarten schools in the State is 29 with an enrolment of 1,638 pupils. Of these 24 with 1,265 pupils

are private institutions. To encourage private efforts in this field the Government have increased the amount of annual grant from Rs. 1,800 to Rs. 5,000. The scale of fees has also been reduced from Re. 1 to Re. 0-8-0 per month per pupil.

### **Compulsory fines:--**

Defaulting parents who show dereliction in sending children to schools have to pay fines on a fixed scale under the Compulsory Education Act. Sixtyfive percent. of the sum thus realised is kept apart for the construction of new school buildings, while the remaining 35 percent. is used in awarding scholarships to the poor and deserving and in supplying poor and backward class children with the school requisites.

### **Expenditure on primary schools:—**

The total expenditure on all primary schools in year 1940-41 amounted to Rs. 22,24,344 lakhs which comes to about 57.3% of the total expenditure of the Education department.

### *Adult-Literacy Campaign*

A campaign for adult literacy was started in May 1939. From the inception of the literacy campaign till the end of July 1941, the total number of classes conducted was 1,795. In all 26,457 adult illiterates attended these classes and out of them 9,861 have been successful in attaining the literacy standard fixed by the State. Work in this direction continues.

### **Government grants:--**

Adult classes conducted in backward areas or in areas of concentrated efforts are paid a monthly contingency grant of Rs. 2 to Rs. 4, and over and above this an yearly lump sum of Rs. 50 per every batch of 50 persons rendered literate. At other places the work is considered to be honorary but schools or centres doing good work became eligible for prizes ranging from Rs. 50 to Rs. 250 per annum.

### **Poor public response:—**

Generally these classes are conducted in the evening in school buildings. Primary school teachers form the major portion of the workers in these classes. The public response in the matter of organisation or finances of this scheme is rather poor.

**Literature for newly made literates:—**

The question of preparing suitable literature for the newly made adult literates is also being examined and a committee is appointed to explore all the possibilities in this connection, and submit a detailed scheme about the preparation of such literature.

*(4) Education of special classes and communities***Education of the depressed classes:—**

The number of Government antyaj schools for the education of the depressed classes is 60 with 4,189 pupils. Of them 2,441 are boys and 1,778 girls. Besides these there are 7 private antyaj schools with 194 pupils. 16,618 other antyaj pupils are attending Gujarati and other mixed schools. 16 antyaj boys are studying in the college and about 252 pupils are studying in secondary schools. 37 are enrolled in Kalabhavan and training schools. Thus the total number of antyaj pupils under instruction was 21,316 giving a percentage of 10.5 to total antyaj population,

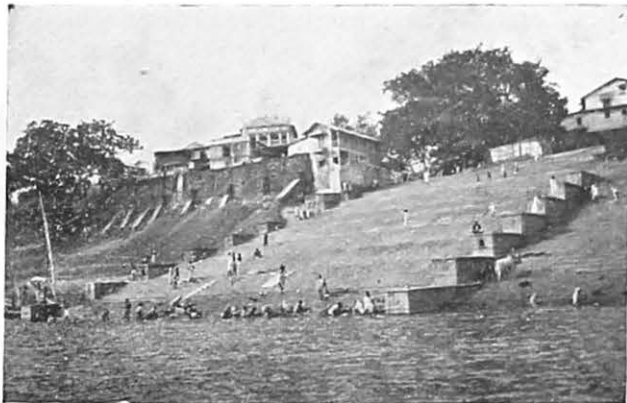
Government supplies books and other school requirements to antyaj children free of charge. The antyaj boarding houses at Baroda, Patan and Amreli have 50, 26, 12 boarders respectively. Thirty scholarships each of Rs. 4 p. m. are awarded to antyaj boys and girls undergoing primary education. Seventeen scholarships are awarded to antyaj in secondary schools. Preference is given to students of this community for admission to Government institutions, and deserving students are given free-studentships, scholarships, and other school requisites. Special scholarships are maintained in the Baroda College for antyaj students and they are exempted from the payment of fees. A special post of a deputy inspector is maintained for the inspection of antyaj schools. A trained experienced teacher of this community is appointed on this post.

**Birla fund:—**

A sum of Rs. 15,000 was generously donated many years ago by Sheth Jugal Kishor Birla to encourage religious education among the students of the depressed classes. From the proceeds of this fund antyaj children are awarded cash prizes every year after passing specially conducted Gita and essay examinations. One teacher is also engaged, for propaganda work among these classes and for exhorting them to discard injurious habits and educate themselves.



**Interior of the Makarpura Gardens Summer House**



**The Malharrao Ghat on the Narmada at Chandod**



### **Education of Raniparaj tribes:—**

The education of the boys and girls of Raniparaj and other forest tribes living in sparsely populated places has been a difficult problem. Compulsion was tried but proved ineffective, as the schools were very few and far from the places of residence of pupils; attendance was consequently very poor. Teachers from the plains could not be got to work in these areas. After the first experimental enforcement of compulsion, the Raniparaj area was exempted from the operation of this Act, and a voluntary scheme of grant-in-aid introduced instead. The result was, however, not very encouraging and it was decided to reinforce compulsion in 1933-34.

For the benefit of boys and girls belonging to raniparaj areas Government boarding houses are maintained at Songadh, Vyara, Mahuva, Vankal, Anawal, Amroli, and the number of boarders in these boarding houses during the year 1940-41 was 393 in all. There is also a boarding house for girls at Songadh with 58 girls on the roll. Model farms are attached to the boarding houses at Songadh and Vyara for practical training in agriculture. A special post of a deputy educational inspector for schools in raniparaj areas is sanctioned and an educated member of the raniparaj community is appointed to it. In order to supply teachers from their own community it has been decided to send every year ten boys and five girls to the training schools at Baroda. Thirty six students of this community are studying in the training schools, of whom 18 are male students and 18 are lady students. Five students have joined Kalabhavan classes and 4 Baroda College.

### **Education of Mahomedans:—**

The number of Government Urdu schools is 60 with 7,724 pupils (4,965 boys and 2,759 girls). Besides these there are 15 private Urdu schools with 881 boys and 845 girls making a total of 1,726 pupils. In addition to this 12,157 Muslim children are attending the ordinary primary schools. At the secondary stage there are 1,250 Muslim pupils. Thus the total number of Mahomedan pupils under instruction is 22,857 giving a percentage of 12.5 to the total Mahomedan population. There is a special post of a deputy inspector for the inspection of Urdu schools.

### **Education of Waghers:—**

The education of the Waghers, sometime back a turbulent tribe in Okhamandal, has always received special attention. A

boarding house was started in 1920 at Dwarka for Wagher boys on the same lines as the boarding houses maintained for the raniparaj classes of the Navsari district. They are given manual training at the workshop attached to the boarding house. The number of boarders at present is 65. Special scholarships are sanctioned for the students of this class attending Kalabhavan and Baroda College.

#### **Education of Thakardas:—**

In order to give facilities for education to the Thakardas of Mehsana district, a boarding school was opened at Patan in commemoration of the Diamond Jubilee of His Highness late Maharaja Sayajirao III. In addition to ordinary instruction the boys are given practical training in agriculture and gardening. This boarding house has now been shifted to Diyodarda near Patan, and has been reorganised so as to turn it into an agricultural school. The institution is recently transferred to the Agriculture department.

#### **Education of defectives:—**

There are two schools in the State for the education of the deaf, mute and the blind, one at Baroda and the other at Mehsana, with 33 and 65 pupils respectively. The defectives are taught drawing, tailoring, carpentry, wood carving, cane work, tape weaving and music, besides simple reading and writing with a view to make them self supporting and useful in society.

#### **Education of orphans:—**

An orphanage was established in 1901 at Amreli, with room for seven inmates. This orphanage has now 21 inmates. All the orphans except those that go to primary schools are sent to the industrial school at Amreli. Some of them are studying in the local high schools. In addition they are given instructions in tailoring. Particular attention is paid to the physical education of the orphans.

### *(5). Training-Institutions*

#### **Secondary Teachers' Training College:—**

To provide training facilities to the teachers of secondary schools Government maintains a Secondary Teachers' Training College at Baroda. The institution was started in the year 1935.

and was reorganised and affiliated to the Bombay University in the year 1938.

The College conducts courses of teachers' training leading to the degree of Bachelor of Teaching and to the Teachers' Diploma courses of the Bombay University. The College also conducts the State Secondary Teachers' Certificate examination. The Principal and the first Professor are also allowed by the University to coach up students for the degree Master of Education.

The College has 125 students at present, 75 in the B. T. class, 50 in T. D. class and 10 students doing their M. Ed. degree by research work.

The college is housed in a Government building and has a practising school attached to it. It has also a hostel providing facilities for 32 boarders.

The college is a centre for Parts I and II of the B. T. examination. In order to keep in touch with modern development in educational theory and practice the college publishes an annual journal.

The Baroda Secondary Teachers' College Old Students' Association has been recently started. The Association has on its roll 45 life members and 65 ordinary members.

#### **Training school for Men:—**

The institution provides a three years' course of training for the teachers of the primary schools.

The institution has 4 second year and 5 first year classes with a total enrolment of 392 students.

Teachers who have passed the vernacular seventh class test are admitted to the school and all the entrants from the Government schools get stipends of Rs. 10 each for a period of ten months. Matriculates are admitted direct to the second year.

Courses of instruction include theory and practice of teaching and besides a fuller knowledge of the school subjects, physical training, scouting and rural uplift subjects like agriculture, co-operation and library management.

#### **Training school for Women:—**

The institution provides a three years' course of training for women teachers of primary schools. Prior to admission in the

first year the students have to undergo a course of intensive coaching for a year or two in the preparatory classes of the school. The institution at present has 2 second year, 2 first year and 2 preparatory classes with 270 students in all.

Admissions to the school are granted after an admission test to women candidates who have passed the vernacular seventh class examination of this State or the vernacular final examination of the Bombay province. All the students get stipends from Rs. 8 to Rs. 10 according to the classes in which they are enrolled.

The courses of instruction are similar to those in the training school for men with some modifications to suit the needs of women teachers.

#### (6) *Physical Training and Scout Movement*

##### **Compulsory physical training:—**

In 1938 the Government adopted a scheme to make physical education compulsory in all the primary and secondary schools of the State. The same year physical training was made compulsory in schools of the Baroda city and taluka. During the year 1939-40, compulsory physical education was extended to all the other talukas of Baroda district and steps were taken to extend it to Navsari and Mehsana districts. Recently it has been extended to all the schools of the State, and its establishment is made permanent.

##### **Provision of trained teachers:—**

To provide trained teachers under this scheme, training classes are being conducted every year. In 1940-41, 14 physical training classes were opened, six in Baroda, four in Mehsana and four in Amreli district. Besides these, regular physical training classes are conducted in the training schools for men and women and in the S. T. T. College. All these classes during the year 1940-41 turned out 879 trained teachers carrying the total number of such trained teachers to 2,695 of which 321 were trained for secondary schools. These trained teachers are now imparting physical training to the pupils in primary and secondary schools, where they are working. A regular syllabus has been prepared and is being rigorously followed. Schools are however, allowed to have alternative syllabuses, as the principal aim is to give the school child a healthy and active body. Inspectors devote special attention to physical education in schools.

**Scout movement:—**

The Scout movement in the State has been in existence for the last twenty two years and has amply proved its utility as an adjunct of the Education department. The organisation has recently been overhauled and reshaped on the lines of the Baden Powell Scouts. There is an Organising Scout Commissioner who is in direct charge of the movement throughout the State. He is helped by five district organisers. Shrimant Bhadrasinh A. Gackwar, a Naib Dewan and member of the Executive Council, is the Chief Commissioner. The Vidyadhikari Dr. J. M. Mehta is the Dy. Chief Commissioner and the Subas of respective districts are appointed as district commissioners.

In order to impart specialised training in scout craft to teachers and students training camps are held at regular intervals at different centres. Scout rallies are also arranged every three or four years at the time of important State functions and celebrations. These rallies provide opportunities for promoting the spirit of brotherhood and social service among the scouts who are to be the future citizens. In all six scout rallies have been held till now. Besides week end and annual excursions are undertaken by the scouts all over the State.

Social service is the basic principle of scouting. The huge fairs at Sidhpur, Becharaji, Dwarka, Ashapuri and other places in the Raj which the scouts regularly attend for service convince the public of the utility of the movement. The total number of Scouts is 17,441.

The girl guide movement in the State was started in 1935-36. The movement was first introduced in the training school for women. The annual training camps are regularly held and a large number of guiders and guides are trained up for the movement. At present the number of guides, blue birds and other ranks is 1800. In the field of social service the guides have rendered useful services in various conferences and social functions.

*(7) Promotion of oriental arts and literature***Oriental Institute:—**

The Institute's library possesses 13,977 volumes in the manuscript section and 12,350 volumes in the printed section.

Under this series 91 books have been published so far. 20 are in the press and 26 are under preparation. The publications under the series have attained international reputation for a very high standard in scholarship.

The Translation bureau prepares and publishes volumes in the two series—Shri Sayaji Sahityamala and the Balajnanamala for which purpose Rs. 2,00,000 have been endowed by His Highness the late Maharaja Sayajirao III.

It has now been decided to give a more distinct rural emphasis to the works to be undertaken, the idea being to encourage original works with a basis for rural reconstruction in preference to translations, so that the series in future may become more serviceable to the countryside.

So far 275 books had been published in Sahityamala and 168 in Balajnanamala series.

### **Shri Rajkiya Sanskrit Mahavidyalaya:--**

In year 1915, this institution was started for preparing Purohits, Puraniks, Pandits and Shastris able to meet requirements of modern times.

The institution conducts lower, middle and higher courses in Yajniki, Puran, Vyakarana, Jyotish and Ayurveda. During the year under report His Highness was pleased to order that a course of Rigvedi Yajniki should also be instituted and arrangements to start the same have been made.

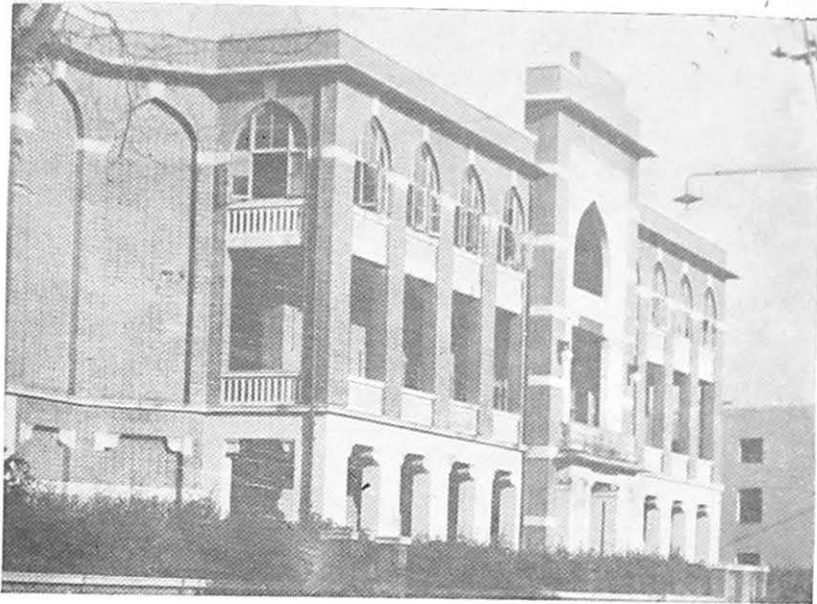
The institution has 20 classes with 159 pupils of whom 36 are given scholarships varying from Rs. 6 to 8 per month.

Out of 135 students that appeared at the last annual examination 101 were successful.

Besides this institution there are 6 Government Sanskrit schools with 141 pupils and seven private Sanskrit schools with 173 pupils in the State.

### **Shravanmas Dakshina Examination:--**

To encourage sanskrit learning, Government have earmarked a sum of Rs. 5,000 every year for distribution as prizes to candidates passing examinations in different Shastras. The diplomas



**The School of Indian Music building, Baroda**



**Some instruments taught in the school of Indian Music**

and titles conferred upon the candidates in these examinations are valued all over India and Pandits from distant places appear for these tests.

### **Music schools:—**

The Central school of Indian Music at Baroda as well as the district music schools and classes are placed under the charge of the Director of Music.

The number of pupils in the school of Indian music at Baroda is 244. The music schools at Dabhoi, Navsari, Patan, and Amreli have 79, 109, 47 and 30 pupils respectively.

Besides, there are 20 music classes attached to the principal primary and secondary schools. The number of students attending these classes is 3,518.

### **The Ayurvedic Mahavidyalaya:—**

The Ujamsi Pitambar Ayurvedic Mahavidyalaya at Patan was started in 1922 and is being conducted on a grant-in-aid basis. It imparts instruction both theoretical and practical in Ayurveda, the course extending over four years. The students are also taught botany, anatomy, physiology, surgery, midwifery etc., on modern lines. Practical training is given at the dispensary and a ward for in-patients is also maintained. There are 125 students under instruction of whom 24 are accommodated in the boarding house attached to the institute. The institution has so far turned out 160 successful candidates.

---



## TECHNICAL EDUCATION IN BARODA

### A short history:—

Technical education started in most of the western countries only by 1825 in the form of Mechanics Institutes to provide courses of lectures in general science which young working men could attend in evenings after their day's work. It was not till 1875 that technical institutes and colleges began to be established in England providing day courses of instruction properly arranged and spread over 3 or 4 years. It is a matter of satisfaction to Baroda that His late Highness Sir Sayaji Rao III impressed by the importance of the technical education movement pioneered it in our country not long after its development in Great Britain under the lead of City and Guilds of London Institutes founded in 1878.

With the object of helping the people to improve the existing industries and to introduce new ones His late Highness ordered in March 1890 that a central technical institute at Baroda and industries schools at some of the prominent industrial centres in the different districts of the State be opened for the purpose of imparting technical education through the medium of the vernacular language of the State. A few excerpts from the above order given below will be of interest even to day.

"...It is accordingly directed that a technical institution should be opened at Baroda where the education of the hand and eye will be attempted side by side with that of the mind, and where instruction will be imparted mainly through the vernacular.

"The object is to help the people to improve the existing industries, and to introduce new ones that may be remunerative.

"It is desirable that a modest beginning should be made, and the scope of the institution should accordingly be restricted for the present to teaching, drawing bleaching, dying and calico printing and carpentry.

“The course of instruction should combine theory and practice so as to turn out a more skilful artisan than at present...”

Sanction was given to open some district schools also. Thus from the very start, the problem of technical and industrial education in the State is viewed in a comprehensive way.

The late Professor T. K. Gajjar was the organiser and the first Principal of the Central Technical Institute opened in June 1890 under the name of the Kala-Bhavan, and a modest beginning was made by opening classes in drawing, carpentry and dyeing and calico printing. About a couple of months after, a class in mechanical engineering was added.

During the second year the subjects of studies for all the different classes were revised and re-arranged. Some more subjects like architecture, photography and painting were added and the scope of the institute was widened.

To enable the weavers to understand the advantages of introducing fly shuttle arrangement in the native hand-loom and to provide technical instruction in the art of hand-loom weaving, a class was added to the Central Institute at Baroda in 1897. This class has since been developed into a school of weaving.

In 1901 nib and button making, brush making and pyrography were added as extra subjects in the schools of Mechanical Technology, Architecture and Art respectively and were intended to serve as home industries, but they had to be abandoned owing to lack of response.

A class in watch and clock making and repairing (horology) was added to the Kala-Bhavan in 1902. This was developed into a school of watch-making and was conducted under a local artisan teacher, who had been trained in Switzerland (1908).

A commercial class was added in 1906 which later on developed as a school of commerce.

Along with the work of developing the different schools of the central Technical Institute at Baroda, the work of organising and opening industrial schools in the districts was taken in hand. These schools were opened at Kathor in the Navsari district, Petlad in the Baroda district, and Patan in the Mehsana district. Some of these were closed and new ones opened at other centres.

In 1921 Dr. Hag of Bangalore and in 1925 Principal Charles A. King of the Benares Engineering College were invited by the Government to inspect and submit proposals for reorganising the institute.

Some of the recommendations were :—

1. rebuilding of the workshops and the dye-house;
2. giving up the trading side of the shops in so far as they worked in the slightest degree apart from the teaching side;
3. building of hostels;
4. forming engineering laboratories and dye-house and selecting their equipment.

A sum of Rs. 1 $\frac{3}{4}$  lakhs for erecting and rebuilding the workshops and dye-house was sanctioned. But in view of the general advance in educational requirements of the Baroda State and the need for additional facilities for consolidating and advancing knowledge, the Government appointed a commission to investigate the possibilities of a University at Baroda. As a consequence the construction of the workshop buildings was postponed for some time.

After the final decision of the question in 1933 a beginning was made by purchasing a new engine and boiler at a cost of Rs. 30,000 and building new sheds for the same.

The old workshops have been remodelled and a new workshop containing

- (1) an engine and boiler shed covering an area of 6,400 sq. ft.,
- (2) a new dye-house covering an area of 9,600 sq. ft.,
- (3) a new weaving shed covering an area of 6,400 sq. ft.,
- (4) a machine shop covering an area of 4,800 sq. ft.,
- (5) a smithy and foundry shop covering an area of 4,200 sq. ft., and
- (6) a fitting and pattern making shop covering an area of 4,800 sq. ft.

at a cost of about Rs. 1 $\frac{1}{4}$  lakh has been built.

A new electrical laboratory covering an area of 4,800 sq. ft. is expected to be ready shortly.

### **Schools, functions and courses of study :—**

The function of technical education is two-fold :—firstly to provide training suitable to the talent available and secondly to meet the requirements of industry and commerce by turning out recruits with a good all round education on practical lines.

That a sound technical education must be based on a good general education is axiomatic.

There are in Baroda State three grades of schools providing *general education* :—

- (a) Primary schools in which education has been compulsory and free. The age-range has been fixed as 8 to 12 for both boys and girls;
- (b) Anglo-vernacular and Middle Schools (classes VI, VII and VIII);
- (c) High Schools (upto Matriculation standard).

Three *corresponding grades of technical schools* have therefore been recommended by Mr. A. Abbott, formerly His Majesty's Chief Inspector of Schools in England, in his report of March-April 1938. He emphasises the need to provide for the training of young men who will be able to take up their places in industry as artisans, foremen and executives.

The following institutes and schools in Baroda State provide for training course as under :—

- (a) Post-High School grade at Kala-Bhavan Technical Institute offering diploma courses to train up recruits for the supervisory grade type. Boys are admitted to these courses at and over the age of 17. The diploma courses extend over 3 to 4 years.
- (b) Post middle school grade or Vocational High School at Kala-Bhavan Technical Institute the product of which will be fit to take up posts in industry as chargehands or foremen, as jobbers or as tacklers. Boys enter this course at the age of about 14 i. e. 3 years before the matriculation class. In this course the general education including English of the boys is continued, but 50% to 60% of their time is devoted to vocational subjects such as engineering science, engineering drawing, engineering workshop practice, ordinary workshop calculations etc.

Corresponding courses are offered in England at Junior technical schools. There is an enormous demand for the product of this course in India whose duty it is to translate the requirements of the management into solid fact, through the medium of machines and the men who operate them i. e. the skilled artisans. This course extends over 3 years.

It has also been arranged that those who complete the vocational course and intend going in for the diploma course will be given preference to matriculates seeking admission to that course.

- (c) Post primary grade known as Certificate Courses at Kala-Bhavan Technical Institute. The product of this course provides skilled artisans for the industry. The course is mostly practical with very little theory.

Besides the above there are district industrial schools for the training of skilled artisans ( Course c ) at Amreli, Navsari and Pattan.

The Reformatory for juvenile offenders is also under the Kala-Bhavan Technical Institute so that the young lads may be given some training in arts and crafts to make them good citizens.

There are also manual training classes attached to the State High Schools.

The Diploma courses are conducted in English while instruction in Certificate courses is given in Gujarati. There are 7 Diploma courses, 11 Certificate courses 6 of which are allied to the Diploma course and a separate vocational course run at the Kala-Bhavan Technical Institute as detailed below :-

### Courses of training

DIPLOMA	CERTIFICATE
<p><i>Engineering:</i></p> <ol style="list-style-type: none"> <li>1. Mechanical Engineering.</li> <li>2. Electrical Engineering.</li> <li>3. Civil Engineering.</li> </ol> <p><i>Technology:</i></p> <ol style="list-style-type: none"> <li>4. Chemical Technology.</li> <li>5. Weaving Technology.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turner, fitter or foundry and smithy.</li> <li>2. Wiremen.</li> <li>3. Carpentry.</li> <li>4. Dyeing and textile printing or soap making.</li> <li>5. Weaving.</li> </ol>

## DIPLOMA

*Art and Architecture:*

6. Architecture.
7. Painting.

## CERTIFICATE

6. Draftsmanship and Tracing.
7. Drawing.
8. Photography and Photo-Process.
9. Motor Mechanics.
10. Commerce.
11. Typewriting and Shorthand.
12. Vocational Courses.

The Typewriting and Shorthand class mentioned above was sanctioned to be started in July 1941 and the third year of the vocational course was added.

There are 712 students at present in the Kala-Bhavan. Out of these 430 are in the diploma course and 282 in the certificate courses.

The number of Baroda State students studying in the institute has steadily risen from 20% in 1919 to 65% in 1938-39 and 67% in 1940-41.

Out of 712 as many as 477 are from Baroda State, 174 from Bombay Presidency and 61 from Central India, Central Provinces, Berar, Madras Presidency and South India, the Punjab, Rajputana, United Provinces, Bengal and even the Federated Malay States.

The expenditure of the Kala-Bhavan Institute is about Rs. 1,20,000 per year.

There are three industrial schools at Navsari, Amreli and Patan.

The J. N. Tata Hunnarshala-Industrial school-at Navsari which is the only grant-in-aid industrial school in the State was established in 1908 by Mr. Jamshedji N. Tata. The Hunnarshala receives a grant-in-aid from Baroda Government of Rs. 3,400 per annum. The school trains boys in mechanical engineering courses and cabinet making.

The industrial school at Amreli teaches carpentry, weaving and tailoring. There are 28, 16 and 30 students in the above mentioned three courses respectively.

The R. B. Sheth Punamchand Kotawala Industrial school at Patan, started with a generous donation of Rs. 1,25,000 by Mrs. Hiralaxmi Kotawala for the purpose of establishing an industrial school at Patan in memory of her late husband undertakes to train boys for engineering works, turning and fitting and smithy, carpentry and as wiremen. There are 18, 10 and 19 students in the above mentioned courses respectively.

### **Training of technicians for war purposes:—**

The Baroda Government has offered to train war technicians at the Kala-Bhavan, the G. B. S. Railway workshops, Baroda, and the Tata Industrial school at Navsari, in pursuance of the State's policy to assist the Government of India in the war effort. The scheme is designed to provide for the intensive training of a large number of semi-skilled tradesmen required for the technical branches of the Defence services, ordnance and munitions factories. According to the original programme 91 persons were to be trained at these centres as turners, fitters, machinists and electricians. Of these 57 are being trained at Kala-Bhavan since 4th August 1941, and 18 at the G. B. S. Ry. since 1st October 1941. The training at Navsari has not yet started. On the recommendation of the Senior Regional Inspector the number of trainees at Kala-Bhavan is now to be increased to 176.

The maximum duration of the courses will be one year. Trainees receive stipends from the Central Government at the rate of Rs. 25 p. m. if they are matriculates and Rs. 20 p. m. if they are not, during the period of their training. They have to give an undertaking that they will serve in any ordnance factory, Indian Ordnance Corps or any civil industries doing war work where they may be allotted by the Government of India and that they will be willing to go overseas if they are sent there. Preference is given to persons belonging to the artisan classes but others are not excluded.

---

## **LIBRARY ORGANIZATION IN BARODA**

### **History :—**

The development of free public libraries is by far not the least among the notable achievements of H. H. the late Maharaja Sayajirao's long and meritorious regime. As far back as 1910 he foresaw the important part which libraries would be called upon to play in any movement for the uplift of the masses. The scheme of village libraries then evolved under his personal supervision and fostering care has stood foursquare all these years and is now increasingly coming under the notice of people concerned with the increase of literacy and of enlightened citizenship. The object of the scheme has been to make the people aware of a higher standard of intellectual living, of a more abundant life and making them so aware as to inspire them to set about achieving it on the basis of self-help.

The original scheme was that there should be four types of mofussil libraries; the district town libraries should be situated at the chief town of each of the four districts of the State (receiving a maximum annual grant of Rs. 700); the town libraries should be situated at the taluka head-quarters or in places having more than 4,000 population (receiving a maximum annual grant of Rs. 300); the village libraries should be situated in villages (receiving a maximum annual grant of Rs. 100) and fourthly integrating and supplementing the services of these libraries should be the travelling libraries operated from Baroda. The grant from the department in each case was conditional upon the people raising an equal amount from amongst themselves. The department of libraries was authorized to promise on behalf of the district local boards an equal contribution. The scheme envisaged a hierarchy of institutions, the village libraries being supervised by town libraries which in their turn would be looked after by the district town libraries and these by the department of libraries.

### **Present organization :—**

Except that they do not stand in this pyramidal order the present development of village libraries is in conformity with



the original scheme. There are at present four types of libraries: 4 district town libraries, 42 town libraries, 1,270 village libraries and 390 travelling library boxes. To them have been added three other types, the reading-rooms - 156 in number, the children's room - 12 in number and the ladies' libraries - 18 in number. These have come into existence by the exigencies of social and economic circumstances. In districts of not very well-to-do peasants it was found impossible to collect as many as Rs. 75 which is the minimum capital with which the smallest library comes into being. On the other hand they found it convenient to begin with a reading-room costing no more than Rs. 25. The reading-room has only newspapers and magazines and no books. The reading-rooms have always proved in experience to develop into libraries. Year by year reading-rooms are being transformed into full fledged libraries. The starting of children's rooms received a tremendous impetus when the library movement came to be regarded as an essential compliment of compulsory primary education. To prevent relapse into illiteracy it was necessary to keep alive the reading habits of youths after the few years of compulsory schooling. And the free public libraries were eminently suitable for this purpose. They promoted free and read-what-you-like type of informal reading and thus provided a continuation of the school. In the library were kept lists of students who had recently left schools. They were studied by the librarians in silence to see that the listed boys and girls made use of library facilities. The method was persuasive and more effective. This trend has been there from the very beginning and it has been emphasized during the last twelve years. The ladies' libraries were found necessary in the first instance to overcome the Indian women's traditional shyness to make joint use with men of public institutions and later, with the increasing participation of women in all spheres, to give wider scope to their new enthusiasm for works of public service.

#### **A village library:—**

A village library starts with a basic collection of hundred rupees' worth of books. People's share in this is just Rs. 25, the other Rs. 75 are given as a gift from Government. To start a library, however, villagers have to collect Rs. 75 out of which Rs. 25 are set apart for books and Rs. 50 for buying furniture and contingency.

All the libraries and reading rooms are free and the only condition of admission as a registered reader is that the person

must belong to the place. Subscriptions are nevertheless accepted and they entitle the subscribers to some privileges, such as getting more books at a time for home-reading or getting magazines and newspapers from the library at home.

### **Management:—**

The libraries are independent bodies managed by a local library committee consisting of from 6 to 12 members. The president of the committee is a leader of village society, the secretary—generally the senior teacher—is the moving spirit of the committee and not infrequently he works as an honorary librarian. When he does not so work, the post of the librarian is taken up by a junior teacher. The teacher's work is unpaid though notice is taken of his library work in judging his efficiency as a teacher. As secretary he collects the people's share of the annual budget, keeps accounts, and with the approval of the president corresponds with the department of libraries or other institutions. The president and the library committee bank on his enthusiasm and the teacher on his part puts in work his best endeavour. In progressive villages he earns not only the good will of the people but small allowance for his library work from the committee of management.

The children's rooms are managed by the library committee of the adults' library. The ladies' libraries are managed by an auxiliary committee consisting of women who work in close co-operation with the main committee.

### **Travelling libraries:—**

The travelling libraries are boxes of books sent from Baroda to supplement and refresh the stock of books of the stationary libraries. They are also used to do the duty of libraries where none exist. There is a stock of books in Baroda separate from that of the Central Library, which is drawn upon to fill the travelling libraries' boxes. This stock is mostly of Gujarati books, the other languages represented being English, Hindi, and Marathi.

### **Library buildings:—**

The independence of the libraries is both an index of local pride and a source of inspiration to the villagers. They feel that the library is their institution and that it must well stand comparison

with its neighbours'. This pride is, if anything, stimulated if the library is given a building of its own. Generally the libraries are housed in school buildings, rarely in private-owned houses. Since 1930 the library department has been setting apart about ten thousand rupees annually for helping mofussil libraries in having their own buildings. The smallest library building approved is worth Rs. 1,800 and some of the more ambitious buildings are worth from twenty to thirty thousand rupees. The local people, the department and the district local board share the expenses of the building in more or less equal proportion. The local people besides finding one third expenses are required to lay by one thousand rupees from the interest of which the building can be maintained in proper repair. In the year 1940-41 there were 184 libraries with their own buildings. It has been found that the people's share is generally a handsome donation of a single individual who regards the library building as a suitable memorial to perpetuate the memory of his dear relative. The library department permits the name of the donor to be associated with the library.

#### **Buildings for Ladies' libraries:—**

The buildings for Ladies' libraries are generally designed to provide more accommodation than that required for strictly library purposes. The object is to make the library a centre of women's cultural activities. The ladies' library at Amreli is a notable example of this type. Not only are books and periodicals supplied from here but classes are held for teaching women various arts and crafts such as knitting, embroidery, sewing, music, painting and so on. The traditional Garba dances too, are played on festive occasions and the library is in all ways made an attractive place to go to. It has been a most encouraging experience.

The Children's rooms form part of either the Ladies' libraries or the main Adults' libraries.

Great stress is laid on the prevention of relapse into illiteracy and the childrens' reading material is being increasingly stocked in the libraries both in the form of books and periodical literature. Illiteracy is being attacked from bottom upwards, although parallel attempts at liquidating it from the top downwards are not looked at askance or neglected. Want of the right type of reading material—adult in content and elementary in style—handicaps the efforts of the department to help the newly educated adult-adult.

in age but raw in acquaintance with the printed word. Daily papers, weeklies and monthlies form the staple reading material for adults. The rest of the library grant is used for buying books and periodicals for children.

The ladies' libraries having buildings are making use of the additional accommodation for activities which have the same objective as the libraries, viz. the diffusion of culture and enlightenment. But there are some libraries which make use of the additional space for commercial purposes. Portions of the building, chiefly on the ground floor are let to shop-keepers and the rent is used to strengthen the financial position of the library.

### **Library funds:—**

To the library committee the question of raising funds is as important as that of management. Of their annual budget upto two-thirds is received as grant from the department of libraries and district local boards. But one-third has to be raised locally. This is done thus: on occasions of births and deaths or marriages and similar joyous functions, families are persuaded by the library committees to make some donation to the library funds. The appeals are seldom turned down. The librarian or the secretary works upon the competitive spirit of local well-to-do men and wheedles them into making donations. The subscribers' fees form a good portion. And lastly comes the interest on the reserve fund.

The reserve fund is the financial fly-wheel of the libraries. It is a store-house of economic power. The Government grant cannot be supposed to be a permanent source of income. For one thing the number of libraries would increase from year to year without a corresponding increase in Government revenue. The library department, therefore, rightly envisaged a future when Government grants to libraries would cease or at any rate diminish into thin proportions. Since 1916 the libraries have therefore been made to contribute some portion of their annual budget to the reserve fund. These reserve funds have now amounted to four and five figure rupees and are providing a steady annual income. The funds are public property, the department only controlling their investment and disposition.

### **Routine of management:—**

When the library committee have collected their share of the annual income, they frame a budget and send it to the department.

for approval. The town libraries send only their budgets while the village libraries send the amount that they have collected. The town libraries are informed by the department, of the amounts which they are to receive as Government and local board contribution and they start to spend accordingly. The library year begins in August and the town libraries receive payment of the Government and local board contribution in two instalments, first in January, and the second in July. For receiving these payments the town library committees send to Baroda all the bills and the department verify that the expenses are incurred in accordance with the sanctioned budget.

To village libraries no money is sent. Their contribution is received by the department, the share of Government and local board contribution is determined and generally three times the amount of village collection is sent to the Libraries' Co-operative Society to be spent by it as shown in the budget of each village library. The village librarian is relieved of the duty of book keeping and accountancy. The centralized purchase through the Libraries' Co-operative Society is both economic and efficient.

### **Libraries' Co-operative Society:—**

In the year 1924, some of the library enthusiasts among the people started a Libraries' Co-operative Society. Its functions are multiform. Like the consumer's co-operative society, it supplies to its constituent library members, library materials like books, stereoscope, forms, furniture, etc. without the middleman's profits. It works also as a saving bank and accepts the reserve funds of the various libraries as deposits. It administers trusts made for the benefit of libraries. It publishes books on library science. It also publishes a Gujarati monthly called "Pustakalaya". Besides various useful articles and news about library affairs of the State in particular, it publishes the departmental circulars which are issued from time to time for the guidance of the village library authorities.

### **The State Library Association:—**

The vitalizing influence which the "Pustakalaya" exercises on libraries is strengthened and made more vivid by the activities of the State Library Association. The holding of Library conference and training classes for librarians are two of its important activities. It has only two paid servants, but the honorary work

of the members is beyond praise. Personal visits of the members to villages have proved very effective in creating and fostering library consciousness among people.

A feature of the State Library Association is its pyramidal structure. The State Library Association stands at the apex. At the bottom are the village libraries and their friends i. e. the people who take interest in their welfare. In between these two come the Juth mandals-group associations, the taluka and the district organizations. The independence of village libraries in the official scheme is thus tempered and almost transmuted by this unofficial organization into a kind of vital contact.

### **Central Library:—**

In the City of Baroda itself there is the Central Library which is run by the State for free use by the citizens. It is a general library intended to provide healthy reading material. It is modelled on the urban municipal libraries of England and the U. S. A. At the same time it partakes of the nature of national libraries in regard to its Gujarati and Marathi collections which are presumably the largest in these languages.

The Central Library has a stock 1,32,193 printed books. About 53,000 are in English, about 42,000 in Gujarati and about 32,000 in Marathi and the rest in Hindi, Urdu, Bengali, &c. The catalogues are in card form. Only the author and title entries are made. The classification scheme is the Borden scheme which is a mixture of Cutter and Dewey. There are twenty six basic divisions as in Cutter and these are subdivided decimally as in Dewey. The classifications for vernacular books are adaptations of this. There are many more than twenty six divisions as the Devanagari alphabet has more than twenty six letters and the subdivisions are not decimal but vowel and consonant combinations according to the syllabary or the dwādāshakshari. The charging of books to readers is since August 1937 done according to the English system.

The building in which the Central Library is housed is partly new and partly old. The old portion contains the news-room, the office of the assistant curator, the bindery and the store-room. The new portion contains the lending and reference sections, the Ladies library, the Children's room and the stack-room. This last room was built at a cost of Rs. 1,25,000 and is thoroughly modern.

with glass floors, plenty of natural light and adjustable shelves of steel. It can accommodate 1,20,000 books.

### **Specialist libraries:—**

The College, the Kala-bhavan, the Secretariat, the Huzur Political Office and numerous other departmental libraries in the City cater for the needs of advanced students of specialized branches of knowledge. A Central Libraries Board has recently been constituted to co-ordinate the book selection and purchase of the Central, the Secretariat and the Huzur Political Office libraries. Such bibliographical co-operation must necessarily promote greater and more efficient service. Well may these libraries be called the vertical component of the educative force of libraries.

A few of these may be described with some fulness of detail:—

### **The Oriental Institute :—**

The oriental section of the Central Library was formed into a separate Oriental Institute, which undertakes an amount of scholarly work, such as publishing the Gaekwar Oriental Series, the Sayaji Sahitya and Bal Dnyana Malas etc. The last two series are not so well-known as the first because they deal in Gujarati, Marathi and Hindi literature. But their fame is no index of their vital importance. The two series have been conceived to promote the growth of the literature of knowledge, and to open up by translations the treasures of Western books. The supply of good reading material is essential to the healthy growth of libraries and the two series have well served the libraries in this direction, both directly by supplying good books and indirectly by stimulating the interest of other publishers to copy their example. The Translation Branch has a committee of management which lays under contribution the services of distinguished men of letters, college professors and those who have practical knowledge of the reading needs of the public. The library can be said to be one of the principal libraries of its kind in Western India, housing more than 12,000 Sanskrit books on Indology, together with nearly 20,000 well preserved and important manuscripts. The library is well equipped with books under all subjects of Oriental learning. It is particularly strong on Vedic, Jain, Buddhistic and "Vimarsha" ( Research ) sections. A variety of journals for reference work is its noteworthy feature on account of the rarity of some of these.

**The Seminar Library:—**

The library collection consists of books mainly on history of religion; philosophy of religion, in which is included psychology of religion; comparative religion; Hinduism and Indology; Islam; Buddhism; other religions; primitive religions and anthropology; some original texts of Islam; Hinduism and Buddhism; general culture; subjects such as architecture, sculpture and painting; sociology and morality; and reference books. The library is fairly strong in collection of books on religion in German and French. The library contains 1,876 books.

**Huzur Political Office Library:—**

This library has a collection of (i) books relating to politics, (ii) Parliamentary Blue books and (iii) publications of the Government of India, Provincial Governments and Baroda Government. The number of books is approximately 12,000. The use of the library is restricted to the Members of Government, heads of departments and their assistants, the staff of the Huzur Political office, the readers of the Secretariat library and such other persons as the Manager may deem it proper to admit as readers. Subject to some conditions, post-graduate students of the Baroda College are also allowed to borrow books.

**The Secretariat Library:—**

In order that the officers of the State may keep themselves in touch with publications, reports, &c. dealing with departments in British India, the Secretariat library was started in 1927 in the Kothi building. It is modelled on the libraries of the Governments of Madras and Bombay and houses publications and reports relating to various departments, reports of committees, commissions, conferences, departmental codes, manuals, &c. At present the total number of such books is 11,310 and all Government servants either at the Capital or in the mofussil make use of this library. The books in the mofussil are sent and returned at the expenses of the Government. Research students of the Baroda College are also allowed to make use of this library.

---



## **PUBLIC HEALTH**

### **Medical Relief:—**

The present Medical service in the State has its origin in the hospital opened in the Baroda City under the superintendence of Dr. Stratton, the Residency Surgeon in the year 1855 A. D. Before that period there was no organisation for general medical relief except that the rulers used to engage the services of vaidyas and hakims. However, the real expansion of the Medical service started with the rule of His Highness the late Maharaja Sayajirao Gaekwad.

### **Medical relief in the City :—**

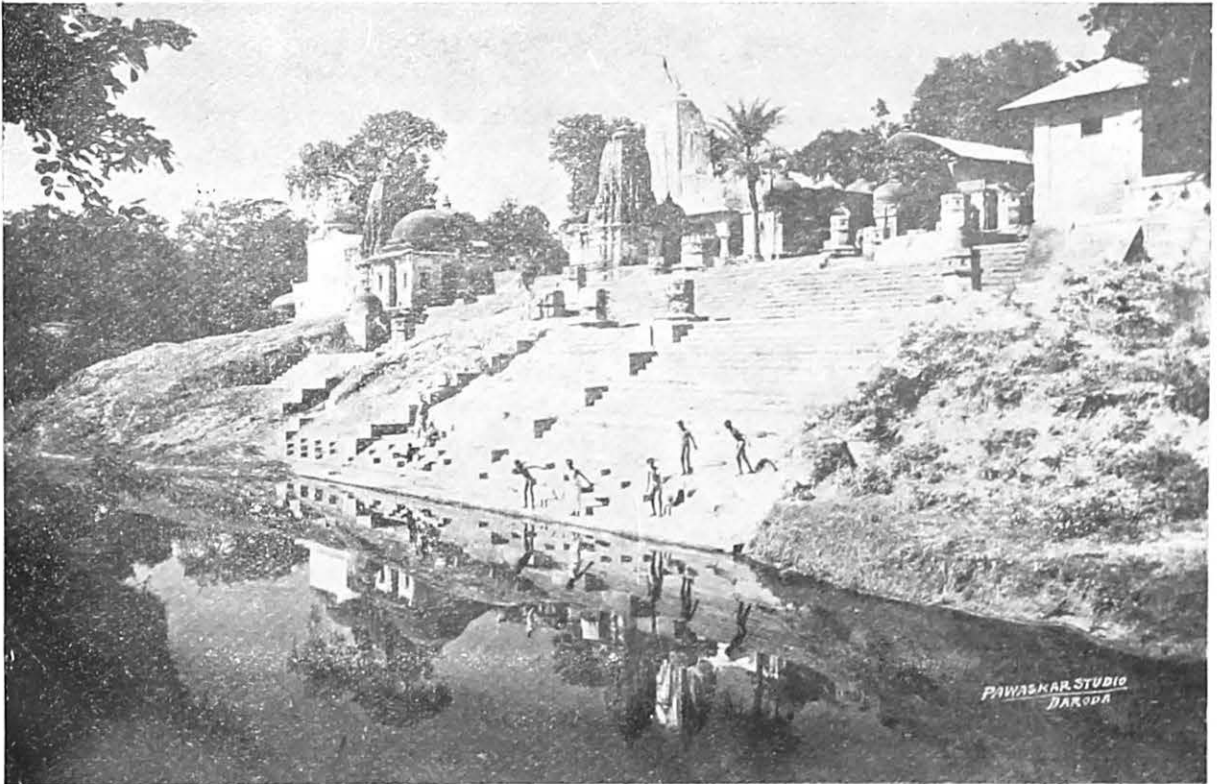
In 1875, His Highness Sir Sayajirao III ascended the Gadi and in next year Major T. Cody was the first to be appointed as a Medical Officer, and then the work of organisation began. Two new institutions--The Jamnabai dispensary and the Sayaji Rao Military Hospital were opened bringing the total number of medical institutions in the city to three.

With the rapid growth of the city the then existing State General Hospital was soon found to be inadequate and a new building was erected and opened by the then Viceroy and was named as Countess of Dufferin Hospital. It accommodated 56 indoor patients. Similarly the old Military Hospital was found inadequate and was replaced by a new one at the cost of Rs. 88,000 and later on kept under the charge of a separate medical officer.

Till the year 1901, the Palace Physician held the charge of the Dufferin Hospital also, but in that year the posts were separated and an independent Medical Officer was kept in charge of the institution. Similarly with the expansion of the hospital one European matron, two sisters and Indian nurses were appointed a few years later.



The Statue of Buddha : Jubilee Garden



Kamnath Mahadeo on the Vishwanitri

About the same time the Victoria Jubilee Ward providing accommodation for 24 women patients was added to the main hospital and kept in charge of a lady doctor.

A separate ward for isolation and infectious diseases was added to the existing group of hospital buildings.

The occasion of the Silver Jubilee of His late Highness Sir Sayajirao Gaekwad, was a great landmark in the history of the development of the modern hospital in Baroda City. To commemorate that occasion a new hospital on modern principles was built on the plot adjoining to the Military Ward at a cost of Rs. 5 lakhs. It gave accommodation for two wards—Medical and Surgical with a total provision of 104 beds, two complete and modern operation Theatres, an extension outdoor block for examination of patients, dispensing and hospital Store, one kitchen block with sanitary fittings and an administrative block for offices. This new hospital was opened in 1917 by Lord Willingdon, the then Viceroy and was named as the State General Hospital.

However, the progress of the hospital did not stop there. The clinical laboratory which already existed was more fully equipped and shifted to a separate building in the hospital compound and placed in charge of a medical officer specially trained in India and abroad for the purpose. The laboratory carries out all the modern chemical, pathological and bacteriological tests for correct diagnosis of diseases.

Similarly X-Ray department was shifted to separate premises as the existing one was found inadequate as a result of the increase in the variety of the apparatus used and patients treated. It was kept under the charge of a specialist trained in England. Later on in the year 1927, a new X-Ray machine was installed and the amount of radium provided was also increased by about 42 mlgms. making the total of 201-27 mlgms. of radium and it is proving a great boon to the patients suffering from the deadly disease - Cancer.

At about the same time, treatment by medico mechanical apparatus and hot air baths was introduced and a Swedish Masseur was appointed. The appointment of a dental specialist followed a little later.

His Highness the late Maharaja Sayajirao presented an upto-date ambulance car to the Hospital for the use of the people of Baroda and nearby villages situated within five miles.

The Hospital has been a recognised centre for anti-rabic treatment since 1926. Three more centres at Amreli, Patan and Navsari were opened in the year 1940. The treatment is free.

The hospital also trains nurses, both male and females as well as midwives. It is affiliated to the Bombay Provincial Nursing Council.

Last year the X-Ray department was fitted with another new apparatus—Deep X-Ray therapy apparatus which is of great use for treating various diseases besides cancer. The department also possess modern electrical appliances for treatment—such as diathermy, infra red rays, ultra violet rays, short wave therapy etc.

The Hospital has also got a separate Eye department under a medical officer specially trained in that subject with a separate outdoor and a separate ward accommodating 16 patients.

Very recently, a dental mechanic has been appointed to help the Dental Surgeon in carrying out dental mechanic work such as preparation of dentures etc.

The Hospital has now a total accommodation for 302 indoor patients excluding the beds available in the other Medical institutions in city viz. Shantilal Gordhandas Maternity Home and also Mental Hospital. Besides, there are two dispensaries in the city, one known as Jamnabai Dispensary attached to the maternity home mentioned above while the other one called Mahmud Wadi dispensary is meant for giving medical relief to the persons staying far away from these two big institutions.

The number of medical officers and sub assistant surgeons working in these city institutions is 16 and 17 respectively.

### **Medical Relief in Districts :—**

Very soon after the opening of the hospital in the Baroda City, two dispensaries were opened at Okha and Dhari during H. H. the Maharaja Khanderao's regime while Maharaja Malharao's rule saw the opening of yet another dispensary at Amreli.

The progress of medical relief in the districts kept pace with the medical relief at the capital town. A year after His late Highness Sir Sayajirao III ascended the Gadi, ten more medical institutions were opened at principal places in the districts such

as Navsari, Kadi, Sidhpur, Dabhoi, Bechraji, Deesa, Sadra, Pattan, Sojitra and Petlad.

The years following saw a rapid expansion of medical relief in districts. Visnagar and Dehgam got dispensaries in 1877 and civil surgeons were appointed at Amreli and Dwarka. A year later the Patan dispensary was also converted into a hospital. Vyara and Kathor got dispensaries in 1880.

The public quickly began to realise the benefits of the free medical services which the State was offering them and as a result the work of opening dispensaries at different places in the State maintained a steady progress. Thus in the year 1901-02 there were 48 institutions throughout the Raj. This number rose to 57 in the year 1910, 66 in the year 1920, 93 in 1930 and 117 in 1940.

In spite of this steady progress, it was found necessary to have still more institutions which would bring medical relief within an easy reach of the village people. A committee appointed to suggest expansion of medical facilities recommended for adoption a general principle that there should be a dispensary within a radius of five miles. Action was immediately taken and by 1937 the department had opened 24 such dispensaries and the figure for the present is 30.

#### **Village dispensaries:—**

Even with the above scheme operating it was found that many villages did not come within its scope. Therefore in 1935 the Government started the system of grant-in-aid village dispensaries and the maintenance charges of such dispensaries were equally shared by Government, Prant Panchayats and the village-people. The figure of such dispensaries by the end of year 1940 was 164.

In order to further extend the scope of medical relief afforded to the village population of the State a new scheme has been recently sanctioned and put into force. Under this scheme, persons holding medical qualifications such as M. B., B. S. or L. C. P. S. are offered a monthly salary and a sum for purchasing medicines on condition that they give free medicine and attendance to the poor.

As a result of a handsome donation from Datar Sheth Chhotalal Maganlal, a fully equipped hospital has been built and completed at Petlad with an accommodation of 30 beds.

The total number of medical institutions giving medical relief to the people of the State is at present 117 while the number of Medical Officers and Sub Assistant Surgeons working in the department is 28 and 119 respectively.

### **Medical Relief for women in the Capital and Districts :—**

The origin of the medical relief for women can be traced back to 1875-76 when the first midwife was appointed. It was followed by the appointment of two nurses next year; while in the year 1892 first lady doctor was appointed in the City. A few years later, the Victoria Jubilee ward was added to the main hospital providing accommodation for 24 female patients and at that time another post of a lady doctor was sanctioned, one for the Jamnabai Dispensary and another for the State General Hospital. This was soon followed by the appointment of two lady sub-assistant surgeons.

In the year 1902, under the auspices of the Victoria Memorial Scholarship Fund, a class of dais for receiving practical instruction was organised. The pupils were examined for their proficiency at the end of two years. In 1919, Dais Act was passed according to which, women wishing to follow that occupation are required to register their names and their certificates and to have a previous practical training in Maternity Hospital and duly certified by the Medical Officers. The defaulters are liable to a fine.

At present, in district dispensaries and hospitals there are 21 permanent nurse-midwives and in addition there are 23 temporary nurse-midwives whose expenses are proportionately defrayed by Government, panchayats and municipalities.

In the year 1914, a maternity ward of twelve beds - a gift of Sheth Himatlal Shivilal was added to the Hospital and opened by His late Highness. In 1920 the Jamnabai Maternity Home was opened in the city. The next year saw the opening of yet another maternity hospital at Pattan.

This progressive policy of opening maternity homes and affording medical relief to the female patients was steadily continued and in the year 1937 ten maternity homes existed in

the State, while the number of midwives increased to 33. Besides the two maternity hospitals in the city there are similar institutions at Pattan, Mehsana, Visnagar, Petlad and maternity homes exist at Bhadran, Amreli, Sojitra, Pilwai, Dharmaj and Sankheda.

As a result of a handsome donation from Sheth Pestonji Framji, beds in the maternity wards in the Shree Sayaji General Hospital were increased from 21 to 45 in 1934.

In 1940 a new separate operation theatre was built and attached to the maternity ward of Shree Sayaji General Hospital as a result of donation of Rs. 32,000 from Mr. K. V. Uplap on behalf of late Dr. R. S. Poredi.

However with the rapid growth, it was thought necessary to widen the scope of medical relief afforded to the women of the State and this purpose received a great impetus with the creation of Shree Maharani Shantadevi Trust Fund under the kind patronage of Her Highness Maharani Shantadevi Gaekwad with the chief object of providing increased facilities of medical relief for women and children in the State, to conduct institutions for providing medical and ante-natal advice to women and also to conduct maternity centres, child welfare clinics and similar institutions. The Government decided to donate a handsome amount of Rs. 4 lacs and an yearly donation of about Rs. 30,000. The trust is to receive Rs. 10,000 from Shree Sayajirao Memorial Fund. As an initial step a children's ward with 24 beds in Shree Sayaji General Hospital and ten maternity homes at different places in the State will be shortly opened. Under this scheme 17 more maternity homes at (1) Dabhoi, (2) Karjan, (3) Savali, (4) Shinor, (5) Vaso, (6) Vyara, (7) Mahuva, (8) Kalol, (9) Chanasma, (10) Dhinoj, (11) Sidhpur, (12) Vadnagar, (13) Dehgam, (14) Kodinar, (15) Dhari, (16) Damnagar, and (17) Dwarka, are sanctioned. Some of them will be opened during the current year and some will be opened during the course of a year or two.

Maternity homes at Unjha, Valam and Vijapur are also opened by accepting donations from charitable persons of these places.

#### **Ayurvedic Dispensaries:—**

As mentioned before, about ninety years ago when the present Medical services started, the State engaged the services of Vaidyas and Hakims who followed their own system of medicine.

However with the progress of the time, educated Vaidyas and Hakims understood the rationals of medical relief, and took to the western system of medicine along with their traditional methods. In 1924-25 Ayurvedic dispensaries were opened at four places in the State, out of which one was converted into an Allopathic dispensary later on, while the remaining three continue to be maintained by the Government. Two more Ayurvedic dispensaries were added in the year 1939-40.

There is one Ayurvedic college at Pattan which is partly supported by the Government and two Government servants are on its managing board. The college besides imparting Ayurvedic medical knowledge also teaches subjects like Anatomy, Physiology etc. useful from the modern point of view.

In the year 1938-39 the Ayurvedic college graduates, were offered a subsidy of Rs. 100 each for inducing them to settle down permanently in villages in backward areas.

### **Special Institutions:—**

*Mental Hospital:*—There are also other special institutions which help the work of medical relief in the State. Besides the hospitals mentioned before, there is also a Mental Hospital under the superintendence of a Medical Officer specially trained in the science, for treating mental cases. The hospital was opened in 1898 and was meant for 28 patients. The number of patients now accommodated is 75.

*Nutrition Department*—For the last three years the Government have opened a Nutrition section in charge of a Medical Officer who is specially trained for the work. His work is to spread proper knowledge about the diet and various food articles among the people of the State which includes press propaganda, lectures and demonstrations, publishing booklets and investigation work, and conducting diet surveys in various boarding houses and villages.

*Chemical Analyser:*—The Medical department also includes the Chemical Analyser's Laboratory which is specially useful in Medicolegal cases.

*Leper Asylum:*—The Government opened a Leper Asylum in 1890 on the banks of the Narbada with accommodation for about 100 lepers. The inmates are fed, clad, and treated there free of charge.



**Tuberculosis:—**

Another very important institution of the Medical department is the State branch of the Tuberculosis Association of India started out of the part of the donation given by His Highness the Maharaja Saheb towards the King George Thanksgiving Anti tuberculosis fund. At present in the city an anti tuberculosis clinic has been opened and kept in charge of a sub-assistant surgeon who examines and treats T. B. cases, does propaganda work and advises the patients and people about the spread of the disease and its prevention. He is helped in this work by a lady Health visitor specially trained for the purpose.

In the year 1940, a long felt want of the people of the State and Gujarat was met when the foundation stone of T. B. Hospital was laid by H. E. the Vicerene of India who takes such keen interest in the matter. Donations for building various wards and cottages have been received and its construction has already started. The whole building when ready will cost Rs. 3,24,500.

**Indian Red Cross Society:—**

In 1925 the State branch of the Indian Red Cross Society was started under the patronage of His Highness Sir Sayajirao Gaekwar who was pleased to donate Rs. 5,000 to the institution. The principal activities of the Society consists of free supply of medical comforts to hospitals and dispensaries, lectures on first aid to the injured, home hygiene etc., in all the high schools in the State, free delivery of lectures on child welfare and free distribution of literature which is considered useful in maintaining public health. The Executive Committee has under its management institutions such as St. John Ambulance Association, the Junior Red Cross Society and K. G. A. T. Fund. The first one deals with arrangements about lectures in first aid, while the Junior Red Cross Society helps to spread ideas of cleanliness, discipline, universal brotherhood etc. amongst the students of all the schools in the State. In this work the Junior Red Cross Society receives close co-operation of the Education department.

**Baroda Medical Council:—**

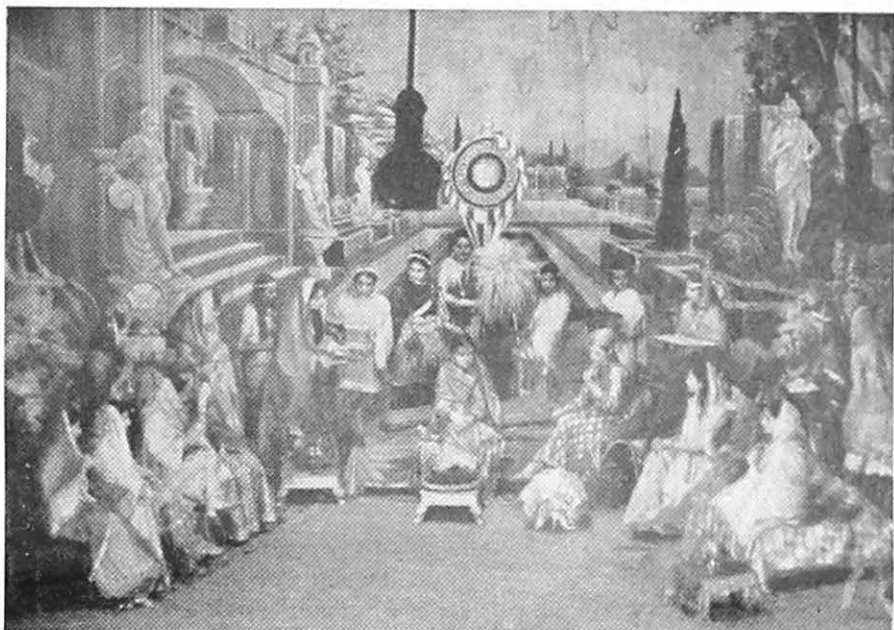
The State Medical Service, has formed a Baroda Medical Council and all the doctors either practising or serving and similarly Vaidyas and Hakims are required to register their names and abide by certain rules and regulations.

There is also a union of all the medical men in the city called the Baroda Medical Union. The members usually meet once a month and discuss some subject of medical importance.

**Medical inspection of School children:—**

The work of medical inspection of School children is also done throughout the State. The work is done regularly every year. This work in the city has been undertaken by the Chinnabai Maternity League.

---



**A Scene from Drama Staged as part of Ladies' War Effort**



**Her Highness the Maharani inspecting a stall  
at a fete held in aid of War Effort**

## RURAL RECONSTRUCTION

### Policy:—

“ If there is one thing to which His Highness the Maharaja attaches more importance than to any other, it is rural reconstruction”, so said H. E. Sir V. T. Krishnamachari unveiling the statue of H. H. Maharaja Pratapsinh Gaekwar at Ranoli—an ideal village.

“ The expression rural reconstruction”, continued he, “is now familiar to all of us. This expression covers a multiplicity of activities embracing all aspects of life of the village. Its aim is to fill the people with an ambition for a higher standard of living and the spirit to work persistently for securing such a standard”.

The State has carried out this policy both in spirit and action. Against frost and famine, the State helped with ready remissions of revenue, gratuitous grants of relief and tagavi on a generous scale. In 1934, to mitigate the effects of the frost of that year, the State remitted Rs. 10 lakhs or more than 10 per cent of its land revenue demand. In 1935, frost again supervened, and the State responded with nearly Rs. 22 lakhs of remission and a special tagavi of Rs. 8 lakhs. In 1936-37, Rs. 6 lakhs of tagavi and Rs. 22 lakhs of remissions were sanctioned. In 1938-39, remissions to the tune of Rs. 7 lakhs were again granted. To crown all, almost at the close of the late reign, the total land revenue demand was reduced by 22.3 per cent. This reduction was made permanent by the Maharaja at his accession and was substituted for the existing settlement rates. The total concession thus amounted to Rs. 21.67 lakhs annually.

To grapple with the problem of distressed areas, a committee consisting of three principal officers was appointed to go thoroughly into the rural problems and suggest changes in agricultural practices, the possibility of extending well irrigation, the chances of introducing subsidiary industries and such other measures of planned improvement. The committee recommended a ten year plan of improvements falling under (1) irrigation schemes, (2) dry farming, (3) pasture and animal husbandry, (4) agricultural

finance and improvements in rural education. Government generally approved of the far reaching recommendations and provided finance to bring them gradually into execution according to the ten year plan devised.

### **Rural uplift centres:—**

No lasting improvement can be achieved in the conditions of rural life, unless all sides of it are served at the same time. There are various Government departments which concern themselves with individual aspects of village life viz., education, agriculture, cooperation, industries, public health etc. To coordinate their activities and to create a desire for a higher standard of living all round, a Rural Reconstruction centre at the village Kosamba of Navsari district was opened in 1933-34. Another centre was opened at Karjan in Baroda district in 1939 on almost the same lines as at Kosamba.

The centres aim at effecting an improvement in all aspects of rural life, changing in fact the outlook of the agriculturists, to create a desire for a higher standard of living which in turn should furnish the driving power towards higher and better material production and the elimination of the needless idle hours and the waste of wealth by the defective use. This work had to be necessarily intensive and confined to a group of villages round the centre in which it was possible for the Superintendent and his co-workers to establish personal contact with practically all the agriculturists of the area. The centre itself is secondary to the main work which lies in the villages and with the people.

The activities of the centres can be grouped as under :—

#### **A. Economic Programme:—**

1. Introduction of subsidiary occupations like poultry keeping, kitchen gardening, spinning and weaving, etc.
2. Marketing of agricultural produce.
3. Introduction of new and better varieties of cotton and other crops.
4. Increased use of manure.
5. Intensive propaganda against crop diseases.
6. Improvement of cattle.

7. Tree planting.
8. Organising thrift societies and other cooperative institutions.

**B. Educational and moral programme—**

This includes adult education, development of a community sense and of a feeling of solidarity in villages, propaganda against evils like early marriage and unreasonable customs connected with social observances, the proper use of village libraries, the scout movement and other educative work through lantern slide lectures,—in short everything that would make village life full and interesting.

**Rural Sanitation:—**

The Government has also established a Health Unit at Kosamba with a view to improve public health in rural areas and also to train the rural population in public health and sanitation in all its aspects. The unit is composed of 30 villages round about Kosamba. The unit staff consists of a male and female medical officer, a nurse and a sanitary inspector. During the year 1940-41, every village of the unit was visited four times by one or the other member of the staff. During the visits, attention is paid to anti-natal cases, prevention of contagious diseases, examining the health of school children, and general sanitation. During the year, 11 schools were visited and 841 children were examined, 145 adults were also examined and rendered medical aid, 48 labour cases were conducted, 151 persons were vaccinated, propaganda work was carried on and 20 lectures were given at different places: Magic lantern and film shows were also arranged at these meetings. Village dispensaries were started in 15 villages of the unit.

**The Uplift Trust Funds :—**

In addition to these improvement measures, the State finances set apart for these beneficial services in rural areas, were augmented in a remarkable way through the private munificence of His late Highness and his present successor. To commemorate the Diamond Jubilee of his glorious reign, H. H. the late Maharaja Sayajirao set apart a Trust Fund of a crore of rupees for rural uplift in 1936.

He defined his purposes in these memorable words: "My ideal is to improve village life—all sides of it. I wish to develop in my

people a keen desire for a higher standard of living, 'a will to live better', and a capacity for self help and self reliance. I earnestly desire to make village life interesting and farming a career, the rewards of which will satisfy the most enterprising among the villagers. From the income of this fund, grants will be made for useful schemes, like extensions of gamthans to relieve over crowding, village water supplies, communications, educative work of all kinds etc. Special preference will be given (i) to poorer areas which probably have been neglected in the past, and (ii) to the needs of the backward communities like the Raniparaj, the Antyajs, the Thakardas, the Rabaris etc."

### **Sayajirao Memorial Fund :—**

The present Maharaja, to perpetuate the revered memory of His late Highness Sayajirao, set apart a crore of rupees from his privy charities for the general purposes of the people's well being.

The following are the major schemes financed from this trust :—

- (1) The Maharani Shantadevi Trust Fund for medical aid to the women and children of the State.
- (2) Shree Sayajirao Memorial Scholarships to the sons of Sardars, Assamdars etc. for secondary and higher education.
- (3) The Agricultural Institute at Baroda.

### **The Diamond Jubilee People's Trust Fund :—**

This fund was started by the people of the State in order to create a fitting memorial of the Diamond Jubilee of their beloved ruler. Out of the total proceeds, Rs. 6,78,000 were set apart, after deducting the expenses of celebrating the Jubilee, for creating the Diamond Jubilee Peoples' Trust Fund. The income from this fund is mainly utilised for encouraging agricultural and technical education by granting scholarships, opening training classes and so on.

The income from all the above funds amounting to 7 lakhs of rupees is thus utilised for the improvement of village life in all its aspects—social, economic and cultural and their special object is to open out backward areas to healths modern influences and encourage forest tribes, scheduled castes and such like elements to advance in thrift, education and quality of life.

It is not necessary to repeat here the rural welfare activities carried out by the departments of Agriculture, Industries, and the like in the State, for they have already been reviewed in foregoing pages. It now only remains to add the part played by the cooperative movement in the uplift of the rural masses. To relieve the agriculturists from indebtedness and supply them easy credit, the cooperative movement was introduced in the State in 1905. Since then the movement has progressed steadily and at present there are 1,297 cooperative societies with a total membership of 65,920 and capital amounting to Rs.102 lakhs. Land Mortgage banks have also been established at Navsari and Baroda.

---



## ARCHÆOLOGY IN BARODA

### History:—

As early as 1888 His Highness the late Maharaja Sayajirao arranged to have the important monuments of the State carefully surveyed by the late Dr. Burgess and Mr. Cousens. These two eminent members of the Archæological Survey in India wrote exhaustive accounts of most of the important monuments of the State in two sumptuously illustrated volumes entitled "The Antiquities of Dabhoi" and "The Architectural Antiquities of North Gujarat", which were published in 1888 and 1903 respectively under the patronage of the Baroda Government. Other officers of the Indian Archæological Survey were invited on various occasions for consultation about the preservation of the archæological monuments in the State. Ultimately the necessity of having a separate Archæological department was felt and the department was established in 1934.

### Chief activities:—

The work done by the department may be grouped under three heads:— (1) conservation or repairs of monuments; (2) exploration and (3) listing of monuments.

### Conservation of monuments:—

The Sun temple and a stepped well at Modherā, the Hīrā Gate and the Barodā Gate at Dabhoi, the Rāma and Lakshmaṇa temple at Bardjā, the Jūnagaḍh temple at Vasai near Dwārkā, the Sītala-mātā temple at Piludrā, and the Rāṇī-Vāv at Pātaṇ in North Gujarāt were selected for conservation. The Sun temple at Modherā is one of the architectural gems of the State. It was built about the eleventh century A.D. The amorous figures so profusely carved on it cannot fail to remind the visitor of the Black Pagoda at Konarak and would suggest similarity of construction between the two. The Modhera temple was dedicated to the Sun deity, though the chief idol which was the object of worship is now missing. Several large sculptures of the solar deity which belong to this age have been found in the State where there are also other

sanctuaries dedicated to the same divinity, indicating that Sun worship was predominant in this area during the late medieval period. The Hīrā Gate at Dabhoi is another valuable example of architecture. Perhaps it is one of the very few good specimens of the old citadel style left to us. It is of pure Hindu origin with some subsequent changes introduced by Mahomedans. The Rāṇikī Vāv now in a very dilapidated condition, must have been originally a magnificent structure. The carving is minute and exquisite. It is attributed to Rāṇī Udayamatī, the queen of Bhīmadeva I who flourished in the eleventh century A. D. A good deal of this structure has now disappeared.

### Exploration:—

For exploration four sites have been selected, of which two lie in Kāthiāwāḍ, at Amreli and Mūl-Dwārka, one in South Gujarāt at Kāmrej and the other in the North Gujarāt at Pattan. Kāmrej was known to Ptolemy, the ancient geographer who called it Kamane in his geographical account of India and Southern Asia. Here it was possible to secure very interesting coins, some of which are ancient *Kārshāpanas* or *purānas* dating back to several centuries before Christ while some are Avanti or Ujjain coins with hitherto unknown symbols. Excavations at Amreli have revealed interesting remains of considerable age. They belong to different periods. The presence of the Āndhra coin would be in accordance with the epigraphical evidence of Andhra rule over Kāthiāwāḍ supplied by one of the Nasik Cave inscriptions. These excavations have yielded valuable relics of the past together with more than 200 silver coins of the Gupta period.

Mūl-Dwārka is a small port of the Baroda State at the western extremity of Kāthiāwāḍ. Tradition says that it marks the site of the old Dvāravati of the *Mahā-bhārata*. Explorations have shown the remains of old buildings of the early medieval period, mostly foundation walls of large stone blocks evidently built one after the other. Including the temple now standing, four strata have so far been found at the site and some foundations are seen even in the sea itself.

The work of exploring the old Sahasraliṅga *talāo* at Pāṭan in North Gujarāt is also going on. This reservoir was built in the reign of Siddharāja, the well-known ruler of Aṇahilapura. Its excavation has revealed the existence of marvellous sluices, channels, the silt pit and an aqueduct. The site abounds in archæological remains of great value.

### Inventory of monuments:—

An inventory of monuments in the State, is also being completed. So far more than 1,000 monuments have been inspected and listed. They are located in the Mehsana district of which only eight *tālukās* have been surveyed so far. The remaining *tālukās* of this as well as other districts are still to be surveyed. Besides well-known monuments like Modherā and the Rudra-Mahālaya temple, and important monuments in the Kherālu *tālukā* of the Mehsana district have been noticed and described. The most noteworthy among them is the Dughdheśvara Mahādeva temple at Mandrapur which probably belongs to the 12th century.

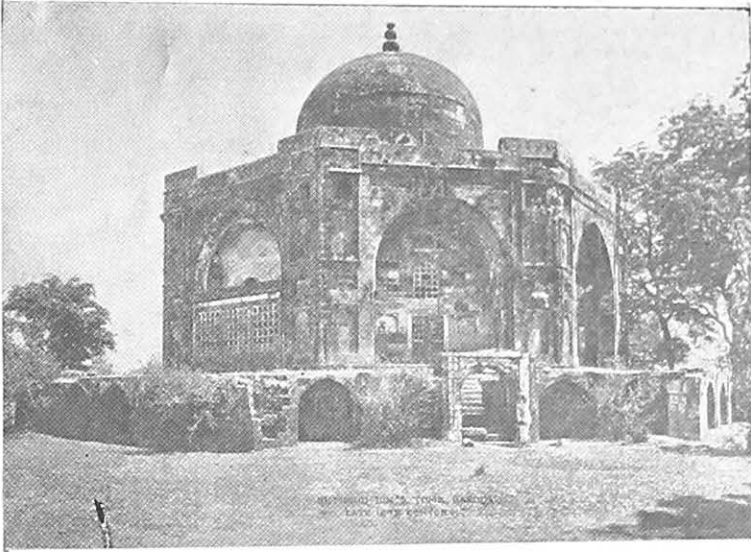
The Department has secured so far 200 inscriptions. The earliest of these goes back to the second century A. D. It is a sepulchral record belonging to the reign of Rudrasena I, the Kshatrapa king who ruled from 199 to 222 A. D. Two hitherto unpublished copper-plates of the Silāhāra ruler Aparājita of the year 915 in the Saka reckoning are also in the collection.

### Publications:—

Three departmental memoirs have already been published. One of them is on "Indian Pictorial Art as Developed in Book Illustrations," wherein new ground has been traversed. With the aid of illustrations it has been shown that pictorial art developed in book illustrations as it did in other ways. The second Memoir is on "Aśokan Rock at Girnār." It is intended as a guide for the study of the important records of Aśoka, the Maurya Emperor, of Rudradāman the Mahākshatrapa and of Skandagupta, the Gupta Emperor, incised on the famous boulder at Girnār. The third memoir is on the "Ruins of Dabhoi or Ancient Darbhāvati". It gives an accurate descriptive and historical account of the archæological monuments at Dabhoi, which may well be termed as the architectural gems of Baroda. Besides these the department has issued five annual reports containing the varied activities of it from the year 1934-35 to the year 1938-39, available for the use of the scholars and the general public.

### Effects on public welfare:—

The work done is bound to exercise healthy influence on the public. Archæological monuments are a glorious heritage of the past and their preservation helps the people to take interest in



**The Hajira : Baroda**



**The Sun Temple : Modhera**

their history. The interesting excavations at Pāṭaṅ attract large numbers of visitors. Excavations at Amreli and Kāmrej have helped to fill up the lacunæ in the ancient and mediaeval history of Western India. Literary activities of publishing annual reports, memoirs and various articles in standard Oriental Journals in India and abroad result from the work conducted, and fifty monuments have been declared protected under the Ancient Monuments Preservation Act. The conservation and upkeep of these structures is also a duty of the Archæological department. Many rare coins and copper-plates have been secured and are now available for the study of scholars.



# MUNICIPALITIES AND LOCAL BOARDS

## (1) VILLAGE PANCHAYATS

### Reprospect :—

The villages in India from time immemorial were self-governing and self-sufficient units. They managed all the internal affairs of the village through their leaders; they used to collect all the village revenue and were responsible to ruling powers only for fixed dues which were settled from time to time according to the area of the village and the land under cultivation, and were paid to the ruling power either in cash or kind, through the hereditary officer of Government—the Patel. This done, the internal machinery of the village was hardly interfered with or disturbed by any Government. Village watchmen, sweepers, potters, carpenters, blacksmiths, village priests, barbers, weavers and washermen were all more or less community servants and were controlled and provided for by the village elders. All the village institutions such as the village schools and the temples were managed and controlled and all the village disputes, individual or communal, were settled by them. The villages then were in fact small democratic communities in which all the executive and administrative powers affecting the village were centred.

The village organisation remained throughout the centuries which saw a number of political changes the one stable element in the whole body politic right upto the time when the Raiyatwari form of land settlement, which put the Government in direct contact with each land holder in the village and made the land holder directly responsible for the payment of land revenue, was introduced by the British Government. This change naturally weakened the old system of village administration; but efforts are now being made all over India to regenerate the old organisation and give it back some of the useful functions it formerly performed in keeping with the present conditions.

### **Genesis of the Movement :—**

In Baroda, however, from the very commencement of land settlement operations, efforts have been made to preserve as much of the ancient element of self-government as possible. Mr. Elliot who was then in charge of land settlement operations wrote as far back as in 1893 of the scheme for the preservation of the village community as being one which "His Highness the Maharaja Saheb has personally fostered and made his own. His generous wish is that the village should once again be self-ruling". Provision was therefore made for the appointment of a panchayat in every village and for the maintenance of the village powers and services in accordance with the ancient usage as far as practicable. To meet the expenses of those services, a deduction was made in the land revenue demand in each case involving the State into an additional expense of Rs. 3,08,011 per year. A school master was added to the list of village servants and in two years—1891 to 1893, 632 village schools were opened. Hereditary claims were recognised in making these appointments. The names of the servants with particulars about their services and their remuneration were registered; and they were allowed the option of holding land on service tenure or on payment for their services in cash. A further advance was made in 1901, when His Highness decided to introduce an elective system into the village panchayats, and to bestow on them extended powers. Rules were therefore passed in 1902 for the elaborate organisation of village panchayats.

These rules provided that every village with a population of one thousand or more should have a panchayat of its own; and those with a population of less than one thousand should be conveniently grouped together and have a common panchayat. The panchayats should not have less than five and more than nine members; of these half were to be nominated by Government and half elected by the villagers themselves. The Patel was to be the president and the village accountant, the Talati and school master were ex-officio members. The supervision of village roads, wells, tanks and schools, Dharmashalas, Choras and the village temples and all Government and common property vested in the panchayat. The institutions were required to help in relief works in times of famine and epidemic, co-operate with village Munsiffs in settling civil disputes, with sub-registrars in their official work, see that the village boundary marks were kept in order and that the cattle pounds were properly managed.

Regular monthly meetings of the panchayats were held, and each group of villages was empowered to return one member to the Taluka local board.

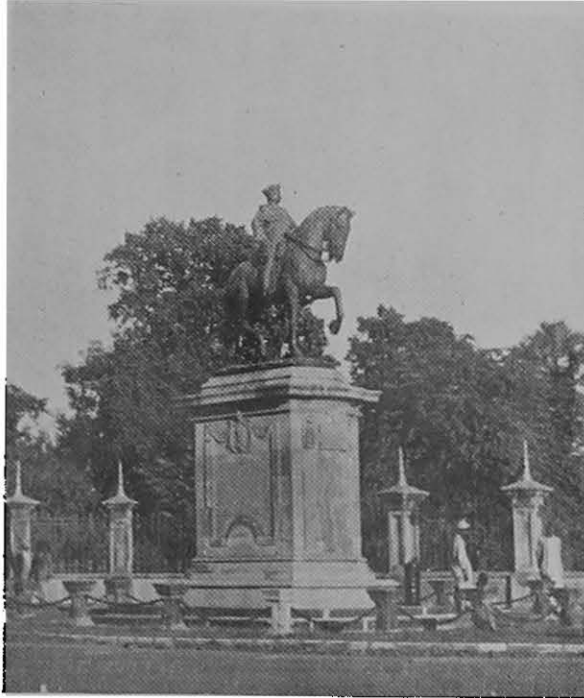
A fresh act to include amendments and modifications was passed through the Legislative Council and it received the assent of His Highness in 1920. This Act is in force at present. In this Act the constitution was broadened, the franchise was extended and important powers in connection with sanitation, water supply and drainage, the supervision over public charities, the trial of civil and criminal cases and the right to tax people with the previous approval of the Government, were conceded to these bodies.

### **Present state of the Panchayats:—**

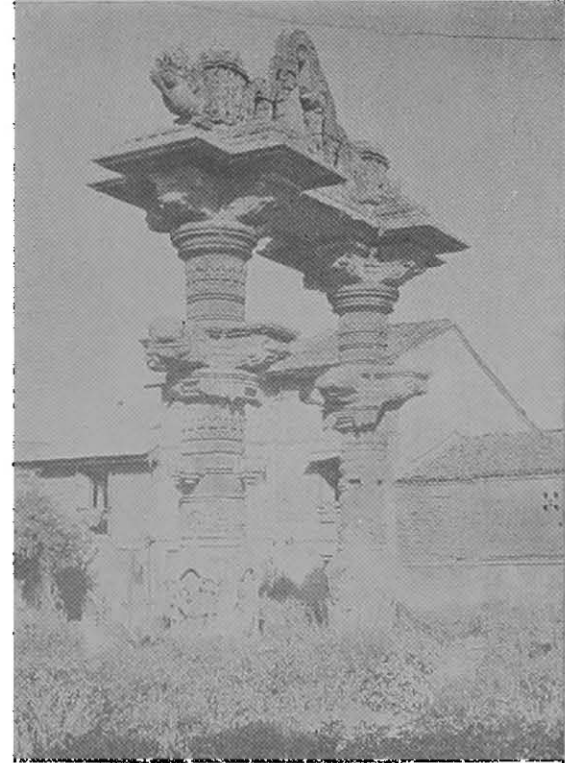
The total number of village Panchayats is 2,060. All the villages with a population of 500 and above possess Panchayats of their own. There are three ways in which the village Panchayats are constituted under the existing provisions. The Village Panchayat Act lays down as a general principle that

- (1) There should be a village Panchayat for each village.
- (2) If, however, a village be too small and its income too meagre to allow its Panchayat to function properly, it should be joined to the nearest village with an independent Panchayat, thus forming what is known as a group Panchayat.
- (3) There are certain very backward parts of the State; such tracts are declared backward and several villages comprising them are put together in a union Panchayat. The constitution of the village Panchayats with respect to the first two classes provides for  $\frac{2}{3}$  elected members and  $\frac{1}{3}$  nominated members, and the total number of members varies between the maximum of 12 and the minimum of 6. The Patel is the ex-officio president of the village Panchayat in the first two types. In the case of the union Panchayats the Vahivatdar-revenue head of a taluka-is the president and the principle of nomination is substituted for that of election. The life of every board is of three years, on expiry of which fresh elections take place.





**The equestrian statue of  
the late H. H. Sayajirao Gaekwar**



**Ruins of the Rudramahalaya : Sidhpur**

### Sources of income :-

The main source of income of these bodies is the allotment of 2 pies per anna of the local cess received by the Prant Panchayat -district local boards. Other miscellaneous sources allowed to them are

- (a) rent of the village site,
- (b) sale proceeds from the auction of grass, fruit and fuel from Government waste lands,
- (c) income derived from the sale of earth, sand and gravel,
- (d) the revenue derived from cattle pounds. Further, these bodies are authorised to supplement their income,
- (e) by levying their own taxes with the previous sanction of the Government and
- (f) by receiving from Government an amount as a subsidy whenever they raise any such amount either by taxation or by contribution for some work of permanent utility. The total income of the village Panchayats in the year 1939-40 was Rs. 3,95,531.

The most common village needs may be summarised as

- (1) good drinking water supply,
- (2) maintenance of and repairs to the village wells, tanks and cattle troughs,
- (3) arresting erosions by storm-water to village sites and fields,
- (4) repairs to the village roads and village drains,
- (5) maintenance of proper conservancy arrangements,
- (6) cleaning of grazing-common, and
- (7) such other works as would add to the comfort, convenience and well-being of the villages.

### Working arrangements :-

To augment the slender resources of these bodies and to let every villager have a live contact with the corporate village life a statutory power to conscript manual labour of one member yearly from each family for a period of 5 to 10 days is conferred upon

these bodies. The Government have also adopted a principle to give a subsidy of one fourth of the total cost and have directed that the Prant Panchayat should contribute an amount equal to Government contribution whenever the Panchayat raise either by taxation, contribution or provision of manual labour half the cost for any work of permanent utility. Further, the Government have also adopted a policy of advancing loans to these bodies to the extent of five times their annual income at a reasonable rate of interest to be paid off in easy instalments. The total expenditure of the village Panchayats during the year 1939-40 was Rs. 4,20,434.

Technical help for skilled work is afforded to village Panchayats by the appointment of an overseer in each Mahal. His duty is to prepare estimates of works to be executed costing between Rs. 25 and 500, and supervise their execution.

Out of the total cost of any village water works  $\frac{1}{4}$  is given as a gift by the Government,  $\frac{1}{4}$  or more as the case may be is given by the Prant Panchayat and the remaining half or less than that as the case may be is borne by the respective village or is met by the Government by advancing a loan to be paid off in easy instalments by the Panchayat. There are 13 such village water works.

To foster the healthy development of the village Panchayats and a healthy rivalry in this field Panchayat weeks are celebrated.

A five year programme of works to be carried out by each Panchayat is insisted on.

### **Rural medical relief :—**

The policy of spreading relief in rural areas with the object of having a dispensary within a radius of five miles from every village of the State is being steadily pursued. In the current year, there were in the State 117 medical institutions. The scheme of grant-in-aid for village dispensaries was continued. Altogether 164 villages took advantage of the scheme in the year. A scheme for inducing Ayurvedic doctors trained at Patan to settle down for practice in villages has been sanctioned, and in the first instance it is to operate in 5 villages of the backward areas of the Raj.

To study problems of rural sanitation like the disposal of refuse, manure heaps, conservancy, suitable types of village

latrines and to improve conditions in this respect a special sanitary circle has been organised for 20 villages round the city of Baroda. A health unit has also been sanctioned for another group of 33 villages. A special nutrition officer studies dietary habits of the different classes of people and delivers lectures and issues bulletins as part of educative propaganda. Grants are also given to private gymnasia in the State.

The village sanitation depends upon the use the Panchayat makes of the scavenging service. To improve village sanitation, duties of the village servants under the different heads were specially laid down. It is also made obligatory upon the Panchayats to supply full sanitary equipments of scavengers.

As a stimulus to the scavengers to do conservancy work efficiently, income derived from the sale of refuse collected in-pits is allowed to be appropriated by them.

The Police department is required to train village servants in the duties of watch and ward. Under a sort of a beat system the work of watching the village and the fields is being carried out, and co-operation of private persons is also enlisted.

To facilitate the execution of works of technical nature undertaken by the Panchayats, the Government have laid down the procedure for the execution of such works and further to enable them to carry out works efficiently the Government have directed that the contribution charges should not be levied from them by the P. W. department.

Till 1938 the village Panchayat funds were kept in the revenue treasury; but since then panchayat funds have been handed over to the presidents of the village Panchayats.

The local officers are required to inspect the work of the village panchayats as often as possible. They are also required to educate the members of the village Panchayats in such a way as to enable the members to understand their responsibilities and carry out their duties.

### **Mahal Panchayats :—**

The old Mahal Panchayats of which there were 38 in all were abolished at the time of the re-organisation of the local self-government in the year 1929 as they were found redundant

and superfluous, as constituted then. The mahal panchayats as now constituted are advisory boards under the direct supervision of the Prant Panchayats without administrative or financial powers and their duties are to make a thorough and searching inquiry regarding works of public utility needed for the Mahal, prepare programmes of work, supervise the execution of important works and educate members of village panchayats.

#### DISTRICT LOCAL BOARDS - PRANT PANCHAYATS.

##### **Early History :—**

The District Local Boards Act was passed in the year 1904. The Act provided that half the total number of members of each such Board should be elected and the other half was to be nominated by Government; and among nominated members not more than one half were to be Government servants.

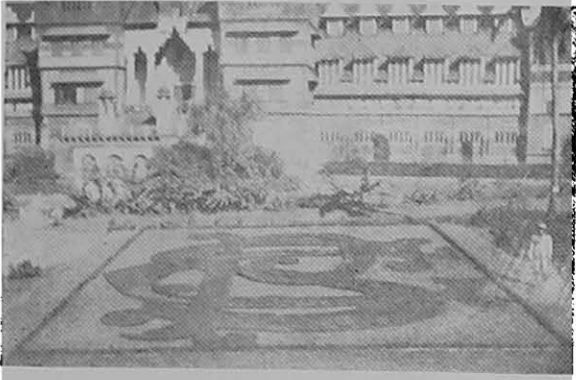
Each of the four districts: Baroda, Kadi, Navsari and Amreli had its Prant Panchayat i. e. district local board. The Okhamandal Mahal Panchayat was invested with the powers of the prant Panchayat. The presidents of all such bodies were Subas of the respective districts, except in Baroda which had an elected president upto March 1928. The vice-presidents were non-officials, elected by the general body. These Prant Panchayats were thus composed of elected and nominated members of whom the former represented two thirds and the latter one third. Of the latter again one half were officials and the other half non-officials. The elected members represented the Mahal Panchayats, the Vishishta Panchayats and the municipalities of the district, each sending one member by election. Besides these the Inamdars of the district sent one member.

Under the then constitution the Prant Panchayats were generally entrusted with the work of supervising the work of the Mahal Panchayats. They distributed the local cess among the respective mahals according to their revenue incomes, retaining a small fraction themselves for establishment charges and works affecting the whole district such as inter Taluka roads, water supply and exhibitions.

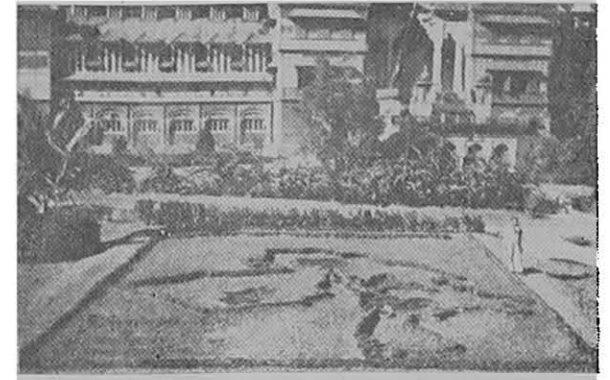
The local public works entrusted to the Panchayats were and are of two kinds, compulsory and discretionary. Among the former some would be major and the rest, minor works.

SOME VIEWS NEAR THE MUSEUM BUILDING, PUBLIC PARK

Below :  
**The Monogram of  
H. H. the Maharaja**



Below :  
**A map of  
Gujarat and Kathiawar**



Above :  
**The Fountain near the museum**

Among these again would be repair and original works such as roads, Dharmashalas—public rest houses, and school buildings. With a view that local boards may have more work under their control and that economy may be effected in their staff as also in that of the Public Works department a scheme for amalgamation was introduced as an experimental measure in the Navsari and Baroda districts in the year 1917-18. Experience however showed that the arrangement needed a change. The district boards have now their own engineering staff and Government transferred a few works of public utility from their Public Works department to these boards in order that they may gradually gain experience.

### **Education:—**

At first all control was given to the boards over primary education, questions of policy alone being reserved by Government. But after the introduction of free and compulsory education in the State control has now been resumed by Government. The boards hitherto contributed 1/3 of the local cess towards education. But this contribution is now waived and it is allowed to remain with the panchayats for their use.

### **The present constitution:—**

After the re-organisation the Mahal Panchayats in their original form were abolished and the Prant Panchayats were made directly responsible for the development of the village Panchayats. In 1939 the right of electing their own presidents from among their non-official members was conferred upon them and now all Panchayats including that of Okhamandal have elected presidents. The vice-presidents continue to be elected from among their non-official members by the general board. The constitution of the Prant Panchayats provides for 2/3 representation by election and 1/3 nomination by the Government. Amongst the nominated members half are officials and the other half non-officials amongst whom there is at least one representative of the depressed classes.

The system of representation of these boards is direct. Each Mahal is divided into groups of villages on population bases; there being one representative for every unit of 25,000 population or less. Such groups in the different Mahals vary from 1 to 4 and each group elects one representative to the Prant Panchayat. Some other interests are also represented,

The qualifications of an elector are as under :—

- (1) He must be of 21 years of age, and
- (2) should have any one of the following qualifications:—
  - (a) He must have an annual income of Rs. 750 or
  - (b) He must be paying at least Rs. 30 as land revenue; or
  - (c) He must have an immovable property worth Rs. 1,000; or
  - (d) He must have an educational attainment not below Matriculation.

The Prant Panchayats appoint optional and statutory committees to carry on their work:—

- (a) The optional committees are :—
  - (i) an advisory Mahal committee for each Mahal to assist the Prant Panchayats in fixing up programmes and supervising local works;
  - (ii) a special propaganda committee detailed for education and development of village Panchayats.
- (b) Statutory administrative committees are as under :
  - (1) a committee for finance,
  - (2) a committee for roads and communications,
  - (3) a committee for works of public utility.

Works beyond the sphere of the village Panchayats are carried out by the Prant Panchayats. A Prant Panchayat has mainly to deal with the larger roads not placed under the public works department, and generally with all the works not exclusively belonging to a single village as well as with the village works costing Rs. 500 and above, which are beyond the capacity of a village.

**Finance :—**

The finance of the Prant Panchayats is derived from:—

- (a) local cess,
- (b) a surcharge on income-tax at the rate of two annas per rupee of income-tax paid to Government,



(c) a flat rate of one rupee on individuals deriving non-agricultural income above Rs. 250 and below Rs. 750

(d) such contribution as the Government choose to make.

Out of these items (b) and (c) are intended to place upon non-agriculturists some part of the burden of taxation almost all of which was borne by agriculturists. These taxes are however not compulsory.

Cattle pounds are now looked after by Government, and the full cost of the construction of new Choras is borne by the Government and the cost of repairs to Choras is divided equally between the Government and the Panchayats.

The vaccination charges are divided between the Government and the Panchayat. Ninety percent of the total net balance after deducting contribution to Government, the establishment charges etc. are to be spent on works of primary necessities and the rest on optional works. It is laid down that each Prant Panchayat should keep a reserve fund to the extent of five pies in every anna of the local cess amount it gets.

At present the Prant Panchayats have undertaken two important schemes viz. roads and water supply.

### **Some Important Functions:—**

Supply of drinking water to rural areas is one of the main duties of the Panchayats. To meet this necessity in full, a comprehensive survey of the whole State was made and a quinquennial programme was drawn up in 1931. The total number of wells constructed under this programme is 459. The total amount spent on them is Rs. 4,82,525 of which 2,51,596 is Government contribution.

Whenever good potable water is not reached even at great depth by sinking ordinary wells, systematic programmes of boring wells have been undertaken. The total number of borings made in the State upto 31st July 1940 is 277 and the total amount spent on them is Rs. 4,00,548 of which a sum of Rs. 2,28,239 was a Government grant.

The scheme for well-water works in villages is framed on the following basis:

Grants:— $\frac{1}{4}$  of the cost by the Government

$\frac{3}{4}$  of the cost by the Prant Panchayat.

**Contribution:**—Half of the cost is contributed by the people.

Where people fail to raise the requisite amount,  $\frac{1}{4}$  of the cost is advanced as loan by the Government.

The Government contribution for tube-wells is  $\frac{1}{2}$  of the total expenditure. In addition to the above wells and borings have been undertaken by panchayats from their own funds and from grants given under the Shree Sayajirao III Diamond Jubilee Trust.

Recently Government have passed orders to have another comprehensive survey made of the needs of villages in regard to drinking water. In preparing the programme instructions are issued to induce the bigger villages with a population of about 1,500 to 2,500 to undertake water works in villages — situated at a short distance from places having electrical installations. The Government have offered to assist villages which propose such water works provided the village panchayats are prepared to bear the whole cost or maintenance and a portion of the capital cost.

#### **Feeder roads:—**

The Baroda State is well served by railways relatively to its size and population. It has the largest mileage in India. To connect as many villages as possible with the railway system, a programme of feeder roads was sanctioned in 1928–29. The total number of roads in the programme was 152 with a length of 409 miles. Of these, 118 covering a length of 334 miles have been constructed. The programme of the Amreli and Navsari districts has been completed and new programmes are under preparation. The expenditure incurred upto 31st July 1940 comes to Rs. 9.32 lakhs, of which the Government contribution was Rs. 4,47,000.

#### **Anti-malarial campaign:—**

Among other important activities of the Panchayats the anti-malarial campaign deserves special mention. Malaria constitutes the main menace to health in the State and in order that the worst areas might be taken up on a systematic plan the Government have given grants for three to five years for anti-malarial operations in selected areas in all the districts. These grants amount in the aggregate to Rs. 12,750 a year.

**Other works of public utility:—**

In addition to the above the Prant Panchayats attend to various other works of public utility of which the following deserve mention:—

- (a) opening relief works on an extensive scale in times of famine;
- (b) opening and aiding dispensaries;
- (c) helping gymnasiums, boarding houses and such other institutions by grants in aid;
- (d) launching anti-malaria campaigns and arranging exhibitions and Panchayat weeks.

The Prant Panchayats are thus making themselves responsible for the growth and development of the village Panchayats and playing a very useful part in the administration of local problems.

**MUNICIPALITIES****Baroda City Municipality:—**

As far back as the year 1830, it was realised that municipal work was necessary within the City walls, and it was ordered that the four principal roads should be regularly watered by a newly created municipal agency. The cost was to be met by the levy of a cess from the keepers of the shops. This cess was collected but for a short time, though the work of watering the roads continued, and the expenses were borne by Government. Later the responsibility of repairing the existing roads and making new ones was recognised and to defray the cost it was decided to levy dues on certain articles imported and exported. In 1869 an attempt was made to carry on municipal administration through a small committee consisting of different interests. This consisted of five members and was presided over by a Sudharai Kamdar or Municipal Commissioner, all nominated by the Government. A house-tax was introduced, and was assessed at Rs. 2-8-0 per thousand of the house value, but the tax was soon dropped.

In the year 1872, a Kalambandi was sanctioned empowering the municipality to add to its funds by levying Nazaranas, license fees on new buildings, rents on enclosures of a temporary nature erected on marriage occasions and rental for

Government land occupied for private purposes. In the same year it was recognised that the task of arranging for Bhangis and sweepers, for public needs within the city properly Belonged to the municipality.

A memorable advance was made in the development of local self government in the State in the year 1892, when a Sudharai Nibandh-Municipal Act, was passed by His late Highness Maharaja Sayajirao. It recognised for the first time the elective principle in Baroda municipal government. Under this Act the City was divided into 22 wards, each to elect one member to the municipal board. Besides the large number of elected members, there were 8 ex-officio members, the Sudharai Kamdar, the municipal commissioner, being the ex-officio president of the municipality. The whole cost of municipal administration was borne by the Government.

The Municipal Act of 1905 not only conferred financial independence on the municipality adding to its importance, as well as responsibilities, duties and powers, but also to a large extent separated the administrative or deliberative functions from the purely executive. The municipal commissioner ceased to be at once the servant and the master of the municipality. The new Act specifically laid down that no stipendiary servant of the municipality can hold office as a councillor, much less as its president. The Suba of the Baroda district became the ex-officio president of the municipality.

The Act of 1905 is based chiefly upon the Bombay District Municipal Act as amended in 1901, altered where necessary to suit local conditions and circumstances. It provides for a Municipal Board consisting of 37 members of whom 25 are elected by the people triennially, 6 are nominated by Government and 6 are ex-officio members of the municipality. The whole municipal administration vests in the corporation, which is, in the last instance, responsible to the Government for its efficient management of municipal affairs.

Except in matters which are specially provided for in the Act itself, such as taxation, making or amending rules and regulations for internal and bye-laws for external management, compulsory acquisition of buildings or land, special management of plague or infectious diseases, vaccination and such other cognate matters pertaining to and requiring help from the Government, the municipality enjoys full and independent powers.

In 1928 the posts of the president and the municipal commissioner were separated, the former being held by a nominated non-official and the latter by an officer of the State upto the grade of Suba. The right of electing its own president was conferred upon the City Municipality in 1939.

It was laid down also in 1934 that the deliberative functions were to be the concern of the council and the executive functions were to vest in the municipal commissioner, who was to be responsible for the efficiency and economy in the general administration. Since then the Corporation functions as a deliberative body with the municipal commissioner as the executive head.

With a view to increase the efficiency of the municipal administration the introduction of the ward system was approved of and sanctioned by the Government.

In Baroda city the water works has been constructed entirely by the Government at a total cost of Rs. 56,16,378 and handed over to the municipality for maintenance. The underground drainage has been constructed by the Public Works department and the total amount spent so far comes to Rs. 31,13,873 of which the municipal contribution has been Rs. 13,76,202. Electricity is supplied by the Electric department and the expense incurred under this head by the municipality is based on fair terms. The municipality also possesses a fire brigade. The work of removal of the refuse of the city has been undertaken departmentally since 1938. The recreation grounds of a modern type and design were constructed and maintained by the municipality. Other functions necessary for keeping the city clean and healthy are also carried on by the municipality. The municipality receives a grant of Rs. 1,25,000 every year from the Government for the maintenance of roads, watering and lighting.

#### "A" CLASS MUNICIPALITIES

##### **District Municipalities :—**

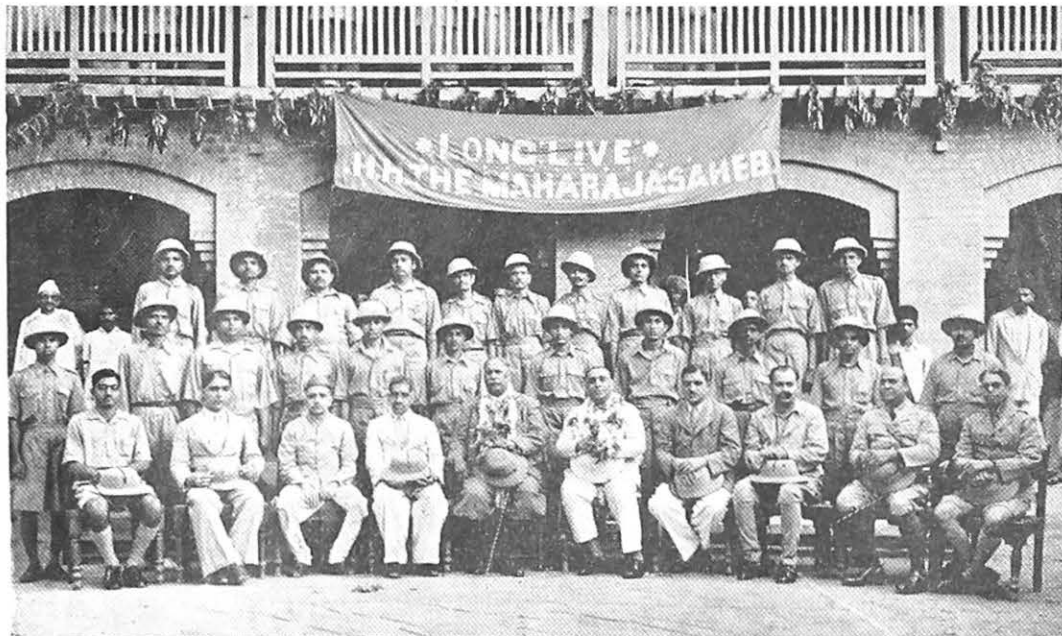
Prior to 1877, there were no municipalities in the districts. In that year however municipalities were established in most of the Taluka towns, though they had no definite constitutions nor was any financial provision made for them, a few simple rules sufficing for their working. They were entirely managed by the Vahivatdars of the Talukas. There was no house tax nor was there any general

assessment of property. The Government had undertaken to defray all the expenses by regular annual grants which were in the beginning placed under the control of the Public Works department, and subsequently in 1892, under the management of the Sanitary Commissioner. Later still the subas were authorised to prepare lists of private individuals likely to take an intelligent interest in local affairs, and to appoint from 8 to 16 members to carry on the municipal administration in different places. Under this provision a general committee and a managing committee were formed and municipal affairs came to be managed by the decision of the majority. Government grants were continued, and special grants were also sanctioned for special needs. These grants were modified according to circumstances, but they remained the main source of income to the municipalities. Simultaneously with the introduction of self-government in rural areas by the creation of panchayats and the local boards in the year 1904, it was decided to introduce self-government in some of the more advanced municipal towns. A Municipal Act based on the Bombay Municipal Act III of 1901 was passed in 1905 and brought into force from the 1st of February 1906.

From this date municipalities were divided into two classes "A" and "B". Those which were not sufficiently advanced, were classed "A" and were to be managed by the Vahivatdars of the Talukas in which they were situated. In the "B" class were placed municipalities which were to be self-governing. Besides the town of Baroda 8 other towns, Dabhoi, Patan, Sidhpur, Visnagar, Navsari, Gandevi and Amreli were selected from the beginning for the establishment of "B" class municipalities, Billimora being added later. Elections were held in all those towns in July 1905, and the new members partly elected and partly nominated, began their work from August 1905. In this way, the work of self-governing municipalities in the State commenced on the same date as that of the local boards.

In place of the specific grants which used to be made from the State revenues to the district towns, sources of revenue yielding sums adequate for their expenditure at the time were generally assigned to the towns selected for the "B" class municipalities. Where such sources were not available specific grants were continued.

Self-government was thus granted to these district towns without any addition to taxation. Some of the municipalities



A Group of Civic Guards

were given special grants in lieu of excise and toll for some years during which period they were asked to meet their own requirements by levying new rates and taxes which the municipalities did by levying octroi, house tax, conservancy tax and building fees.

When Vishista Panchayats came to be called "B" class municipalities these self-governing municipalities came to be called "A" class. The number of the "A" class municipalities in the Raj exclusive of the Baroda city municipality is 12. The constitution of these bodies provided for one half nominated representatives and one half elected representatives, half amongst the latter being officials and half non-officials. Till 1938 the municipalities of Patan, Navsari and Amreli alone enjoyed the privilege of having their own elected presidents, while the rest of them were presided over by the divisional naib subas. But in 1939 the right of electing their own presidents was conferred upon all "A" class municipalities. The vice-presidents in all the municipalities are elected.

#### **Income and expenditure :—**

These municipalities depend for their income upon their resources. It is only in executing big works of public utility such as water works, drainage or the like that they approach Government for assistance. The policy of the Government is very generous in giving gifts ranging between  $\frac{1}{4}$  and  $\frac{1}{2}$  and in advancing loans at a reasonable rate of interest. Though the sources of income seem to be numerous, the main source of income of these bodies is taxation direct as well as indirect. The municipality of Petlad and Baroda have alone introduced the terminal tax. All the municipalities in the Mehsana district solely depend upon octroi while the municipalities of Navsari district and Amreli make a combination of octroi, house tax and conservancy cess.

The main heads of the expenditure of these bodies are three viz: (1) public safety, (2) public health and convenience and (3) public works. Amongst these, expenses are fairly spread over light, conservancy and roads. Five out of 12 municipal towns possess water works, and out of these five only—Baroda, Navsari and Visnagar possess under-ground drainage. The water works schemes for Petlad and Sidhpur are under consideration. The water supply scheme for Amreli town costing Rs. 10,15,000 is sanctioned by the Government, which is to defray the whole cost. Ten out of 12 municipal towns have been provided with electric lighting. Almost all the municipal towns possess fire brigades.



To bring about better co-ordination of work and to usher better and progressive outlook in the municipal affairs by mutual exchange of thoughts and by understanding the difficulties of each other a conference of all the municipalities was convened in 1934, and it has been now laid down that such conferences should be convened every three years.

To improve the general working of these bodies and add to the efficiency, the Government have fixed the qualifications and grades for the municipal staff. A separate examination test is also prescribed and all the municipal servants of whatsoever grade are required to pass this test. Certain other measures are also adopted to increase the efficiency of the staff and security for the people. A Sudharai and Panchayat Training class holds its session from the 1st June to the 15th July every year. The clerks attending the class receive training in every branch of work with which they have to deal.

Municipalities have also been directed to provide recreation grounds to every town with a population of 7,000 and above.

The Government have laid down that comprehensive sanitary surveys of all municipal towns be carried out by the Sanitary Commissioner who is also directed to suggest schemes and also the financial implications incidental thereto for the proper attainment of these requirements.

#### "B" CLASS MUNICIPALITIES

We have seen in the foregoing pages how that class of municipalities which were not regarded as being sufficiently advanced for self-government were provided for in the old dispensation. But after the passing of the Municipal Act of 1905 the tendency of the Government was to guide the municipalities to become self-supporting as far as possible. The fixed grants allotted to the municipalities in lieu of customs and tolls were stopped from 1st November 1909. Special grants given to the other group of municipalities were also discontinued, and municipal towns were permitted to levy house tax, octroi and other duties under the Municipal Act to meet their requirements.

The "B" class municipalities of to-day were then called the Vishista Panchayats and these are 30 in number. The Vahivatdars and Mahalkaries preside over all of these bodies ex-officio and all municipalities have elected vice-presidents. Two thirds of the

members are elected and the rest are nominated, of whom one-half are officials and the other half non-officials. Besides local cess and all other items that are generally allowed to village panchayats, the main sources of their income are either house tax or octroi. Eight of these bodies have water works constructed with the aid of free gift from Government which varied from  $\frac{1}{4}$  to  $\frac{3}{4}$  of the total cost according to the financial position of each body.

Out of the 30 "B" class municipal towns, most of them still characteristically possess predominant traits of rural life and as such the Government have granted to these bodies half the amount of local cess and all the other sources of income that have been conceded to the village panchayats. The Government follow a generous policy of giving large contributions by way of gifts as well as loans whenever any municipality needs them for undertaking any large work of public utility such as water supply or drainage.

The main heads of expenditure of these bodies are (1) establishment charges, (2) public safety, (3) conservancy, (4) public health and convenience.

The supply of sufficient and potable water is one of the primary duties of a municipality. As mentioned above 8 out of 30 "B" class municipal towns possess water works of their own and all are working satisfactorily. The water works schemes for Bahadarpur, Karjan, Vaso and Padra in the Baroda district, and Dwarka and Beyt in the Okhamandal, are under consideration. The Kadi municipality has given water facilities by installing an electric pump on a bore well. At Dehgam, the municipality has constructed a bore well and installed an oil pump on this boring. A combined water works and drainage scheme for Dharmaj is sanctioned. The work of under ground drainage scheme at Bhadran is in progress. The Vyara, Songadh, Kathor, Billimora and Gandeve municipalities in the Navsari district, Sankheda municipality in the Baroda district and Kodinar municipality in the Amreli district carry on anti-malaria work.

---

## DEPRESSED CLASSES AND MEASURES FOR THEIR AMELIORATION

“God never intends that any section of His Children should be branded as untouchables,” so said His Highness the late Maharaja Sayajirao on one occasion. He was deeply touched by the social disabilities to which the depressed classes were subjected, and he conceived a comprehensive plan of their uplift, and thought of their education as a first effective measure.

### Education:—

Accordingly two schools were started for the depressed classes in the year 1883. The school requisites were given free, no fees were charged, and all possible facilities were given to them. In 1891-92 boarding schools were opened in the city and in the principal towns in the districts in which clothing, boarding and lodging were given free. There was a steady rise in the number of schools and the pupils attending them.

The year 1906-07 marks an important mile stone in the educational history of Baroda State. It was in this year that primary education was made free and compulsory all over the State. The result was, that the number of schools for the depressed classes rose rapidly, and a special inspector was appointed to inspect these schools.

By the year 1911-12 the depressed classes were allowed to read newspapers and books in the Central library and all the deputy inspectors were ordered to inspect their schools without any differentiation. The untouchables were also admitted in the training school for men though there was some opposition at that time.

A Sanskrit school for the education of the Garodas-preachers of the depressed class people—was started in 1913, but was closed after some time when arrangement for such study was made in the Antyaj boarding houses.

Dr. Ambedkar who is now so very well-known was sent to England by His Highness for higher education in 1913. Mr. P. G. Parmar, Mr. M. G. Parmar and Mr. R. T. Leuva are other members of the class deputed to England for higher studies.

The progress of these classes in education gives interesting results. In 1900-1901 there were 22 Government schools for the depressed classes and 1,936 students. The adoption of compulsory education gave an impetus which brought the number of schools and students in 1906-07 to 247 and 9,269 respectively, and the rise in the number of students continued from year to year till the latest number of students has gone upto 21,336 in 1940-41.

How assiduously and carefully this problem is tackled in Baroda is revealed from the fact that though the number of students continues to increase every year, the number of schools specially meant for the depressed class has steadily gone down. The peak was reached in 1916-17 when the number of such special schools stood at 270. The number dwindled to 201 in 1930-31, and the process has brought the number to only 64 in 1940-41.

The increase in the number of students and decrease in the number of special schools is the result of a policy of amalgamating Antyaj schools with the ordinary schools where conditions are ripe. It is remarkable to note how the public sentiment against untouchability is being so gradually moulded as to render so many special schools superfluous.

The amalgamation of Antyaj schools has further resulted in the following two-fold advantage:—

- (1) the Harijan pupils received better tuition by being admitted in the usual vernacular schools and
- (2) the number of teachers thus saved are transferred to other schools where more teachers were badly needed on account of the increasing number of pupils.

The percentage of Harijan pupils under instruction to the Harijan population is 10.5 at present.

There are 16 Antyaj boys studying in the Baroda College and 252 in the secondary schools of the State. Besides, 37 were in the Kalabhavan and the training schools, in the year 1940-41.

**Special facilities:—**

With a view to encourage Harijan students in their studies, Government continues to supply to them books and other school requisites, free of cost. Besides, some of them are admitted in the Harijan boarding houses where they are given boarding and lodging at Government expenses. In addition to these facilities, scholarships are liberally awarded to these students. Special scholarships are also maintained in the College and Kalabhavan. Primary education is free, but to encourage Harijan pupils to go in for secondary and higher education, they are exempted from the payment of fees, in secondary schools and in the Baroda College.

There are boarding houses at Baroda, Patan, Amreli and Mahuwa for pupils of this class. The total amount spent after these boarding houses was Rs. 7,305.

Moral and religious education is imparted to the students and weekly meetings of the debating society are held. Arrangement to teach the Gita is also made in all the boarding houses, and the children are regularly examined in the subject. Ideas of social service, self-help and cleanliness are impressed upon their minds. Practical training in agriculture and gardening is also given in these institutions. At Amreli provision is made for instruction in tailoring. Due attention is paid to the physical development of the boarders. Local medical officers visit these institutions and give necessary instruction and help.

High caste Hindus are now coming forward to work as teachers and inspectors in Harijan schools. With a view to bring to the notice of the Government the special difficulties and requirements of these pupils, the special post of an inspector of their schools is filled in by a competent, trained and experienced teacher of that community. He is entrusted with the work of examination and keeping general supervision over Harijan schools in the State. Other deputy inspectors inspect the Harijan schools in their respective areas. During the year 1937-38 as many as 247 persons of this community were in educational service.

With a view to bring to the notice of the Government the difficulties of this community and to safeguard their interest the Government has appointed Mr. Nagjibhai G. Arya of this community as a member of the Education Board and the Dhara Shabha.

**Birla fund:—**

For the encouragement of religious instruction among the students of the depressed classes Rai Bahadur Seth Jugalkishor Birla has given a donation of Rs. 15,000 from the interest of which prizes are awarded to students passing the Gita Examination. A preacher is also engaged to preach to these people the ideal of clean living and high thinking.

**Local self-Government:—**

In the year 1907 His late Highness Maharaja Sayajirao graciously made a free gift of 5½ lakhs of rupees for the construction of wells for all classes of people including the Harijan class. The total number of wells in the year 1931 for Harijans was 1,324. In the year 1937 the number of wells in use for this class was 1,055. In the year 1931 His Highness passed an order to the effect that thereafter whenever any occasion arose for constructing a new Chora or for digging a new well or a tank or when any scheme for Choras, wells and tanks was to be submitted a condition should be laid down that the caste people should not prevent the Harijans from taking water from the wells or the tank or where they had any special objection to do so they should at their own cost make provision for drinking facilities etc., for Harijans and allow them to enter the Choras.

The principle of nominating the Harijans in the local bodies was adopted from the year 1930. Till that year there was no separate nomination of Harijans in the Prant Panchayats. In the year 1930 the Government directed that among the nominated members in the Prant Panchayat, one member should be invariably from the untouchable class. In pursuance of that order one Harijan is nominated in every district local board.

At present there are 47 members of the depressed classes nominated in 47 village boards and 5 such members in the municipal bodies of the Raj.

In the Baroda City Municipality, provident fund scheme is made applicable to servants of the scavenger class. Where members of this community are found fit for service in the municipal offices, orders are issued to employ them in the municipalities and the local boards. They are given the facilities for going on leave. Co-operative societies for Bhangis in the municipalities of Baroda, Navsari, Patan and Sidhpur are started and other municipalities also are instructed to start whenever possible such societies for the benefit of this class,

It is also made obligatory upon panchayats to supply full sanitary equipments.

The refuse collected by the Bhangis instead of being burnt down or thrown away, is now to be collected in pits and as a stimulus to the bhangis to do the conservancy work efficiently they are allowed to appropriate to themselves the income derived from the sale of such refuse.

In villages where it is found difficult to obtain a sufficient number of Bhangis, the panchayat is required to give the available local Bhangis if they are able to cope with the work, an additional salary of 25% of the savings effected due to such vacancies from the panchayat fund.

A notification issued in 1938 lays down that all public buildings belonging to Government or local bodies, wells, tanks, etc., can be used by the depressed classes as much as by the class Hindus and if this right of theirs is interfered with by any high class Hindu the Government will take steps to remove the difficulties through Government officers.

#### **Religion :—**

The work of the uplift of the depressed classes is further carried out by two religious preachers specially appointed to move from village to village, gather together people and deliver sermons, exhorting them all to improve the conditions of the depressed class and treat them with equality and justice.

In 1932 all the Government temples were thrown open for the depressed classes for worship. This reiterates an order of many years ago.

#### **Legislation :—**

The general and well known policy of the State is to encourage the depressed classes in all social and economical activities and to remove their disabilities. Members of the depressed classes are allowed access to all parts of offices and courts in the State without any differential restrictions.

The depressed classes are given the benefit of section 15 of schedule 18 of the Local Civil Procedure Code which provides that the court should reopen the transactions when the debtors are members of depressed classes, examine the accounts from the beginning of the transaction or of such other period as the court

thinks proper and reduce the amount of the debt if it appears that any unlawful and undue advantage is taken by the lender of the ignorance, illiteracy etc., of the debtor.

An amendment has been sanctioned in the Caste Tyranny Removal Act under which the custom of observing untouchability i. e., a custom which provides that a person should be regarded as untouchable simply because he is an Antyaja should be regarded as a 'Tyrannous Custom' punishable under the Act.

The Government has also passed Social Disabilities Removal Act. The Act aims at removing disabilities suffered by Hindus known as Harijans, Untouchables and the like. Under the Act a person belonging to any of these classes is eligible for being appointed to a public office. He also cannot be prevented from

- (a) having access to any public street, conveyance etc.; or
- (b) having access to any secular institution to which all other classes and communities have a right to be admitted and which is dedicated or maintained for the use of the public or is maintained from the funds of the State or a local authority.

#### **Economic measures:—**

An expert in tanning has been engaged since 1-6-1931 to demonstrate improved methods from centre to centre where chamars-tanners are found, and he also teaches them the uses of improved implements. At present he supervises two other tanning classes besides conducting one himself. Granting of loans without interest, of Rs. 200 each, on easy terms to enable chamars to buy raw materials and new tools, has been a very helpful economic measure.

Experiments are made in chrome tanning at Patan at present and this will shortly be taught in different classes.

The number of chamars trained in these classes held in important villages is more than 200.

The co-operative movement is a socialising and a levelling movement, though the main aim is economic betterment. It does not recognise caste and creed. However, in India as the whole social economy is based to a certain extent on such divisions



their existence has to be reckoned within any realistic and practical effort for social and economic readjustment. It has, therefore, been found necessary to start separate co-operative organisations based on castes or classes in some cases.

At present there are 109 such co-operative societies of the depressed classes in the State and their membership amounts to 2,408.

Some chamar societies were advanced loans without interest by the Government through the department of Commerce, and the Government has formulated the policy of advancing loans for better and improved methods of tanning and weaving.

#### **General:—**

At the rural reconstruction centre at Kosamba which was started to create interest among the rural population in the necessity of improvement in their present conditions primarily by stimulating agricultural improvements and introducing subsidiary occupations, special care is taken to associate members of the depressed classes with all the activities that are carried on there.

The tendency of all the departments is to take up suitable men from the depressed classes in the departments and that such persons are kept with others on the same lines and they enjoy the same facilities as other Hindus. The Services Committee also pays wholesome attention to select Harijan candidates for the State service whenever available.

The efforts of the Government have been along various fronts and the progress on all sides is being synchronised. Amelioration of depressed classes depends also on the eradication of bad social and personal habits and systematic efforts are being made to raise their level in all directions.

The cause of untouchables and depressed classes has been championed by the Baroda Government long before it assumed an all India character, and, with a reasonable sense of pride it may be said that Baroda has made a unique contribution towards eradicating untouchability with all its sinister implications.

---