

## CHAPTER IX.

### MISCELLANEOUS DEPARTMENTS.

#### SECTION 1—MUZRAI DEPARTMENT.

##### GENERAL.

The origin  
and definition  
of the word  
“Muzrai.”

THE word “Muzrai” is derived from a Persian word “Mujra” which means deduction or allowance and it was, through colloquial usage, changed into Muzrai and applied generally to an allowance granted for religious or charitable purposes. Hence, all grants made for religious or charitable purposes and for the up-keep of religious and charitable institutions come under the head “Muzrai.”

Muzrai  
Department.

The Muzrai Department is entrusted with the administration of revenues of religious and charitable institutions belonging to Hindus and Mahomedans, such as, temples, chatrams or feeding houses, mutts, durgas, masjids, etc., enjoying land and money inams and interest from certain deposits of money lodged by votaries for the fulfilment of certain vows. Subsistence or personal grants, such as *Varushāsanam*, *Nagad Bhatamānyams*, *Yomias*, and other charitable allowances given for the subsistence of the holders, are also administered by the Muzrai Department.

Distinction  
between  
“Muzrai”  
and “Inām.”

Formerly, Muzrai included Inām also. Muzrai and Inām are linked together, and, in many respects, their connection is intimate. After the introduction of the

Inam Settlement into the State, a distinction was made between Muzrai and Inām. At present, all ready money grants come under the head "Muzrai" and all endowments in lands under "Inām."

*Prior to the Rendition.*

During the administration both of Tipu Sultān and Pūrnaiya, the Muzrai affairs were managed by the Amildar and the Faujdar under the oral and written orders of the Dewan; and subsequently, His Highness the late Maharaja Krishnaraja Wodeyar Bahadur III kept the control of the institutions under his immediate supervision. On the administration passing into the hands of the British Commission in 1831, the management of these institutions was vested in the Superintendents and their subordinate District officers. In 1852, the Commissioner, Sir Mark Cubbon, considered it expedient that the management of the affairs of the Muzrai institutions throughout the State should be transferred to and placed under the orders of his office, and he issued a set of rules with a view to ensure greater efficiency in the work of the institutions. In 1861 again, on the eve of his departure, Sir Mark Cubbon retransferred the supervision of the institutions to Divisional Superintendents. In 1867, Indian Muzrai Assistant Commissioners were appointed and they were entrusted with the general supervision over the work of the Amildars, themselves being subordinate to Deputy Commissioners, the final authority in all matters vesting with the Chief Commissioner. In 1876, the immediate control over Muzrai institutions was, under the Chief Commissioner's orders, transferred to the Huzur Daftar Department, proposals for important changes and other correspondence not coming within the category of routine work alone being submitted through the Divisional Commissioner. The change took effect from the 1st January 1877, and, in

introducing it, new rules were framed with a view to improve the system of accounts and the efficiency of the department generally.

*After the Rendition.*

Administra-  
tion and  
staff.

After the Rendition, the management of the institutions reverted into the hands of the Deputy Commissioners of Districts, a small establishment being maintained in the Dewan's Office to deal with the papers bearing on Muzrai matters. A great need for reform in the management of the State Muzrai Institutions then continued to be pressed upon the attention of Government in several meetings of the Representative Assembly, and in December 1891, Government, on a consideration of the large interests involved and realizing the need for the reforms urged, appointed a special officer as Muzrai Superintendent to enquire into the subject on the spot and to carry out the needed reform in the case of each institution under the general or special orders of Government. To facilitate the disposal of the various questions by Government, the Muzrai Superintendent was also appointed *ex-officio* Secretary to Government. This arrangement continued till about the close of the official year 1921-22, when the post of the Muzrai Superintendent and Secretary to Government was abolished and the Revenue Commissioner in Mysore was appointed Muzrai Commissioner with sufficient powers of control and supervision over the District Officers.

Muzrai Institutions have been endowed with land ināms, the annual value of which is nearly 11 lakhs, in addition to ready money grants amounting to Rs. 3,24,600. (*Vide* statement I).

Classes of  
Muzrai  
institutions.

For purposes of management, the institutions are divided into three classes :—

- (1) *Major*.—Those having a total income from all sources exceeding Rs. 1,000 per annum and a few others of special importance to be specified from time to time.
- (2) *Minor*.—Those with an income ranging between Rs. 100 to Rs. 1,000.
- (3) *Village Institutions*.—Those with an annual income of less than Rs. 100.

Detailed instructions for the management of second and third class institutions have been issued.

The law relating to Muzrai Institutions in Mysore has been consolidated and codified into a Regulation known as the Muzrai Regulation, 1913, which was passed in October 1913 and came into force on 1st January 1914. The Mysore  
Muzrai  
Regulation.

Provisions relating to religious and charitable institutions and to Mutts and similar institutions are contained in Chapters II and III respectively, while Chapter IV deals with the claims, appointment and removal, etc., of *pūjāris* and other hereditary temple servants.

Rules have been issued under Sections 13, 15 and 35 of the Muzrai Regulation, dealing with the maintenance of accounts in religious and charitable institutions, the conduct of business by *Dharmadarsis* and other cognate matters.

The standing orders relating to the Department have been compiled and published in the form of a Manual. The Muzrai  
Manual. Two supplements have also since been published.

A library of standing works relating to temple worship and religious practices has been formed in the Muzrai Commissioner's Office, and the Library is also being enlarged every year. Library. Subject to certain specified conditions, a collection of books bearing on Oriental Philosophy, Religion, etc., has been lent to the Mythic Society,

Bangalore and they are kept in the society premises in a special bureau marked "Muzrai Department, Loan Section."

## APPENDICES.

*I. Statement showing balances, cash grants, etc., of institutions.*

Balances on 30th June 1923			Cash grants, annual budget figures for 1923-24					
	Invested	Uninvested	Chattrams	Temples	Matts	Palace institu- tions	Muhammadian institutions	Allowances, grants-in-aid, etc.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Government of India $3\frac{1}{2}$ per cent loan.	608,800	10,22,700†	60,218	125,364	60,118	55,182	12,405	11,048
Mysore Govern- ment $6\frac{1}{2}$ percent loan of 1940.	241,000	...	...	...	...	...	...	...

† Out of this, a sum of Rs. 509,000 has been ear-marked for investment in Mysore Government  $6\frac{1}{2}$  per cent loan of 1940.

*II. Statement showing the number of different institutions in the State.*

Major				Minor
Chattrams	Temples	Rest-houses	Muhammadian institutions	
36	87	24	7	1,316

III. List showing religious and charitable institutions outside the Mysore State receiving grants from the Mysore Government :—

No.	Name of institution and place where it is situated	Amount of allowance per year	Payment where made
<b>CHATTRAMS.</b>		Rs. a. p.	
1	His Highness the Maharaja's Chattram and certain charities established in the Sri Venkataramanasvāmi temple at Tirupati, Chittoor District.	12,036 9 6	Bangalore.
2	His Highness the Maharaja's Chatram at Benares.	2,883 3 3	Do
3	Barahazar Santarpane during Shasti festival at Subrahmanya, Uppina Angadi Taluk, South Canara District.	2,000 0 0	Hassan.
	Total ...	16,919 12 9	
<b>MATHAS AND BRINDAVANAMS.</b>			
4	Hattiramji Matha at Tirupati ...	250 0 0	Bangalore.
5	Jangamvadi Matha at Benares ...	240 0 0	Mysore.
6	Sri Alagiya Manavala Ramanujaiyyar's Matha at Vishnu Kanchi, Conjeevaram.	58 1 0	Mulbagal.
7	Sirur Matha at Udipi ...	19 0 0	Belur.
8	Kanur Matha at Udipi ...	349 1 0	Tirthahalli.
9	Pejavar Matha at Udipi ...	261 13 0	Do
10	Puttige Matha at Udipi ...	408 10 0	Nagar.
11	Bhadarkere Matha at Hosahalli (Udipi Taluk).	174 9 0	Do
12	Palamara Matha at Udipi ...	349 1 0	Koppa.
13	Sri Satyavarāhasvāmi's Brindavana at Santebidnur (Anantapur District).	290 13 0	Madhugiri.
14	Memorial at Calcutta ...	5,919 0 0	
	Total ...	8,815 0 0	

## III.—concl'd.

No.	Name of institution and place where it is situated	Amount of allowance per year	Payment where made
	TEMPLES.	Rs. a. p.	
15	Sri Venkataramanaswāmi temple at Tirupati (Chittoor District).	5 13 0	Bangalore.
16	Do do ...	13 2 0	Honnali.
17	Do do ...	3,190 0 0	Bangalore.
18	Sundry temples at Benares:—		
	Sri Muddukrishna Dēvaru Rs. 60 ...	} 240 0 0	Mysore.
	Sri Subrahmanyaswāmi Rs. 60 ...		
	Sri Depaji Swami Rs. 120 ...		
19	Sri Arunachalēsvaraswāmi at Tiruvannamalai.	496 6 0	Bangalore.
20	Sri Ardhanārīswaraswāmi at Tiruchangode.	290 15 0	Seringapatam.
21	Sri Jambukēsvaraswāmi at Jambukēsvara, Trichy.	131 12 0	Bangalore.
22	Sri Ranganāthaswāmi at Srirangam, Trichy.	200 0 0	Do
23	Sri Yantrōddhāraka Mukhya Prāna Dēvaru at Hampi.	94 15 0	Molakalmuru.
24	Sri Ranganāthaswāmi at Gudupalli (Penukonda Taluk).	4 6 0	Bagepalli.
25	Sri Anjanēyaswāmi at Santebidnur (Anantapur District).	58 9 0	Madhugiri.
26	Sri Anantapadmanābhaswāmi at Udipi	236 6 0	Tirthahalli.
27	Sri Krishna Dēvaru at Udipi ...	6,807 0 0	Do
28	Do do ...	14 8 0	Do
29	Sri Vamanagiri Durga Dēvi on the hill of Kanabur village, Udipi Taluk.	4 6 0	Do
30	Sri Subrahmanysvara at Kalakunda, Uppina Angadi Taluk, South Canara.	581 13 0	Manjarabad.
31	Do for Agama service...	144 12 0	Do
32	Sri Ramachandra Dēvaru at Savanur, Dharwar District.	5 13 0	Honnali.
33	Sri Trivikrama Dēvaru at Swadi, Sirsi Taluk (Bombay).	4 6 0	Shikarpur.
34	Sri Banasankari at Bādami (Kaladgi District).	116 6 0	Davangere.
35	Hayagrivadēvaru in Parakāla Ma'ha at Tirupati.	1,320 14 0	Bowringpet.
	Total ...	13,781 0 0	
	Grand total ...	39,016 5 9	

IV. Statement showing the particulars of Muzrai Institutions under the management of the Palace Authorities in the State:—

No.	Name of Institution	Amount		
		Rs.	a.	p.
1	His Highness the Maharaja's Chattram in Mysore ... ..	19,450	0	0
2	His Highness the Maharaja's Sanskrit College in Mysore ... ..	7,222	15	11
3	Sri Prasanna Krishnaswāmi Temple ... ..	13,722	0	0
4	Varāhaswāmi Temple ... ..	4,329	0	0
5	Lakshmiramanaswāmy Temple ... ..	2,019	0	0
6	Trinēswaraswāmi Temple ... ..	2,011	0	0
7	Chāmundēsvari Temple on the Chāmundi Hill ... ..	11,748	0	0
8	Chamanpatti Dēvēswara Temple ... ..	178	12	0
9	Bettada Padagudi ... ..	60	0	0
10	Panchagavi Matt ... ..	626	0	0
11	Japadakatte Matt ... ..	350	0	0
12	Sanjivaraj Urs' Temple, Mysore ... ..	120	0	0
13	Sri Sōmēsvara Temple, Fort, Mysore ... ..	8	12	0
14	Byravaswāmi Temple, Fort, Mysore ... ..	8	12	0
15	Venkataramanaswāmi Temple, Fort, Mysore ... ..	287	14	0
16	Vināyaka Temple, Western Fort Gate, Mysore ... ..	58	3	0
17	Ānjanēya Temple, Southern Fort Gate, Mysore ... ..	104	12	0
18	Remuneration for dragging cars ... ..	100	0	0
	Total ... ..	62,405	0	11
	Deduct amount transferred to Education Budget on account of Mysore Sanskrit College ... ..	7,223	0	0
	Total ... ..	55,182	0	11
		a year		



V. Statement showing the institutions receiving annual grants-in-aid from State Funds during the year 1923-24 :—

No.	Name of Institution	Amount		
		Rs.	a.	p.
1	Friend-in-need Society, Civil and Military Station, Bangalore ...	600	0	0
2	Girdlestone Home for incurables, Civil and Military Station, Bangalore ...	300	0	0
3	Srinivasa Mandiram Orphanage, Bangalore City ...	1,200	0	0
4	Arya Dharma Bōdhini Sabha ...	225	0	0
5	Ubhaya Vēdānta Pravartana Sabha, Mēlkōte ...	120	0	0
6	Anāthālaya, Mysore ...	600	0	0
7	Abalāsrama, Basavangudi, Bangalore City ...	300	0	0
8	Ganesha Utsava in the Sri Chāmarājēndra Sanskrit College, Bangalore ...	25	0	0
9	Sanskrit College, Mēlkōte ...	3,240	0	0

SECTION 2—HORTICULTURE AND PUBLIC GARDENS.

HORTICULTURE.

Horticulture and climatic conditions.

The Mysore State enjoys a climate most favourable to horticulture. Its chief centre, the Bangalore District, which is also the centre of horticulture, may be said to be sub-tropical, as compared with the tropical climate of Madras and the distinctly temperate or alpine condition of the Nilgiris. In the State itself, these tropical and temperate conditions are represented in the planting districts and hilly ranges respectively. In Bangalore, with judicious treatment, most of the plants of these extreme climates can be grown. The rainfall in the State is extremely varied in its character and is suitable for both dry and wet cultivations. The rainy and summer

seasons are fairly good, but the winter is not long enough to allow of sufficient rest for fruit plants, such as peaches, plums, etc., so that artificial methods of wintering have to be adopted. On the whole, the climate of Bangalore is more suitable for the cultivation of fruits and vegetables, both local and European, than most other places in India.

In parts of the *malnād*, where the rainfall exceeds 90 inches, irrigation depends exclusively upon rains. Where it is less than 90, innumerable small tanks have been constructed to supply water whenever the rains hold off long. In the *maidān*, owing to scanty rainfall and the peculiar configuration of the ground, tanks are an absolute necessity and almost every likely site has been made use of for constructing a tank. Ninety per cent of the tanks are what are termed "minor," that is, tanks assessed at less than Rs. 300 per annum.

Irrigation and other water facilities.

Channels drawn from perennial streams and rivers are also being used for irrigation. Wells are dug for garden cultivation.

The areas irrigated under the different systems are as follows:—

Tanks	...	...	5,00,000 acres roughly.
Channels	...	...	1,00,000 do
Wells	...	...	62,000 do
Rain	...	...	2,00,000 do

As far as horticultural crops are concerned, well irrigation is the most important. Vegetables are chiefly cultivated in low land, where the water level is fairly high and water is lifted with the help of *picottas*. In places where the water level is low, *mhotas* are used. In a few large estates, started round Bangalore, pumps are used for lifting water. Oil engines are now being replaced by motors driven by electricity.

Soils suitable  
for Horticul-  
ture.

The soil in the Mysore State is generally productive. Of the various soils such as clayey, loamy, sandy and gravelly soils found in the State, loamy soils are preferable for horticultural crops. It is not always possible to find the ideal condition and very often the texture of soils has to be improved by artificial means. Drainage is one of the most important factors in the cultivation of fruit trees. In and around Bangalore, fruit plants are cultivated in well-drained, red, loamy soils and vegetables in the deep soils of low areas.

The tools  
employed.

In the matter of implements, the cultivators of fruits and vegetables are not so backward as the cultivators of field crops. They use both the local and European tools. The chief difference between the two sets of tools is that, in the case of local tools, the man has to work towards him with a pulling action whereas in the case of imported implements he has to work away from him with pushing action. The gardeners here are naturally more accustomed to the former way of working and almost all European implements which could be worked similarly are used by them. The chief implements used in gardening are the following :—

- |  |                     |
|--|---------------------|
| (1) <i>Guddali</i> .—One sided pickaxe used for deep digging.                            | (5) Pick axe.       |
| (2) <i>Mamtee</i> .—A spade used for digging soil and for surface digging in soft soils. | (6) Rake.           |
| (3) <i>Kale Kothu</i> .—Miniature <i>guddali</i> for removing weeds and stirring soil.   | (7) Trowel.         |
| (4) <i>Hārekōlu</i> .—Crowbar.   | (8) Handfork.       |
|  | (9) Sickle.         |
|  | (10) Pruning Knife. |
|  | (11) Hedge shears.  |
|  | (12) Pruning saw.   |
|  | (13) Watering can.  |

The digging fork, the spade and the shovel are used only in Government and a few big private gardens.

The cultivation of all crops in horticulture is intensive. As they are not grown on such large scale as field crops, and as they are more paying, the growers do not hesitate to improve the soil by adding different kinds of soil constituents and manures according to the necessity and even to renew the whole soil as in the case of flower plants. The plough is generally replaced by the spade and the soil is dug usually to  $1\frac{1}{2}$  to 2 feet in depth. On large areas, ploughing is done to prepare the land. The local plough is the commonest, but improved ploughs are gradually taking its place. In the case of a few large estates, tractors are used for ploughing with mould board or Disc ploughs. The improved plough has a decided advantage over the local one in as much as it inverts the soil.

Preparation  
of the land.

Heavy manuring is necessary for the cultivation of vegetables, fruits and flowers. The common manures are the following:—Cattle manure, horse manure, sheep manure, nightsoil, town rubbish, leaf-mould, wood-ashes, oil cakes, bonemeal, lime, nitrate of soda, sulphate of ammonia, sulphate of potash, *kainit* superphosphate and nitrate of potash are used in large estates and Government gardens and farms where scientific and experimental cultivation is done. Liquid and green manures are also used in some cases.

The manures  
used.

The work of the Horticultural Department may be classified into three main divisions, *viz.*, scientific, economic and ornamental. The sciences which are applied are chiefly Botany, Entomology, Mycology and Chemistry. Economic work includes the cultivation of fruits, vegetables and other useful plants yielding fuel, timber, shade, fibre, medicine, etc. Ornamental horticulture consists of flower and landscape gardening. Horticultural education and popularising horticulture also form

Principal  
sections of  
Horticulture  
and work  
connected  
with it.

part of the work. Lastly, the development of Hill Stations and Town Planning are included in the sphere of the department. Practically all the work falling under the head of scientific research is done at the Government Botanical Garden, Lal-Bagh, Bangalore, which is the centre of all horticultural activity in the State. The different sections of work done here are described below.

(a) Botanical work.

The systematic maintenance of a representative section, the constant importation of new plants and the collection of different kinds of plants form the chief effort in Botanical work. Most of these plants are planted in groups according to their genera. Labels containing the scientific and common names of the plant, the natural order to which it belongs and its habitation are provided. This arrangement is much appreciated by botanists and college students. An Herbarium containing a large and valuable collection of specimens, representing chiefly the Flora of the Mysore State, is also maintained. The dried specimens in the Herbarium together with the collection of live plants in the garden close at hand afford unique facilities for the study of Botany in the State. There is also a most valuable collection of paintings of botanical subjects drawn by the Artist of this department.

(b) Economic Section.

In the Economic Section of Botany, hybridising and plant breeding work is done. New plants of commercial importance are introduced, their cultivation is tried and their uses are investigated. Those plants which are found suitable are propagated in the Nursery and distributed to the districts.

The Bureau of Economic Botany is maintained for the study of Economic plants and their products. It has two primary objects in view, *viz.*—

(1) To furnish by means of extracts and references from the chief technical publications, systematically arranged in ledger cabinets, ready and up-to-date information on the cultivation of Economic plants and the manufacture and commerce of the products derived from them; and

(2) To exhibit for study by the public, the seeds and other useful parts of economic plants, as samples of economic or commercial vegetable products, raw and in various stages of preparation or manufacture.

The economic garden in the Lal-Bagh affords further facilities for the study of living specimens of economic plants. (c) Bureau of Economic Botany.

The study of insect and fungus pests forms another section of work. These pests on vegetable and flower and fruit plants are studied and preventive and remedial measures are found out. Among insect pests, scales, green and brown and mealy bugs, aphid, and stem borers; and among fungus diseases, mildew, rust, and sooty mould are general. The staff not only treats the diseases on plants in the Government Gardens but also goes round private gardens, specially neighbouring orchards, and does spraying work, for it is chiefly in the latter that fruit plants are propagated and sold and, if they are not treated, the pests would get largely distributed in different localities. (d) The study of insect and fungus pests.

With the object of controlling these diseases, all incoming and outgoing plants are subjected to thorough examination and are then fumigated in the *Fumigatorium*, which is a special construction prepared for the use of hydro-cyanic gas. All plants are then sent out to their respective destinations under a guarantee of being free from insect or other pests. The fumigatorium.

Attached to the office there is a seed-store and sale-room in which seeds, both acclimatised and imported,

Seed-store and saleroom. are sold to the public as also plants propagated and grown in the Lal-Bagh Nurseries.

Seed-testing house. The seeds are tested in the seed-testing house with a view to determining their germinating power, purity and vitality. Seeds from private nurserymen are also tested free for them.

Nurseries. The nurseries consist of the indoor or tropical sections, the outdoor nursery and potting sheds, seed-house, bulb-stores, and the like. The Seed House has been fitted for placing the newly sown seeds under the most suitable condition for germination and to protect them against the extremes of temperature. Similarly, for the proper treatment of the seedlings, a glass-roofed verandah with suitable staging has been provided. The Potting shed is fitted with a full range of stone benching for transplanting, potting and establishing young plants prior to putting them to their quarters in the beds. The propagating frames are fitted with glass shutters, moveable shading and bottom heat pits. These frames are intended chiefly for propagating tender plants by cuttings and germinating seeds requiring a closed temperature. The Indoor Nursery Beds are protected by an iron-framed roofing, supported on stone pillars, and covered by creepers, which allow for adjusting the shade by pruning. These beds afford suitable accommodation to the newly imported young stock, which have to be acclimatised. In the Outdoor Nursery, hardy plants are stocked in large numbers for sale to the public. It is divided into four sections consisting of the following :—

- (a) Soft wooded plants.
- (b) Fruit trees.
- (c) Ornamental trees and shrubs.
- (d) Economic and Commercial plants.

This Nursery is enclosed and partitioned with trellis, over which different kinds of creepers are trained for propagation, which at the same time form wind-belts. Proper shade is provided by planting suitable trees.

The Library, which is situated in the Office building, adjoining the Bureau of Economic Botany, contains a large number of books on Floriculture, Pomology, Olericulture, Landscape and Economic Gardening, Town-planning and allied subjects. It is open not only to the Departmental staff but also to the public. Next to the library, there is a small Laboratory for analysis of soils, economic products, fruit preserving, etc.

The Library  
and  
Laboratory.

The Horticultural Class is meant for training sons of landlords who wish to grow fruits, vegetables, etc., and also to train men who desire to take up service under the Government or private agencies, such as Overseers and Supervisors of gardens. The students get a monthly scholarship of Rs. 10 from Government. Besides horticulture, practical and theoretical, they are taught the allied subjects of botany, entomology, chemistry, etc.

The  
Horticultural  
Class.

The Mali Class students are taught practical gardening in the Nurseries and gardens and in the Sunkal Tank Experimental Farm. This institution is chiefly intended to meet the great demand that exists for gardeners in private houses.

The Mali  
Class.

Two Horticultural Shows are held every year in the Lal-Bagh, the Winter Show in February and the Summer one in August. They serve largely to educate the people, and students particularly, in Flower and Vegetable cultivation, besides providing a great pleasure to those who love flower culture.

Horticultural  
Shows.



## VEGETABLE CULTURE.

Conditions  
favouring  
Vegetable  
Culture.

The Mysore State has the necessary soil, climate and elevation to grow all the European and Indian Vegetables to perfection almost throughout the year. The cultivation of European vegetables on a commercial scale is confined to Bangalore and its surrounding Taluks to meet the demands of military and European residents. The cultivation of European vegetables is spreading throughout the State as a result of the propagandist work of the Horticultural Inspectors. The local raiyat has a better knowledge of the cultivation of vegetables than the raiyats of other parts of India. There is a considerable export trade in vegetables to Bombay, Madras and other district head-quarter towns. The raiyat selects his land at a spot where there is easy marketing, transport facilities are available, and a good supply of water is assured throughout the year. In selecting land, he avoids water and alkaline soils containing harmful salts. Once a year, during the summer, the land is deeply trenched to a foot depth with a crow-bar to eradicate *Hariali* and nut grasses. The chief manures used locally are:—Night-soil, sewage, farm yard manure and municipal refuse. The chief implements used are crow-bar, *guddali*, small and big, *mammuttas* and sickles, *picotuh* for lifting of water for small plots and single *mhote* for larger pieces of land. Oil engines and electrical motor pumps are used by a few enterprising cultivators. The raiyat has still to be educated in the scientific methods employed in vegetable culture, as practised in Western countries, such as the use of labour saving appliances, chemical fertilisers, green manures, liquid manures, seed selection, rotation of crops, inter-cultivation; also such operations as earthing up, blanching, etc., at the proper time, the proper method of combating insect and fungus pests. He has yet to be trained to

appreciate better varieties of vegetables than what he grows. There are countless excellent vegetables, such as Broad Beans, Artichoke, English Marrow-fat peas, Runner Beans, Butter wax pod, French Beans, Asparagus, Sugar corn, etc., which can be successfully grown here; but these are unknown to the local raiyat. The Sunkal Tank Farm has done a great deal of useful work in trial, propagation and distribution of better varieties of vegetables. The use of cold storage, scientific methods of packing for export, preservation of vegetables for use during times of scarcity by sterilising, bottling, sun-drying etc., are altogether unknown in the State.

The following Indian Vegetables are grown throughout the State :—

List of Indian Vegetables grown in the State.

1. Mane avara (*Dolichos Lablab*).
2. Bilimane ayara (*Dolichos lablab var*).
3. Ghatt ayara (*Dolichos minimus*).
4. Ground-nut (*Arachis hypogea*).
5. Cowpea (*Vigna-catiang*).
6. Garden Red Gram (*Caganus indicus*).
7. Gorikai (*Trigonella tetrapetala*).
8. Mullu badane (*Solanum esculentum var*).
9. Brinjal (*Solanum esculentum*).
10. Cucumber (*Cucumis sativus*).
11. Budame balli (*Cucumis species*).
12. Onion (*Allium cepa*).
13. Arum (*Arum esculentum*).
14. Churna gedda (*Arum campanulates*).
15. Kesava (*Arum colacasia*).
16. Cassava (*Manihot ultissima*).
17. Sweet Potato (*Ipomea batatas*).
18. Bendakai (*Hibiscus esculentus*).
19. Bozella (*Hibiscus subdariffa*).
20. Pundarika (*Hibiscus Cannabinos*).
21. Radish (*Raphinus sativus*).
22. Drumstick (*Moringa pterygosperma*).
23. Magaliberu (*Hemidesmis indica var*).

24. Musk melon (*Cucurbita morchara*).
25. Sweet pumpkin (*Cucurbita alba*).
26. Watermelon (*Citrullus vulgaris*).
27. Tondekai (*Bryonia umbellata*).
28. Ash gourd (*Benincasa cerifera*).
29. Luffa (*Luffa acutangala*).
30. Thuppatharakai (*Luffa aegyptiaca*).
31. Bitter gourd (*Momordica charantia*).
32. Gid Hagalu (*Momordica dioca*).
33. Bottle gourd (*Lagenaria vulgaris*).

#### SPICES.

1. Ginger (*Zingiber officinale*).
2. Pepper (*Piper nigrum*).
3. Turmeric (*Curcuma longa*).
4. Chillies (*Capsicum annum*).
5. Garlic (*Allium sativum*).

#### INDIAN GREENS.

1. Dantu soppu (*Amaranthus gangeticus*).
2. Chilkarive soppu (*Amaranthus mangostanus*).
3. Harive soppu (*Amarantus inamoenus*).
4. Serrekeeray (*Amarantus campestris*).
5. Soppu (*Amarantus oleraceus*).
6. Honoganesoppu (*Alternanthera sesilis*).
7. Sakotti soppu (*Chenopodium viride*).
8. Kottumbari soppu (*Coriandrum sativum*).
9. Mentiyada soppu (*Trigonella foenum graecum*).
10. Agase soppu (*Sesbana grandiflora*).
11. Dodda gora (*Portulaca oleracea*).
12. Hulibachelu (*Portulaca quadrifida*).
13. Doddabasali or Indian spinach (*Basella rubra*).
14. Mangaruvalli balli (*Vitis quadrangularis*).
15. Buddakakaratige (*Cardiospermum Halicacabum*).
16. Sabbasige soppu (*Peucedanum graveolens*).
17. Sukke soppu (*Rumex Vesicarius*).
18. Kachi gida (*Solanum nigrum*).
19. Pullampurasi soppu (*Oxalis corniculata*).
20. Areekeeray (*Byttneria herbacea*).
21. Pisonia alba (*Lettuce tree*).

Pith flowers and immature fruits of plantains and immature fruit of Jack are also used as vegetable.

The following is a list of some new varieties of vegetables grown at the Sunkal Tank Experimental Farm, Bangalore. and distributed largely among raiyats :—

New varieties of vegetables distributed among raiyats.

(1) Ground-nut (*Arachis hypogea*).

(a) Virginia (b) Mauritius (c) Spanish peanut (d) Small Japan and (e) Big Japan.

These varieties are richer in oil content and easy to harvest as the seed-pods grow nearer to the surface of the ground.

(2) Brinjal (*Solanum esculentum*). These are imported from America and Germany; contain very little seed; each fruit weighs as much as 3 to 4 lbs.

- (a) Black Beauty ... Colour of the fruit purplish black and shape large and round.
- (b) New York ... Improved spineless, large, purple oval fruit.
- (c) Round white ... Medium sized fruit.
- (d) Long white ... Medium sized fruit.
- (e) Long green Ernegeri. ... Good flavour, hardy and higher yielder.
- (f) Negro prince ... Small round black fruits borne in clusters.

(3) Ginger (*Zingiber officinale*).

"Mango scented ginger," a variety of ginger imported from Calcutta has the flavour of green mango and free from pungency.

(4) Cassava (*Manihot ultissima*).—Five sweet varieties imported from Travancore consisting of black skinned and white skinned varieties useful for starch making as well as food.

(5) Capsicum Chilli (*Capsicum anum*).—These varieties were imported from America and Europe.

- (a) Chinese Giant ... This is the largest variety grown under cultivation. Thick flesh, very mild flavour, each fruit weighs about 1 lb.
- (b) Tobosco ... Fruits small but very hot.
- (c) Ruby king ... Large sized long fruit. Flavour sweet and mild and may be eaten raw like an apple or tomato.
- (d) New Sweetmeat Glory. ... Fruit rich crimson scarlet, conical shape, flesh very thick and sweet.
- (e) Cherry red ... A small round variety. Flavour is very hot.
- (f) Elephant's Trunk ... Large long fruits, very mild flavour.

(6) Onion (Bellary).—This is a large white variety of mild sweet flavour.

(7) Bendikai (*Hibiscus esculentus*).

“White velvet”... Long smooth, round and velvety pods, fleshy and free from fibre.

“Long Green”... Pods free from thorns, green and slender.

European  
Vegetables  
grown at  
Bangalore.

The following is a list of European vegetables grown in Bangalore :—

1. Potatoes (*Solanum tuberosum*).
2. Beet root (*Beta vulgaris*).
3. Carrot (*Daucus carota*).
4. Turnip (*Brassica rapa*).
5. Table radish (*Raphanus sativus*).
6. Tomatoes (*Lycopersicum esculentum*).
7. Chow Chow (*Sochium edula*).
8. Cabbage (*Brassica oleracea Capitata*).
9. Cauliflower (*Brassica oleracea Botrytis Cauliflora*).
10. Knol Khol (*Brassica oleracea caulo-rapha*).
11. Vegetable marrow (*Cucurbita pepo*).
12. Dwarf French or Kidney Beans (*Phaseolus vulgaris*).
13. Lima Bean (*Phaseolus lunatus*).
14. Artichoke Jerusalem (*Helianthus tuberosus*).
15. Garden Pea (*Pisum sativum*).
16. Maize (*Zea Mays*).
17. Mint (*Mentha viridis*).
18. Celery (*Apium graveolens*).
19. Lettuce (*Lactuca sativa*).

List of  
important  
European  
varieties  
distributed  
among  
raiyats.

The following is a list of some important new European varieties grown at the Sunkal Tank Experimental Farm, Bangalore, and distributed widely among the raiyats :—

1. Potatoes (*Solanum tuberosum*).
  - (a) Brownell's Beauty... They were imported from Australia. Large,
  - (b) Up-to-date ... oval, flesh white and mealy, flavour excellent.
  - (c) Great Scot ... High yielder and comes to maturity much earlier than local varieties.
  - (d) Italian Beauty ... The crop matures in four months. Extremely hardy and high yielding variety. Shape of the tubers rather irregular and round. Eyes sunken. Flesh waxy and yellow.

2. Tomatoes (Imported from Europe and America).

- (a) Ponderosa ... A good marketable purplish pink, fruit very solid; attains greatest size each fruit weighing as much as 1 lb. or more.
- (b) June Pink ... Pink coloured fruits, shape flattened and slightly corrugated, flavour good.
- (c) Golden Queen ... Large yellow fruit, shape smooth and flattened. Flavour excellent better than all red varieties.
- (d) Yellow Plum ... Shape of the fruit is like a plum. Colour is bright lemon yellow. Fleshy and excellent flavour.
- (e) King Humbert Scarlet. ... Smooth glassy fruits. Shape like plum, keeps well.
- (f) Yellow Pear ... Yellow coloured fruits of good flavour. Shape is like a pear.
- (g) Red Pear Shaped ... Fruits bright red of true pear shape.
- (h) Golden Nugget ... Fruits borne in clusters containing as much as 60 fruits in a bunch. Shape globular and smooth. Colour bright golden. Flavour very superior.
- (i) Peachbow ... Shape like peach. Pink coloured fruits. Flavour excellent.
- (j) Marvel of the Market. ... Large round variety and a good yielder.

3. Dwarf French or Kidney Beans "Canadian Wonder."

Longer pods than the local varieties. Prolific yielder. Seeds pink, in colour. Imported from Europe.

4. Garden Peas (*Pisum sativum*).

(a) "Pilot (b) Tremendous" imported from Europe. Ready for table in 50 days. Green pods and seeds three times larger than the local variety. Flower excellent. Dry seeds have wrinkled surface and are greenish white in colour.

5. Maize (*Zea Mays*).—Imported from America.

- (a) "Moro" ... White seeds, large cobs. Ready for harvest in 33 months. Extremely hardy variety and does not deteriorate.
- (b) "Golden Beauty" ... Very large yellow seeded cobs ready for harvest in 3 months.

Both the varieties yield three times more than the local variety and also can be grown as a fodder crop throughout the year.

6. Cabbage Lettuce (*Lectuca sativa*).

- (a) "May King" ... Imported from Europe. Resembles a small cabbage and is of an excellent quality.

7. Soy Bean (*Glycine hispida*).—There are several varieties under trial, either bushy or creeping in habit. The colour of the seed is either black, creamy white or yellow. Plants are hardy, can be grown as dry crop in the rains or as an irrigated crop.

- (a) "Lage round Japan." Plant bushy. Seeds are as big as peas, creamy white in colour. Flavour excellent.

8. Edible podded or Sugar peas (*Pisum sativum*).—The pods of this variety are gathered broken and cooked like stringless beans when the peas start to develop in the pod or have reached about half their full size. Flavour is extremely sweet. Green succulent pods are ready for harvest in 45 days from the date of sowing.

9. Sugar corn (*Zea Mays*).—Imported from America.

- (a) "Howling Mob" (b) "Golden Bantam"

This is an extremely sweet variety and therefore much used as vegetable before cobs mature. Plants are like ordinary field corn but dwarf and produce large number to tillerings full of sweet cobs. The green cobs are ready for table within 50 or 55 days from the date of sowing. This is also valuable as a short duration fodder crop.

List of new  
Sunkal  
vegetables  
distributed  
among  
raiyats.

The following is a list of imported vegetables grown only at the Sunkal Tank Experimental Farm and distributed among the raiyats :—

(1) Asparagus (*Asparagus officinalis*) Imported from Europe. A hardy perennial grown for its immature shoots.

- (a) "Sutton's perfection" is a good variety.

(2) Dwarf French butter wax beans (*Phaseolus vulgaris*).

- (a) Golden butter wax ... Imported from Europe, fleshy yellow pods, entirely free from fibre, flavour excellent.

(3) Runner Beans (*Phaseolus multiflorus*).—Imported from America to be grown on trellis. Yield of the runner beans three times more than Dwarf French beans.

- (a) "Kentucky wonder" Brown seeded brown fleshy pods measuring 7 to 8 inches long, stringless, flavour excellent.  
(b) "Golden Cluster"... White seeded long flat pods measuring 7 to 8 inches, colour rich golden yellow, flavour excellent.

(4) Broad Bean (*Faba vulgaris*).

(a) "Benary's white" ... Is a good variety imported from Germany ready for harvest within three months.

(5) Sword Bean (*Canavalia gladiata*).—A superior white seeded bushy variety imported from Ceylon and can be grown without trellis. The local variety is a creeping one.

(6) Bush Lima (*Phaseolus lunatus*).—Henderson's Bush Lima is of American origin and can be grown like Dwarf French beans without trellis but the local variety is a small seeded creeping one.

The following is a list of new vegetables grown only in the Sunkal Tank Experimental Farm, Bangalore:—

List of new  
vegetables  
grown at  
Sunkal Farm

- (1) Arrow root (*Marantha arundinacea*).
- (2) Asparagus (*Asparagus officinalis*).
- (3) Artichoke Globa (*Cynara scolymus*).
- (4) Artichoke jerusalem (*Helianthus tuberosus*).
- (5) Parsnip (*Pastinaca sativa*).
- (6) Leeks (*Allium porrum*).
- (7) Dwarf French butter wax bean (*Phaseolus vulgaris*).
- (8) Runner Beans (*Phaseolus multiflorus*).
- (9) Broad Beans (*Faba vulgaris*).
- (10) Sword Beans (*Canavalia gladiata* or *ensifermis*).
- (11) Bush Lima Bean (*Phaseolus lunatus*).
- (12) Soy Bean (*Glacine hispada*).
- (13) Goa Bean (*Psophocarpus tetragonolobus*).
- (14) Bombara Ground Bean (*Kerstigiella jeocarpa*).
- (15) Edible podded or Sugar Peas (*Pisum sativum*).
- (16) Sugar Loaf Cabbage (*Brassica oleracea capitata*).
- (17) Red pickling cabbage (*Brassica oleracea capitata*).
- (18) Savoy Cabbage (*Brassica oleracea Bullata gummi-fera*).
- (19) Brussels Sprouts (*Brassica oleracea var. Bullata gummi-fera*).
- (20) Sugar corn (*Zea Mays*).
- (21) Mushroom (*Agaricus campestris*).
- (22) Palwal (*Trichosanthes dioica*).
- (23) Dioscorea aculeata var. Binato.
- (24) Dioscorea elata var. Dampol.



Herbs grown  
at Sunkal  
Farm.

- (25) *Dioscorea elata* var. Kinampay.
- (26) *Dioscorea elata* var. Basol.
- (27) *Dioscorea elata* var. Lebe.
- (28) *Dioscorea macrta* var. Batomgas.
- (29) *Dioscorea aculeata* var. Binang.
- (30) *Dioscorea aculeata* var. Limalima.
- (31) *Dioscorea aculeata* var. Licamas.
- (32) Endive (*Cichorium endiva*).
- (33) Parsley (*Petroselinum sativum*).
- (34) Spinach (*Spinacea oleracea*).
- (35) Sage (*Salvia officinalis*).
- (36) Hyssop (*Hyssopus officinalis*).
- (37) Thyme (*Thymus bulgaris*).
- (38) Peppermint (*Mentha piperita*).
- (39) Lavender (*Levendula spica*).
- (40) Rosemary (*Rosemarinus officinalis*).
- (41) Water cress (*Nastutium officinalis*).
- (42) Borage (*Barago officinalis*).
- (43) Fennel (*Foeniculum vulgare*).
- (44) Indian Pennywort (*Hydrocotyle asiatica*).
- (45) Dill (*Peucedanum graveolens*).
- (46) Caraway (*Carum carui*).
- (47) Cumin (*Cumminum cyniunum*).
- (48) Fenugreek (*Trigenella fenugraecum*).
- (49) Basil (*Ocimum minimum Ocimum Basilicum*).
- (50) Rue (*Ruta graveolens*).
- (51) Sorrel (*Rumex acetosa*).

#### PUBLIC GARDENS AND PARKS.

The  
Department  
and its work.

The Department is under the control of an officer designated as "The Superintendent, Government Gardens." The more important functions of the Department are :—

1. Administration and upkeep of the various Government Gardens in the charge of the Department.
2. Industrial and commercial planting, distribution of economic plants and seeds and affording technical assistance and imparting horticultural education.
3. Working of the Sunkal Tank Experimental Farm.

4. Supervision of the Nandi Hill Station.
5. Development of Hill Stations.

The Superintendent, Government Gardens, is also in charge of the Museum Department. He is, besides, since 1922 "Consulting Architect to Government," a capacity in which he gives his expert opinion and advice on designs of important buildings and architectural work generally as also on important town-planning operations and other improvements undertaken by the Mysore and Bangalore City Municipalities and other local bodies.

The Gardens in Mysore have been, since 1923, placed in charge of a whole time Curator.

The Government Gardens, otherwise known as the Lal-Bagh, has maintained its reputation as a local centre of interest and recreation and as an institution of scientific and technical utility. The occasions on which the Lal-Bagh has been made use of for entertainments such as congratulatory addresses, farewell parties, moonlight concerts, fancy bazaars, golf and cycle meets are very numerous and are again a proof of the increasing popularity of the institution. Two horticultural shows are being held every year in summer and winter respectively and prizes are awarded for the best exhibits.

The  
Government  
Gardens,  
Bangalore.

An important event in the annals of the Lal-Bagh has been the erection of the Equestrian Statue of His Highness Sri Chamarajendra Wadiyar Bahadur, the late Maharaja of Mysore, which was done during the year 1908-09. The statue was transferred from the Curzon Park at Mysore, another one having been secured for that place.

There is a Seed Depôt and Sale Room and an Implement Depôt attached to the Depôt and situated in the Lal-Bagh. The Seed Depôt collects all indigenous botanical seeds for purposes of exchange with other institutions, procuring all the necessary imported seeds required

for the sale room and garden use. A library containing Books and Journals on Botanical and Horticultural subjects and a Bureau of Economic Botany containing information and references on most of the commercial plants have been maintained for the use of the public. Horticultural education is also imparted to students and teachers. Botany students from high schools and colleges pay frequent visits to look up botanical drawings and specimens. Demonstrations about preparation of presentation and preservation of plants and other natural history objects and garden operations are also organised. A demonstration of the kind was arranged for European girl scouts during the year 1922-23.

The need for a restaurant in the Lal-Bagh was being felt by the visitors for a long time, the more so with the increase in the extent of the garden. The subject of providing one was taken up seriously about September 1914 and, on 20th December 1915, two separate restaurants, one for Europeans and another for Indian Refreshments, were started in the block of buildings popularly known as "Darwinia" in the centre of the Terrace Garden, after effecting some small alterations to it to suit the purpose. No liquor is allowed to be sold in the Restaurants. The institution is increasing in popularity and visitors feel that a long felt want has been met.

Among the Gardens maintained by the Department in Bangalore are:—The Cubbon and Kumara Parks, the gardens attached to the Victoria and Minto Ophthalmic Hospitals, and the garden included in "Ballabrooie," for sometime the official residence of the Dewan of the State.

Gardens in  
Mysore.

As a large number of gardens are situated in Mysore and the responsibility of maintaining them in an efficient condition has increased, a qualified Officer designated as Curator, was, in 1923, appointed to be in charge of it. The more important gardens included in this Sub-Division

are:—the Curzon Park, the Gordon Park, and the Government House Garden. The following smaller gardens are also attached to it :—

(1) " Lake View," the official residence of the Dewan of the State.

(2) Private Secretary's Quarters.

(3) Durbar Surgeon's Do

(4) Indian Guests' Do

(5) " Padmalaya."

(6) " Seshadri House."

(7) Representatives' Home.

(8) University Gardens.

Under Departmental Gardens, the following form part of it :—

(1) Sir Kantaraj Urs' House.

(2) Peoples' Park.

(3) Exhibition Grounds.

(4) Sewage Farm.

On account of its historic interest, the island of Seringapatam, of which the Daria Dowlat Bagh is one of the chief attractions, continues to attract travellers from foreign countries as also local sight-seers and visitors. This garden is being invariably honoured by visits by all distinguished visitors to Mysore and the Royal family of Mysore continue to occasionally grace the garden with their visits.

Daria Dowlat  
Bagh,  
Seringa-  
patam.

As the designation indicates, the Sunkal Tank Experimental Farm, Bangalore, is run on experimental lines. It deals with the introduction, cultivation, propagation and distribution of exotics, representing the several kinds of edible fruits, vegetables and economics of either commercial importance or value. The introduction of seeds and plants by exchange with other botanical institutions

Sunkal Tank  
Experimental  
Farm.

throughout the world receives continuous attention at the Farm.

**Hill Stations.** The supervision of the Hill Stations of the State was assigned to the Gardens Department by an order of Government dated 29th December 1914, a grant of Rs. 12,000 to start work only on the Nandi Hill being made by Government at the same time. The Department took actual charge of the Nandi Hill Station from the Public Works Department on 1st April 1915, and undertook the necessary repairs to the bungalows and the provision of equipment and other facilities required by the visitors. The Railway line to this station was completed during the year 1915-16, and the first train to the station was run on 1st August 1915. The importance of this Railway connection with Bangalore cannot be overestimated. A telephone line from the Nandi Railway Station to the top of the Hills has also been opened for the convenience of visitors. The amenities to the visitors include the following :—

(1) Water, got analysed periodically by the Bacteriologist, pumped up to a cement cistern, drawn by taps and supplied to all bungalows in vessels carried by bullocks.

(2) Ordinary articles of oilmanstores stocked and sold almost at Bangalore prices for vegetarians and non-vegetarians.

(3) Free supply of crockery, cutlery, copper and brass vessels for vegetarian and non-vegetarian visitors.

(4) A high class Indian Hotel.

(5) The lending of the services of *malies*, if required.

(6) The services of an experienced *Kotwal* for getting milk, vegetables and other perishables daily, if required, by customers.

(7) High class aerated water prepared fresh on the Hills at prices cheaper than at Bangalore.

(8) Two Tennis Courts with accessories complete.

(9) Special Police arrangements during the season.

There are clear indications that the Hill Station is growing in popularity and that the public is availing itself of the advantages offered by the Government. Until 1923, there was a Curator in charge of this Station. The post was, however, abolished in that year. The number of visitors to the Nandi Hill Station and the receipts from them during the last eight years is shown below :—

Year	Number of Visitors	Receipts
1915-16	350	1,125
1916-17	608	3,332
1917-18	681	2,381
1918-19	878	3,923
1919-20	826	3,084
1920-21	851	3,898
1921-22	765	2,882
1922-23	589	2,819

Since 1921-22, there has been a noticeable fall in the number of visitors to this Station though it has recently shown a tendency again to go up.

### SECTION 3—THE GOVERNMENT MUSEUM.

The establishment of a Museum in Bangalore for the exhibition of natural and artificial products of Mysore was at first considered in the year 1864 and the following circular letter was addressed to the Superintendents of Divisions by the Chief Commissioner of Mysore :—

Origin and  
Development.

“The establishment of a Museum for the exhibition of natural and artificial products of Mysore being in contemplation, I have the honour, by desire of the Commissioner, to request that you will, both personally and by the aid of the Deputy Superintendents, endeavour to contribute such articles of interest as may be procurable within your Division. The collection of such specimens must necessarily be the work of time, and as it is to be hoped that private individuals will lend assistance in presenting articles of various descriptions, it does not appear

to the Commissioner to be necessary that any great expense should be incurred, though at the same time his sanction will be given for the expenditure of moderate sums when necessary. It is probable that ample space will be available for exhibiting the collection on the construction of the new Public Offices; but no difficulty, it is expected, will be experienced in procuring sufficient accommodation even at the present time. The Commissioner desires me to direct your attention to the many works of antiquity and ancient art, such as Sculptures, Coins, Inscriptions, etc., which are to be found in many parts of the Province, and which possess a high interest in a Historical, Geographical and Social point of view; inscriptions, especially, being most numerous in the Nagar Division. A collection of such coins as are procurable at Bangalore has already been made, and in the case of Sculptures and Inscriptions where the original cannot be removed, copies may be made. In order to avoid an unnecessary accumulation of the same article from different sources, where there is no real distinction in quality, form, texture, or other peculiar feature, I am directed to request that you will be good enough in the first place to submit a report exhibiting the special products, natural and artificial, of your Division, so that the extra cost of transit, etc., from distant places of articles procurable at or near Bangalore may be averted."

In response to this letter, specimens from all parts of the State began to pour in and the collections were housed temporarily, in 1865, in a portion of the old Cantonment Jail. From time to time, fresh instalments were received until the collections quite outgrew the space which could be found for them in the temporary building. They were then removed to another building in the Museum road. Even this building was found to be quite inadequate and the construction of the present building, an exceptionally handsome one of its size, was put in hand in the year 1877 as a famine work. The specimens were then transferred to the new building in the year 1878.

From the start, the Museum was freely thrown open to the public throughout the week with the exception of

Sundays and other holidays. Since April 1916, however, to meet the convenience of the public, the Museum is kept open on Sundays and closed on Wednesdays. A Reading Room and Library, first opened in 1887, is attached to it and is accessible to the reading public. The Library consisted of some 2,000 volumes.

Dr. Edward Green Balfour, well known as the author of an Encyclopædia of India, who was largely instrumental in establishing, in 1850, a Government Central Museum at Madras and was for nine years its Superintendent, was the first officer to be placed in charge of the Museum. He practically commenced this Museum in 1866. He was succeeded by Dr. Oswald, who was followed by Mr. Mackenzie. The latter was succeeded by Mr. Cameron who was also Superintendent of Government Gardens at Bangalore. The arrangement, under which the officer in charge of Government Gardens is also in charge of the Museum, still continues.

The Museum is quite a popular institution as may be inferred from the increasing number of people visiting it from year to year. The number of visitors which stood at 348,073, in 1880-81, increased to 468,197 in the year 1923-24. Very large crowds visit on the Karaga and other festival days.

The collections have been augmented, improved and arranged under different groups, as detailed below, labels have been provided in all cases and descriptive and classified lists have been compiled. A separate place has been appropriated for articles belonging to one and the same section. The entrance hall is assigned to exhibits of archæological interest. The main hall is divided into three portions, the right wing being utilized for geological specimens, the left wing for economic products and the main hall for Ethnology and Art. The whole of the upper storey has a valuable collection of Natural



History specimens arranged according to their different groups :—

- (i) Geology.
- (ii) Botany.—There are a few models and some carpological exhibits here which are worthy of note.
- (iii) Zoology.—There is a fair collection of Fauna.

(a) Mammals.—In this section are to be found a fine head of the Indian bison (*Bos gaurus*); and a collection of 23 skins of rodents, presented by the Bombay Natural History Society, taken from among the specimens collected by them during a Mammalian survey conducted by them in Mysore (1913), to which Government contributed a sum of Rs. 2,000.

(b) Birds.—The collection is fair but requires to be improved.

(c) Fishes.—Almost all the specimens, save a few, are marine.

(d) Shells and Corals.—This group is composed entirely of foreign specimens.

(e) Reptiles and insects.—The collection is not fully representative.

(iv) Archæology and Epigraphy.—The exhibits consist of figures, stone tablets with inscriptions, copper plate inscriptions and inscriptions on other materials. This section has a collection of seals of the late Anche (local post) used for granting receipts on postages levied in cash, arranged with a print from each on cardboard attached. This system of issuing receipts was in use in the State from the time of Chikka-Dēva-Rāja Wodeyar in the 17th century up to the year 1889, when the Department was amalgamated with the British Postal Service. A large Burmese bell presented in 1906 by Col. H. V. Cox in the name of the 69th Punjabis, when the Regiment left Bangalore, is also to be seen in this section. It was found in a Buddhist Temple and bears an inscription. The bell will be seen under the staircase in the entrance hall. A statue of Nammālvār, the Srivaishnava saint seated in the mode called *Padmāsana* expounding Dravida Prabandha, transferred from a ruined temple at Nanjangud; the Atakur Stone dated Saka 872 (950 A.D.); a facsimile of the Inscription of Sundara Pāndya at Srirangam and the Begur Stone (about 890 A.D.) on which will be found a rude but interesting battle scene represented, are other noteworthy objects in this section.

(a) Numismatics.—The collection is fair but not sufficiently representative. This Museum contains probably the finest known collection of purely Mysore coins. The 157 Roman Coins found near Subedar's Chattram, on the Bangalore-Hindupur Railway, dating between 28 B.C. to 51 A.D., and the Buddhist lead Coins found by Mr. A. Mervyn-Smith at Chandrawalli, Chitaldrug District are included in this section. Catalogues of Coins in the Museum

have been frequently issued by Government; the last published being by Capt. R. H. Tufnell. A new catalogue is under preparation.

(b) Art.—There are some palæolithic and neolithic exhibits as also a few modern examples of implements, pottery, jewellery, baskets, dress, musical instruments, etc.

With a view to advertise and encourage the products of arts and to enable the public to readily obtain good specimens of work of Mysore, an art sale room was opened in the Museum in August 1893 on the recommendation of Col. P. D. Henderson, c.s.i., then British Resident at Bangalore. This sale room was, however, abolished during the year 1913-14 and the articles belonging to it were transferred to the "Mysore Arts and Crafts Institute Sales Depôt" which was opened under the auspices of the Mysore Economic Conference. Artware sales.

The Museum is maintained by Government. The grant made for its up-keep in 1923-24 was Rs. 3,900 and the expenditure incurred during the year was Rs. 3,695. Maintenance cost.

With a view to stimulate industrial and commercial activities in the State and to provide people with facilities to acquaint themselves with new commodities that can be manufactured within the State and the means by which local products may be made to withstand competition and find openings in other markets, Government passed Orders in 1917-18 on the establishment of Industrial and Commercial Museums which will be found dealt with in the Section on Arts and Manufactures. Industrial and Commercial Museum.

The Museum has been helpful in arranging for collections of local arts and manufacture required by foreign and other exhibitions—such as the Franko-British Exhibition, 1908, to which a collection of sandalwood carvings, rosewood articles inlaid with ivory and twenty-two samples of stone used in building the new Palace at Mysore was forwarded. A stand with folding panels to Aid to Foreign Exhibitions, etc.

exhibit the fine collection of bromide enlargements of Khedda operations, temples and rustic scenery, prepared for the Chicago Exhibition (1892-93) is deserving of mention. These pictures serve to give the sportsmen and tourists a fair idea of what can be seen in the State. The War Trophies (Three Machine Guns and Field Gun), which were brought from the Field with the Imperial Service Lancers Regiment, were lodged in the Museum in 1921.

#### SECTION 4—AMRUT MAHAL.

##### *Prior to the Rendition.*

Amrut Mahal  
Cattle: Its  
origin.

The "Karuhatti" establishment of the Vijayanagar Viceroy (sometime between 1572 and 1600) at Seringapatam consisted of Hallikar cows imported from Vijayanagar. This may be said to have been the nucleus of the Amrut Mahal cattle. The Seringapatam cattle passed into the hands of the Wodeyars of Mysore, some of whom, notably Chāmarāja Wodeyar (1617-1636), Kantirava Narasarāja Wodeyar (1638-1658), and the celebrated Chikka Dēvarāja Wodeyar (1672-1704) made their own additions to them from time to time, assigning "Kavals" in different parts of the kingdom.

Formation of  
the Cattle  
Department.

It was in Chikka Dēvarāja Wodeyar's time that the cattle establishment obtained recognition as one of the departments of the administration. It was called "*Benne Chavadi*" or establishment of cows "both as a breeding stud and to furnish milk and butter for the palace." He introduced for the first time the system of branding them with his initial DE.

Under Haidar  
Ali and Tipu  
Sultān.

The accumulated herds of the Rājas of Mysore passed on to Haidar Ali, when he usurped the throne. In extending his conquest and in reducing the numerous rulers

who had held sway over more or less extensive tracts in Mysore, he acquired also the herds of superior cattle belonging to them. Haidar seems to have made extensive use of the cattle which he had appropriated in the movements of his army equipage and is popularly credited with having kept at least 60,000 bullocks in different parts of the State, though they were not organized as carefully and in as minute a detail as was afterwards done by Tipu, on a system which has in essential points been adhered to ever since. Tipu added to these herds those of the Palegar of Hagalvadi. Chikka Dēvarāja Wodeyar's suggestive name of "*Benne Chavadi*" was changed in his time into a more pompous one of Amrut Mahal from *Amruta*—Nectar. Tipu took great interest and issued a "Hukumnama" or regulation for the Department, the greater part of which continued to be observed after the taking of Seringapatam and the same system was afterwards followed by the British officers. The Dairy Department seems to have been on a large scale and Amildars were expected to train the young steers, which were allowed to graze in the raiyats' fields and were classified when required, as gun bullocks, plough bullocks, etc. There was an annual muster of the herds and Tipu frequently attended it in person and distributed rewards. Such was the composition of the Amrut Mahal cattle inaugurated by Chikka Dēvarāja Wodeyar, reconstituted by Haidar Ali and thoroughly organized by Tipu Sultān.

"It was this establishment," wrote Sir Mark Cubbon, "which enabled Haidar Ali to march 100 miles in two days and a half to the relief of Chidambaram and after every defeat to draw off his guns in the face of his enemies; which enabled Tipu Sultān to cross the peninsula in one month for the recovery of Bednur, and to march 63 miles in two days before General Meadows,

Historic testimony regarding the value of the breed.

which, in later times, enabled General Pritzler to march 346 miles in 25 days in pursuit of the Pēshwa; and which enabled General Campbell, after the failure of his Bengal equipments, to advance upon Ava and bring the war to a favourable termination. It was also this establishment which enabled the Duke of Wellington to execute those movements of unexampled rapidity which are the admiration of every military man and in consideration of whose services he recommended it to protection in a letter addressed at the close of the war to the Commander-in-Chief." Allusions in the Wellington *Despatches* show that the Great Duke often, during the Peninsular War in Spain, regretted that he had not the assistance of the Amrut Mahal cattle.

From 1799 to  
1881.

After the fall of Seringapatam in 1799, the oxen attached to Tipu Sultān's army were taken over by the British and combined with their public cattle, while the breeding establishment, maintained for the purpose of securing a constant supply of suitable bulls, was left in charge of the State, on condition the State bore the cost of maintenance and offered to the Hon'ble the East India Company all male calves of 1½ years and upwards for 14 star pagodas a head. Another breeding establishment was also maintained by His Highness the Maharaja for his private use. Owing to the comparatively low value of land in those days, a large extent of land consisting of grazing grounds called *Kuvals* was set apart for the use of these establishments.

The inducements which had led Haidar and Tipu to keep up its efficiency were, however, wanting and by the end of 1813, the cattle had degenerated to such a degree that the management was taken over by the British (Madras Government) and 10,914 head of breeding cattle, the exact number made over to His Highness' Government in 1800, were received back while the latter

Government allowed all rules, customs and privileges to continue as formerly. The whole of the *Kavals* allotted to the Amrut Mahal, amounting to 143, were delivered over to the British and continued upon the former system, the rent realized upon them being collected and paid by the British to the Mysore Government. The right of grazing, in alternate years, the stubble in villages in sixty taluks was also conceded. This latter privilege was withdrawn in the year 1835 as it was found to greatly hinder the efforts of the land-owners to improve their lands. A Commissariat officer (Captain Harvey) was placed in charge with a suitable establishment and up to the 31st July 1816, the number of cattle had increased to 14,399, exclusive of 900 calves transferred as fit for service. By 1823, the original number had nearly doubled itself, besides supplying for the public service young bullocks equal to one-fourth part of the increased establishment. In 1839, the above system having been found impossible to work consistently with justice and good order of the country, the Government of India deemed it indispensably necessary to place the breeding establishment in Mysore under the immediate control and management of the Commissioner for Mysore. In the year 1840, the Mahārāja's Amrut Mahal was taken over by the Chief Commissioner, a number of cattle required for the use of the palace being reserved with an allotment of the required extent of grazing land. The other Amrut Mahal establishment maintained by the British Military authorities was also transferred to the control of the Chief Commissioner. Both the establishments thus came under his direct control and a special officer was appointed for their management. A detailed survey of all the *Kavals* with the object of ascertaining their limits and the rights and privileges existing therein was also undertaken. In 1860, from motives of economy, Sir Charles Trevelyan, then Governor of Madras,

ordered the establishment to be broken up, and the herds to be sold and the *Kavals* surrendered to the Mysore State without any reservation but the results proved to the detriment of the public service. In the year 1865; the Madras Government, with the sanction of the Government of India, resolved upon re-establishing the Department. The Amrut Mahal was, therefore, with the cordial approval and assistance of the then Mahārāja, re-established in December 1867, with 5,935 head of cattle. All the *Kavals* which were formerly used by them and which had not been otherwise disposed of were reserved for grazing. On the death of the Mahārāja Krishnarāja Wodeyar Bahadur III in 1868, the number of the palace cattle was still further reduced and the 30 *Kavals* assigned to them were leased to the Madras Government on a nominal rental. In 1871, there were 9,800 head of all sizes, exclusive of 1,000 young male cattle in the Training Depôt. It was arranged that 100 breeding bulls estimated at Rs. 8,000 as equivalent to a small rent in recognition of the sovereignty over all the *Kavals* in possession of the Commissariat Department, should be handed over to the Mysore Government annually to be stationed at various points in the country for the purpose of improving the breed of cattle used by the raiyats. This arrangement continued till the Rendition, a training depôt was also maintained at Hunsur by the Madras Government, where these cattle were kept after purchase until they were trained for use as draught cattle.

Herds and  
*Kavals*.

The cattle were divided into 30 herds containing from 200 to 700 head of cattle each; for the grazing of which, 208 *Kavals* or pasture grounds were allotted in various parts of the country. *Kavals* are divided into hot weather and cold weather *Kavals* according to the seasons of the year during which they are of most use. The hot weather

*Kavals* are generally the beds of tanks in which grass springs up during the hot months and near which there are trees for the purpose of affording shade to the cattle during the heat of the day. These are very valuable *Kavals* and are reserved as far as possible for the sole use of Government cattle. The cold and wet weather *Kavals* are those which during those seasons have plenty of grass and water, but which during the hot weather dry up and are of little use to the department; in both the latter descriptions of *Kavals*, the raiyats' cattle are permitted to graze certain fixed portions, and after the Government cattle have left for their annual visit to the jungles, the *Servegars* are permitted to sell some part of the grazing, and from the funds thus obtained, the *Kavalgars* or guards are paid and other expenses met. This privilege ceases at the end of July each year. The right of grazing the stubble in the Amrut Mahal *Kavals* was being sold by the *Servegars* till 1919, when Government ordered that this right should be sold by the Amrut Mahal Department by public auction, the *Servegars* being paid 20 per cent of the net realizations to meet his expenses. In the dry weather, when want of forage and water prevails in the open country, the herds are conducted to the south-western jungles, where the natural moisture of the soil, the early showers, and the shelter afforded by the trees are favourable to vegetation. They arrive there in May and return to their pastures in September, when the grass is in great abundance all over Mysore.

The calves are castrated in November, the cold weather being found peculiarly favourable to the success of the operation, and invariably between the age of five and twenty-four months, as their growth is supposed to be promoted by early castration, and it is attended with this important advantage, that it prevents the cows being

Castration of calves.



impregnated by inferior bulls and consequently prevents the breed from degenerating.

Training the calves.

Till the year 1908-09 when bulls were supplied to Madras Government under contract, they were being separated from the herds after four years of age and transferred to the Public Cattle Department after a year, perfectly trained and fit for work. The supply of bulls to the Madras Government ceased from the year 1908-09. The Mysore Imperial Service Transport Corps having been converted into a bullock corps, the Amrut Mahal bulls are supplied to this corps at a fixed rate, the surplus cattle being sold annually by the Amrut Mahal Superintendent in different important centres. The average price realized from each bullock during the sale in 1920-21 was Rs. 146-9-11 which is the highest on record.

Their growth and decline.

They arrive at their full strength at seven and are past their vigour at twelve; they work till fourteen or fifteen, after which they decline rapidly and generally die at eighteen years of age.

Catching bullocks.

At the age of three years, the catching of bullocks takes place, previous to which they are nearly as wild as the inhabitants of the jungle. The bullocks are first driven into a large oval enclosure, which they are made to enter with much difficulty. This communicates with a square yard, surrounding an inner enclosure about twenty feet square, which is surrounded with a strong fence made of wooden posts placed close together and about twenty feet high. When they are collected in this, the opening is closed. The trainers then ascend on the top of the fence and throw a noose round each of the bullock's horns. This done, the end of the rope is passed between posts near the grounds, and the animal is drawn

close up and secured by people on the outside. The passage is then opened and old trained bullocks admitted. One of the latter is bound by the neck to one of the wild animals, which being done, the rope is loosened, when he immediately endeavours to escape. His trained comrade, however, to whom he is coupled, restrains him, though but partially; accordingly, the two leave the enclosure, at tolerable speed. The rope by which the untrained bullock was originally noosed is allowed to remain attached to his horns, and when they approach one of the strong posts placed in the immediate vicinity of the enclosure, the rope is quickly turned round it, by which the animals are again brought up. The untrained bullock is then well secured by the neck with as little latitude of motion as possible. There he is kept alone for about two days, until he becomes considerably tamed and worn out with unceasing efforts to escape.

The next operation consists in attaching to the animal a couple of blocks of wood so heavy as to be moved with some difficulty, and giving him as much liberty as this admits of. He is then admitted to the company of old trained cattle, and from the twofold effects of example and partial restraint, he gradually becomes submissive. The bullocks are then grazed. In the old days this was done (in the vicinity of Hunsur) for a further period of three years, being tied up regularly each evening in lines. They are then transferred to the Department to undergo final breaking for the public service.

*After the Rendition.*

On the 1st January 1882, the Mysore Government purchased at a cost of Rs. 2,25,000 the Amrut Mahal cattle from the Madras Government. It was stipulated that Madras Government should relinquish the pasture grounds and that the State should supply the Madras Government for ten years with three-year old bullocks

Stipulation  
with the  
Madras  
Government.

at Rs. 50 per head not exceeding 400 in number annually. The Madras Government were allowed to retain the necessary grazing grounds for the use of the cattle forming the Training Depôt establishment, on the understanding that the grazing grounds were to be held only for the purposes and during the maintenance of the Depôt at Hunsur and, should at any time the said Training Depôt be given up, the grazing grounds will, *ipso facto*, at once revert, without any claim for price or compensation, to the Mysore State.

In 1886, the limit of supplying annually 400 bullocks was reduced to 200 at the same price. In the year 1891-92, the original term of ten years, the period of contract, expired and, in the following year, the contract was renewed for a further period of five years. The Madras Government discontinued purchasing the Amrut Mahal steers from 1907 owing to the reduction of establishment of transport bullocks in the Secunderabad Division. The Training Depôt at Hunsur was closed and the 16 *Kavals* belonging to the Training Depôt were handed back to the Mysore Government in March 1908.

Number of  
herds, etc.

There were, in 1882, 30 herds with 12,502 head of which 4,618 were cows and 177 breeding bulls. The herds were organized into 7 *Tukadis* or Divisions each in charge of a *Darōga*. They were broken up in 1887, and their number reduced to sixteen. In 1889, steps were taken to form special herds of big and fine cattle. Towards the end of the year 1893-94, the number was increased to 22 and the divisions in charge of *Darōgas* from 4 to 6 in view to securing more efficient supervision of both men and cattle. During 1902-03, the number was reduced from 22 to 18 and from the savings thus effected, the pay of the executive staff was raised tentatively with the object of inducing qualified men to take

up service in the Department. In 1917-18, the number of cattle was 8,100. The number of herds was 18 under five Darogas and two Assistant Darogas. The average number of bulls and heifer calves produced each year was 1,445. The number of bulls was 122, the average being 7 for each herd. In September 1922, the Government decided to reduce the Department by one-third and throw open some of the *Kavals* for cultivation. This decision of Government is being given effect to gradually and at present (on 1st January 1924) there are 17 herds consisting of 2,356 bulls and 5,969 cows. At the close of the official year, 1923-24, the number of cattle was 8,049. The birth rate during the year was 27·6 as against 28·5 in the previous year. A Training Depôt was opened in September 1924 in Hunsur and it has proved helpful in placing broken cattle in the market which have brought in a high price.

Although the supply to British Government has been discontinued, the principal object of the Department has been to maintain the breed of the Amrut Mahal cattle at a high standard of purity and efficiency. It has also become possible now to supply a better class of young stock to the public. Steers are supplied to the Mysore Imperial Service Transport Corps after they are accustomed to being tied up.

Object of the Department.

The Department was placed till 1896-97 in charge of the Military Assistant to Government assisted by an officer subject to his control. In August 1897, Government sanctioned the appointment of the Superintendent of the Amrut Mahal Department. The Department was made a subordinate branch under the control and direction of the Military Department of Government. The control and direction of the Department was transferred in 1915-16 from the Military Secretary to the Chief

Direction.

Commandant, Mysore State Troops. The control of the Department was transferred to the Director of Agriculture in September 1923 and the Live Stock Expert was placed in charge of it. The Department was subsequently placed under the direct control of the Director of Agriculture and the question of reorganising the Department and placing it on a more efficient basis is under the consideration of Government.

Throwing  
open *Kavals*  
for cultivation.

Till recently, the Department had 395,062 acres of pasture land. In 1915-16, Government ordered that a joint inspection of *Kavals* in each district should be held by the Deputy Commissioner and the Superintendent, Amrut Mahal Department, with a view to ascertain by local enquiries what extent of land can be conveniently spared for cultivation. In pursuance of this, it was arranged during the year to throw open 69,007 acres of the *Kavals* when *bona fide darkhasts* were received for them.

In 1918, an extent of 124,903 acres and 35 *guntas* of the Amrut Mahal Kaval lands were ordered to be surrendered to the Revenue Department. For securing the interests both of the raiyats and the Department, joint inspections of lands which are to be made over to the Revenue Department have been ordered to be made by the Deputy Commissioner concerned with the Amrut Mahal Superintendent; and it has been further ordered that lands should be selected only after such inspection.

A special Committee consisting of the Revenue Commissioner as Chairman, the Director of Agriculture, the Chief Commandant and the Amrut Mahal Superintendent was appointed by the Government to consider the question of throwing open more Kaval lands for cultivation. This Committee resolved to surrender 25,875 acres, 3 *guntas* of land to the Revenue Department. This surrender was accordingly carried out. At the same time,

of the Kaval lands previously surrendered, 49,631 acres, which were not fit for cultivation, were retransferred to the Amrut Mahal Department. The area reserved to the Department for grazing purposes was only 251,905 acres on the 1st January 1924. This acreage includes some State Forests and Tank-beds as well. During the year 1923-24, a further extent of 6,148 acres was surrendered to the Revenue Department. The number of acres at the disposal of the Department on 1st July 1921 was 317,614 and the area placed under the Revenue Department for cultivation, subsequent to the above Government order, amounted to 77,448 acres. During the year 1923-24, an extent of 6,148 acres valued at Rs. 3,07,400 was surrendered by the Department.

The distribution of the Kavals between the different herds has been revised so as to concentrate the *Kavals* as much as possible in contiguous taluks instead of having the *Kavals* attached to one herd dispersed over several districts, and a proportion has been reserved under the direct control of the Amrut Mahal Officer to provide for unforeseen contingencies such as failure of rain, outbreaks of disease, etc.

Distribution  
of Kavals.

The eighteen excess *Kavals*, nine in the Bangalore District and nine in the Mysore District, covering an extent of 18,373 acres, in the possession of the British Military Department, were retroceded to the Durbar in 1917 and about 18,000 acres of plantations and *Kaval* lands in the Kolar, Bangalore and Tumkur Districts were leased to the British Military Grass Farm authorities in that year for a period of ten years at an annual rental of Rs. 11,423. The terms of the lease are printed as an accompaniment to the Government Order No. R. 9071-7—Ft. 46-06-76, dated 28th February 1917.

Retrocession  
and lease of  
some of the  
Kavals.

Effects of  
seasonal  
conditions.

The Amrut Mahal cattle being supported entirely on such grazing as is to be had in the *Kavals*, their welfare is primarily dependent on the season. When rain has been plentiful, it has often been unseasonable or unequally distributed; and the effects of a bad season are felt not only in the increased number of deaths, but in diminished births, both in that and the succeeding year.

The size of the cattle depends a good deal on the favourable character of the two first seasons after they are born. If rain fails during that period, pasture is scarce, the young animals are stunted and never develop properly, and the proportion of large sized bullocks produced is very small when compared with the total number born.

Registry of  
cattle.

The cattle are registered by means of branding calves with herd and serial numbers and periodical returns are submitted to Government showing births, deaths and other details. The arrangement has the effect of securing more accurate statistics and to some extent prevents fraud.

Supply of  
breeding bulls  
and cows.

The special breed of the Amrut Mahal cattle, which is peculiar to Mysore, has been attracting the attention of cattle breeders in India and also in foreign countries. In November 1907, an application was received, through the Inspector-General, Civil Veterinary Department, Calcutta, for two good specimen bulls and three cows for being sent to England for breeding purposes to meet the wishes of His Grace the Duke of Bedford. Good animals were selected and trained and delivered at Bombay about the end of March 1908 for being shipped to England. During 1913-14, at the request of the Professor of Agriculture at Poona, 10 breeding bulls were supplied to him. Special facilities are also afforded to the raiyats for obtaining bulls for breeding purposes. Three bulls

are supplied to each District Board and bulls are also sold at half price to raiyats owning large herds of cattle. Six bulls have been supplied free of cost, as an experimental measure, to the villages bordering on the Western Ghats in the Nagar and Sagar Taluks of the Shimoga District where, in spite of an abundance of pasturage and a plentiful supply of water, the condition of cattle is very poor. The average price of each bull given to the raiyat for breeding purposes is fixed by Government at Rs. 150.

The old practice of granting presents to Servegars, etc., of the Department for the best results shown was revived during 1908-09. An allotment of Rs. 300 annually in the budget is made for this purpose. Rewards are given in the shape of gold and silver bangles.

Rewards to  
cattle  
attendants.

During the year 1889-90, with a view to improve the breed of sheep, a farm was started under the charge of the Department. At the end of that year, the farm consisted of six rams of Australian cross-breed and 56 ewes. No separate establishment was sanctioned for the farm. The work was carried on with the aid of the attendants of the herd of the Tumkur Range, the Darōga of which had the control over it. In 1895-96, there were 1,926 head in the farm. During that year, all the good young rams were reserved to be distributed to owners of flocks and a beginning made to improve the breed. In 1897-98, a permanent establishment at a cost of Rs. 21 per mensem for the better management of the Australian flock of sheep was sanctioned. A sum of Rs. 200 was also sanctioned for the construction of sheds to protect the above sheep against the weather. The maintenance of the farms under each of the six Darōgas not having been found profitable, arrangements were made in 1901-02 to dispose of all the flock retaining about

A Sheep  
Farm.



250 sheep of Australian and Cashmere breeds. There were 188 female and 73 male Australian sheep during 1918-19. The control over the sheep farm was in September 1921 transferred to the Live Stock Expert in Mysore, for being managed as a separate concern at different centres in the State.

**Cattle pounds.** The necessity of erecting a few cattle pounds in some of the *Kavals* to prevent trespass of village cattle was sanctioned by Government in 1906-07. A few pounds in some of the important *Kavals* have also been opened since then.

**Sinking wells.** Government in 1906-07 raised the grant of Rs. 460 to Rs. 800 for sinking wells and restoring old tanks in some of the *Kavals* for watering cattle during the hot season. The work of restoring every year old *Kattes* in some of the more important *Kavals* has been kept in view by the Department.

**Receipts and Expenditure.** The receipts and expenditure of the Department during 1920-21 were 60,580 and 43,068 respectively as against 123,524 which is the highest on record and 39,493 of the previous year, *viz.*, 1919-20. Owing to adverse seasonal conditions and slackness in the cattle market, the receipts have not been favourable during the last few years. During 1922-23, the receipts amounted to Rs. 59,874 and the expenditure to Rs. 33,258. The gross revenue of the Department has, however, increased to Rs. 96,334 in the year 1923-24, the expenditure during the year remaining at Rs. 37,048. The contract for supplying bullocks to the Military having ceased, the Department is being now worked as a high class cattle breeding and quasi-commercial concern, for the benefit of the agriculturists and others interested in cattle breeding. Raiyats are encouraged to take up breeding of

these high class animals instead of the inferior animals, and the fact that these high class animals are available for sale is published widely to attract breeders from outside the State. Male stock of all ages and female stock of more than 10 years and some young heifers also are sold by auction at different centres in the months of November, December and January every year. Animals are also available for sale at all times on *darkhast* at fixed prices. The animal sales are advertised in the leading English and vernacular papers. A small training Depôt has also been established for the present at Hunsur, where a small number of animals are trained to rope, and yoke also; animals are specially trained for customers under separate arrangement at moderate charges. During the official year 1923-24, the number of cattle sold was 679 against 625 in the previous year. The amount realized from the sales in 1923-24 totalled to Rs. 41,150 against Rs. 39,715 in 1922-23, the average realization per head in 1923-24 being Rs. 60-6-0 as against Rs. 63-9-0 in the previous year. The question of reorganizing the Department and placing it on a more efficient basis is now under the consideration of Government.

The receipts and expenditure of the Department during 1920-21 were Rs. 60,580 and Rs. 43,068 respectively as against Rs. 1,23,524, which is the highest on record, and Rs. 39,493 of the previous year, *viz.*, 1919-20.

Receipts and  
Expenditure.

#### SECTION 5—THE VETERINARY DEPARTMENT.

With a view to start and eventually develop bacteriological investigation of cattle diseases, the Government, in April 1905, approved of the Senior Surgeon's proposal to give the necessary training to the Veterinary Officer attached to the Imperial Service Regiment, by deputing him to undergo a three months' course of training in the

Origin of the  
Department.

Bacteriological Laboratory, Bangalore. The beginnings of the Civil Veterinary Department were laid in 1905-06 by the appointment of a trained Veterinarian in March 1906 as an Inspector of Cattle Diseases. He was at first placed under the control of the Chemical Examiner and Bacteriologist to Government and subsequently, in 1906-07, under the Revenue Commissioner for purposes of efficient control and discipline. His duties were to investigate the nature of epidemic diseases among cattle, to visit localities where such diseases were prevalent and to adopt measures for checking their ravages. He was also to devote his attention to improve veterinary knowledge in rural parts by organising and encouraging local effort, and by instructing rural cattle doctors and large cattle owners in the scientific diagnosis of cattle diseases and a proper application of easily available indigenous drugs.

Its organiza-  
tion.

During 1906-07, the scheme was further developed and, in September 1907, with a view to adopt systematic measures for investigation, prevention and treatment of diseases of horses and cattle belonging to the raiyats, Government sanctioned the scheme proposed by the Revenue Commissioner for the organization of the Civil Veterinary Department at a cost of Rs. 49,776 annually, when fully introduced, besides an initial cost of Rs. 10,000 for opening 12 hospitals and 18 dispensaries throughout the State.

Provision was, however, made for the establishment of only seven hospitals and dispensaries, one in each of the districts in addition to one at Bangalore, as the entire scheme could not be brought into operation for want of a sufficient number of qualified men. The recruitment of the necessary staff and their preliminary training began in January 1908, when the hospital at Bangalore was started, and, on the 1st of May of the same year,

hospitals and dispensaries were opened at Kolar, Mysore, Hassan, Chikmagalur and Chitaldrug. Two more were opened in April 1909, one at Tumkur and the other at Shimoga. Each of the district head-quarters has now the benefit of a veterinary hospital with an Assistant Inspector in charge thereof. Two additional Assistant Veterinary Inspectors were appointed temporarily in November 1910 to be employed chiefly on inoculation work in places where infectious cattle diseases prevail and were made permanent during 1913-14.

In his address to the Representative Assembly in October 1917, Sir M. Visvesvaraya, the then Dewan, said that "in view of the increasing demand for veterinary aid, Government propose to start from two to four new dispensaries every year, for some time to come. During 1916-17, dispensaries were started at Channapatna, Bangalore District; Nagamangala, Mysore District; Davangere, Chitaldrug District; and Sagar, Shimoga District. Four dispensaries were opened, during 1917-18, at Chikballapur, Kolar District; Madhugiri, Tumkur District; Saklespur, Hassan District; and Tarikere, Kadur District. During 1919-20, four more dispensaries were opened at Dodballapur, Bangalore District; Chintamani, Kolar District; Hunsur, Mysore District; and Channagiri, Shimoga District. During 1923-24, three dispensaries were opened at Challakere, Chitaldrug District; Arsikere, Hassan District; and Malvalli, Mysore District; bringing the total number of Veterinary Hospitals and dispensaries at the close of the year 1923-24 to twenty-three.

The most common diseases met with in the State are rinderpest, black-quarter, foot and mouth disease, anthrax and hæmorrhagic septicæmia. Preventive measures, such as inoculation of all healthy cattle against the various diseases, have been found very successful. As soon as any infectious disease breaks out in a village, the nearest

Preventive  
inoculation.

Veterinary Inspector, on request, visits the infected place and inoculates all the healthy cattle free of charge and also renders all necessary assistance to cattle owners. Preventive inoculation has completely removed the superstition of the raiyat population and the demand for it has considerably increased.

The following statement shows the total number of inoculations made in the whole State during the year 1923-24 :--

Rinderpest	Blackquarter	Hæmorrhagic Septicæmia	Anthrax	Total
41,664	16,194	5,277	7,068	70,203

Lectures and Demonstrations.

Advantage is taken, by the Department, of the numerous Cattle Shows, Taluk Conferences and other public gatherings to deliver lectures to the population on repression of contagious diseases, curative treatment of Rinderpest and Septicæmia Hæmorrhagica and other diseases and the improvement of milch cattle. The advantages derived by them from the veterinary institutions by resorting to them in time and sending up the outbreak reports promptly are also explained.

Even when there are no outbreaks of any epidemic disease, Assistant Veterinary Inspectors in charge of Hospitals and Dispensaries have to go on a systematic tour of 10 and 15 days respectively every month, on propagandist work, visiting village after village in their respective jurisdictions and giving any professional aid that may be necessary.

The District Veterinary Inspectors have been instructed to prepare short leaflets on cattle diseases, cattle breeding and rearing, the preservation and economy of fodder and to distribute them freely among cattle owners during their itineration. They have also been instructed

to carry a small quantity of drugs and the more common surgical appliances to demonstrate to the cattle owners the advantages of modern methods of treatment. A "*Manual of Veterinary Science*" in Kannada called "*Pasu Vaidya Sangraha*" has been published by Government and kept ready for sale to the public, at the Central Book Depot, Bangalore.

The treatment of cattle in the State is free. At the Veterinary Hospitals of Bangalore and Mysore, a fee of four annas is charged for a horse and one anna for a dog per day for treatment. For the castration of a horse or pony, the charge is Rs. 5 for a country bred and Rs. 10 for a thorough bred animal exclusive of feeding and grooming, which the owner of the animal has to arrange for. *Tats* belonging to Shanbhogs, Patels and other raiyats are castrated free.

Treatment of cattle.

In order to prevent deterioration and to improve the breed of cattle, vigorous steps are being taken to have all deformed and stunted bulls castrated by an improved method, in addition to placing good breeding bulls in several Veterinary Institutions and sending them from village to village, for service. Though it is hard to convince the raiyats of the usefulness of early and comparatively painless improved method of castration, no less than 7,200 bulls have been castrated during the year 1920-21, showing that, in course of time, the raiyats will resort only to this method.

During 1914-15, the formation of a mobile corps consisting of 4 Veterinary Assistant Inspectors and 4 Salutaris was sanctioned for undertaking, in co-operation with the Madras Civil Veterinary Department, an organized campaign against Rinderpest in the frontier taluks for a period of 3 years. In February 1918, orders were passed increasing the number of these Assistant Inspectors to 3

A mobile corps.

who would form a sort of Mobile Corps to be deputed for work according to necessity in any part of the State, under the orders of the Superintendent, for duty on occasion of epidemics.

Re-organiza-  
tion of the  
Department.

The Department was re-organized in 1918 under Government Order No. R. 8854-63—Agri. 27-16-11, dated 27th February 1918, and in 1920 under Government Order No. R. 13584-5—R. M. 22-19-14, dated 22nd June 1920 and again in 1921 under Order No. 7255-6—A. & E. 80-20-5, dated 5th February 1921. The Office of the Superintendent was also re-organized in Government Order No. 10652-3—A. & E. 80-20, dated 3rd May 1921. The ultimate strength and cost of the establishments according to the re-organization of the Department is shown below :—

Superintendent	Assistant Superintendents	Veterinary Officers	Veterinary Inspectors	Office Establishment	Hospital & Dispensary Subordinates	Total
1 on Rs. 300-15-500	2 on Rs. 150-10-200	2 on Rs. 120-10-140	4 on Rs. 97-2-107 38 on Rs. 72-5-97 and 19 on Rs. 47-5-72	13	95	65,147

During 1918-19, the Department was managed by one Assistant Superintendent, four Veterinary Inspectors and 14 Assistant Veterinary Inspectors.

In addition to the revised scale of pay, a charge allowance of Rs. 10 per month to the Assistant Veterinary Inspectors in charge of an hospital or dispensary was sanctioned in 1918-19 by Government to make the service more attractive.

Administra-  
tion.

The Department was under the control of the Revenue Commissioner till September 1920, when it was transferred to the control of the Director of Agriculture in Mysore.

According to the new scheme, the executive gazetted staff consists of a Superintendent with head-quarters at Bangalore and two Assistant Superintendents with head-quarters, one at Bangalore and the other at Shimoga. The Superintendent inspects Hospitals and Dispensaries and has general supervision and control of the work of the Veterinary Officers and Inspectors. The Assistant Superintendents having jurisdiction over 4 Districts each supervise the work of Veterinary Inspectors and direct all operations in their jurisdiction to prevent the spread of epidemics and supervise cattle breeding operations. They will also be in charge of propagandist work giving lectures to rural population on Veterinary subjects.

The officers of the Department are recruited from persons holding diplomas from the Veterinary College of Bombay or Madras or other recognized Veterinary Institutes in India. Three scholarships of the value of Rs. 40 per mensem at Lahore and one of the value of Rs. 30 at Bombay are being granted for the study of Veterinary Science.

A consulting library has been formed in the office of the Superintendent. It is well equipped with many choice and useful standard works. Besides, the Department is supplied with periodical journals which are circulated among the Veterinary Inspectors of the Department.

A Veterinary Library.

The services of the Department are being appreciated by the cattle owners and there has been an increasing demand for more veterinary institutions in every district.

Results achieved.

To make provision for the prevention of cruelty to animals, the "Prevention of Cruelty to Animals Regulation" (No. I of 1895) was passed in June 1895.

Prevention of Cruelty to Animals Regulation.



This Regulation virtually repealed the Bengal Act, I of 1869, which was in force only in the City of Bangalore within municipal limits. Under Sections 3 and 4 of this Regulation, cruelty to animals in public places and sale, in such places, of animals killed with unnecessary cruelty, and the operation called *phuka*, are punishable with fine which may extend to Rs. 100 or with imprisonment for a term which may extend to 3 months or with both. Killing animals with unnecessary cruelty is punishable under Section 5 of this Regulation with fine which may extend to Rs. 200 or with imprisonment for a term which may extend to 6 months or with both. Under Sections 6 and 7, employing anywhere *animals unfit for labour and permitting diseased animals to go at large or to die in public places are punishable* with fine which may extend to Rs. 100. The Regulation is in force in all district head-quarters and Section 57 of the new Police Regulation gives the Police full powers to deal with all instances of flagrant cruelty to animals.

Regulation VI  
of 1899.

To provide for and regulate the destruction and segregation of stray dogs and of diseased horses and cattle, Regulation VI of 1899 was passed in December 1899. A breach of the rules under this Regulation is punishable with fine which may extend to Rs. 50 and when the breach is a continuing one, with a further fine which may extend to Rs. 5 for every day after the first during which the breach continues.

## SECTION 6—THE GOVERNMENT PRESS.

### *Prior to the Rendition.*

Early  
History.

In the year 1840, the Reverend J. Garret who was managing a Printing Press for the Wesleyan Mission in Bangalore appears to have influenced Sir Mark Cubbon

the then Chief Commissioner, to establish a Government Press for doing Government printing.

The suggestion was taken up and the Government Press was established in the year 1843 for the purpose of printing Departmental Proceedings, forms, records and other miscellaneous matter. Eventually, Mr. Garret himself was appointed as the first Superintendent of the Government Press. The *Mysore Gazette* was first published in 1866 by Mr. L. Ricketts as Editor, and the office of Compiler of the *Mysore Gazette* was held independently by Mr. J. Lacey from 1867 to 1869, when it was combined with that of the Superintendent, Government Press. At this time, the Press consisted of only 5 Hand Presses and a small staff of about 30 men. The Press was first located in the old Tippu Sultan's Palace, Fort, Bangalore, and subsequently, on the completion of the Public Office Buildings, was removed there. A separate building for the Press consisting of one quadrangle was built in 1873.

#### *After the Rendition.*

Mr. T. T. Leonard was appointed full-time Superintendent in 1886 and during the time he held office, which continued for about 13 years, a number of improvements were effected, of which the most important was the replacement, in part, of Hand-Press printing by machines three of which were imported in 1893. Two more machines were added in 1903. A second quadrangle was added to the main building in 1894.

Development  
of the Press.

During 1903-04, on the suggestion of the Superintendent, Government Press, Mr. Fisher of the Madras Government Press was asked to inspect the Central Press, Bangalore, and he made certain proposals for improvement. Upon a consideration of the opinions of the Committee appointed to report on the proposals

Re-organisa-  
tion of 1905.

of Mr. Fisher, the following measures were sanctioned in April 1905:—

- (1) The appointment of a competent expert as Superintendent of the Press;
  - (2) Increase of pay to the Manager and Foreman and the abolition of overtime allowances to them;
  - (3) Amalgamation of the Jail Press with the Central Press;
  - (4) Relieving the Press entirely of the work of translating Government Orders and Notifications;
  - (5) Construction of an additional block to increase the accommodation;
  - (6) Purchase of new machinery and types;
  - (7) Installation of an electric motor at the Press for working the printing and other machines, as well as for lighting the Press buildings;
  - (8) Reforms in the system of payments and accounts;
- and
- (9) Preparation of a Press Manual.

As the outcome of the re-organization, a competent expert was appointed Superintendent of the Press early in the year 1905-06 and all the other measures were carried out. A suitable Type Store Room furnished with ample drawer accommodation in supercession of the previous arrangements was also provided. The quality of book binding was improved by the appointment of a competent person from Madras. Electric light was installed throughout the Central Press premises in September 1905. To provide more space, a third quadrangle was added to the main building in 1914. The machines which were formerly driven by an oil engine are all now propelled by electric power, resulting in considerable economy and greater output.

Besides this, twelve more machines were added between the years 1905 and 1915, so that printing is now exclusively done by machines, the hand presses having been completely discarded for purposes of print-

ing. There are at present (on 30th June 1925) ruling, sawing, cutting, folding, stitching and other machines, type casting machines and stereo typing plant 1 Thompson type casting machine, 3 Lithographic presses and 2 monotype machines, 65 in all and about 70 tons of types valued at Rs. 2,11,873.

There was a Branch Press at the Central Jail, Bangalore, worked by convict labour under the Superintendent of the Jail. This was amalgamated during 1905-06 with the Central Press, Bangalore. Another attached to the Central College, Bangalore, which continues to this day, is now independent of the Government Press.

Branch  
Presses.

A Branch Press was established in Mysore in November 1888 for the purpose of printing and binding papers connected with the Dewan's Camp Office, the Palace Department and Her Highness the Maharani's Girls' School. This was at first attached to the Jagannohan Palace but with the increase of work, new buildings had to be found for it. Accordingly, it was transferred to the old Distillery building near the Kukkarahalli tank. It had an establishment, under a Foreman, of 24 men at an average monthly cost of Rs. 339 but was considerably enlarged and re-organized in April 1919 with a view to cope with the extra work of the new University and the Railway Departments. Additional buildings at a cost of Rs. 28,380 have been erected. The permanent establishment of the Press now consists of 61 men at a monthly cost of Rs. 1,225 under the supervision of an Assistant Superintendent. Additional machinery has been installed to cope with the increased work and there were, at the end of June 1925, 8 printing machines and presses, 9 binding machines and 1 Thompson type casting machine, the total value of same being Rs. 23,423. The total value of the types in the Press on 30th June 1925 was Rs. 16,526. During the Dasara and the Birthday week,

the staff is augmented by men from Bangalore to cope with the immediate and very heavy work.

On the 23rd August 1898, a Secretariat Branch Press was organised, in view specially to the printing of Government Proceedings, monthly Volumes, and other Secretariat work more expeditiously than before. This Branch Press was for a short time located in the Public Offices, but was afterwards removed to the Central Press buildings, which were extended on both sides, so as to afford sufficient accommodation to the increasing staff.

**Kannada  
Typography.**

Steps have been taken from time to time to improve Kannada typography. In 1917-18, arrangements were made to provide clear and readable types both for Government and the private Presses. Kannada letters of the alphabet were drawn by an expert Draughtsman and after proper scrutiny by the Inspector-General of Education and the Government were sent to a well-known House of type-founders, the Thompson Type Machine Company of Chicago, America, for making the necessary matrices for casting the required types on the Firm's Typecasting machines, which are installed in the Government Press. It has been decided that the types so cast may be made available for sale to private printers at a cheap rate so that a uniform kind of standard Kannada type may be generally made available for printers' use throughout the State.

**Braille Press.**

Experiments have been made in the production of Braille type (where books suitable for reading by blind boys may be printed) with encouraging results and the printing of books in Braille has been accomplished and the blind boys of the Deaf and Dumb School at Mysore are now reading from books printed from this type.

**Establishment.**

The fixed establishment of the Central Press consisted of 124 men at the average cost of Rs. 2,187 per

month; but, owing to the heavy increase of work consequent on the policy of development inaugurated by Government, the establishment was re-organised in July 1919. It now consists of 134 men at an average monthly cost of Rs. 3,492. With a view to centralise the printing work done for the departments of the State, the officer in charge of the department is styled the "Superintendent, Government Printing." He is assisted by a Sub-Assistant Superintendent, the Assistant Superintendent being placed in charge of the Branch Press at Mysore. Two Probationers, who had been deputed to England in 1912-13 for studying improved methods in printing and its auxiliary branches, returned towards the close of the year 1914-15 after undergoing a satisfactory course of training there for three years and were appointed Sub-Assistant Superintendents in the Government Press. They were later appointed Assistant Superintendents. One of them is now the Superintendent at the head of the Department and the other, an Assistant Superintendent in charge of the Branch Press at Mysore. Two more Probationers have been taken on, one of whom has since become Sub-Assistant Superintendent while the other is still under training.

Government, in 1917-18, ordered an investigation into the matter of the reduction and relief of congestion of work in the Press. As the result of the Superintendent's report in the matter, orders have been passed effecting appreciable savings.

The chief functions of the Department are:—

Functions of  
the  
Department.

- (1) Printing of matter sent by Government and the several public departments;
- (2) Publication of the *Mysore Gazette*;
- (3) Control of all printing works in the State subject to the scrutiny of Government; and
- (4) Registration of authorised publications.

General and  
Education  
Courses.

A Day School has been established for the boys in the Press, where they receive elementary education in the three R's during a portion of the day as a foundation for entering upon a technical course. In 1915-16, a technical school was opened in the Press premises to train boys in printing. Government have sanctioned scholarships ranging from Rs. 3 to 7 as an encouragement to the students taking up technical education and these are being awarded every year. Every facility is given to the employees of the Press to study and appear for the technical examinations of the Government of Madras. Many have profited by this arrangement and have secured passes. Private printers have also been invited to join the printing class and some who have been desirous of starting Printing Presses of their own have availed themselves of this facility.

Government  
Press  
Manual.

The entire rules of procedure together with the Standing Orders of Government issued from time to time to regulate the working of the Press are embodied in a *Manual* which is now in use.

#### SECTION 7—STATIONERY.

Prior to the  
Rendition.

The Stationery Depôt was in existence from 1865 as part of the Public Offices and was established for the purpose of arranging for the supply of articles of stationery required for the various departments of the State from a central source. The stationery required for the several departments was, till 1872-73, procured direct from the well-known firm of Messrs. De La Rue & Co., London, at an average cost of Rs. 30,000 per annum. Under the orders of the Government of India in the Financial Department No. 402, dated 23rd May 1871, the Stationery Indents were forwarded through the Foreign Department to Her Majesty's Secretary of State for India for sanction and compliance.

In 1881, the Stationery Depôt was constituted into a separate department and Mr. T. T. Leonard was appointed as Superintendent of Stationery, but the office continued to be located in the Public Offices, as part of the Dewan's Office till 1898, when it was removed to the present buildings. In 1886, the Department was amalgamated with the Press and the two departments were placed under a Superintendent. This arrangement has continued up-to-date. The cost of establishment was fixed at Rs. 2,976 per annum with an allowance of Rs. 700 for contingencies.

After the Rendition.

The Stationery Office is under the administrative control of the Chief Secretary to Government, the Superintendent, Government Stationery, being in immediate charge. The Superintendent is assisted by the Supervisor who is the ministerial head of the office.

The chief functions of the Department are :—

(1) Preparing a forecast of the stationery articles required for use in the various departments and arranging for their purchase out of allotment.

(2) Supplying on indent stationery articles to the Government departments which are entitled to the same under general or special orders of Government.

(3) Keeping a sufficient stock of printed forms required by the Government departments and arranging for their supply on indents.

The staff consists of a Supervisor, a Store-keeper, 6 Clerks and 9 Attenders.

The work in the office of the Stationery Department is regulated by a *Manual* prescribed by Government.

The stationery stores required for the use of the Government are obtained by purchase from private firms in England and in India.

Purchase of Stationery.



Supply of  
Stationery  
and Forms.

The stationery articles are kept in the Stationery Depôt at Bangalore and distributed therefrom to all the departments in the State in accordance with indents received from them. The various departments and offices in the State are, for this purpose, classified under two heads— (1) those entitled to a free supply of stationery and (2) those that get their supply only on paying for the same by means of book adjustment. The Heads of Departments send their annual indents for stationery direct to the Depôt while subordinate offices submit their indents through their Heads of Departments, who check and countersign them before forwarding. The indents are checked and carefully scrutinised by the Stationery Depôt, which issues a fresh supply after considering the supply and expenditure of stationery during the previous year. Paper for printing the *Mysore Gazette*, the Proceedings of Government, Educational works and forms required for the various departments in the State are also issued from the Depôt after a careful examination of the indents. In recent years, the supply of typewriting and carbon papers and ribbons has also been undertaken by the Stationery Depôt.

Advantages  
of a Central  
Depôt.

The stocking and the supply of various articles of stationery from a central office is calculated to lead to greater economy and uniformity in the articles supplied. Efforts have been made of late years to put a stop to the use and waste of expensive kinds of paper and to substitute cheaper descriptions in every practicable case. During 1905-06, orders were passed for the supply of stationery from the Stationery Depôt to the Taluk offices in the State which used to buy all stationery locally. This reform, while ensuring the use of good paper for all Taluk correspondence, has resulted in a net saving of Rs. 4,000 nearly.

The subjoined table shows the development of the Stationery Depôt during the last 27 years.

Statistics of Receipts, Issues and Purchases.

Year	Receipts	Issues	Value of Indian purchases	Value of European purchases
	Rs.	Rs.	Rs.	Rs.
1896-97 ... ..	85,960	85,238	36,173	43,122
1901-02 ... ..	97,364	94,306	55,479	31,826
1906-07 ... ..	1,14,545	1,00,840	72,874	27,517
1911-12 ... ..	1,12,341	1,15,672	34,583	60,182
1916-17 ... ..	2,37,931	2,79,543	1,29,901	84,695
1917-18 ... ..	3,54,808	2,82,804	2,37,867	83,115
1918-19 ... ..	2,66,485	2,34,427	2,32,728	902
1919-20 ... ..	...	...	2,04,797	...
1920-21 ... ..	2,76,378	2,96,779	2,36,072	...
1921-22 ... ..	3,01,722	3,34,290	2,64,718	...
1922-23 ... ..	1,85,231	1,59,663	1,45,247	...
1923-24 ... ..	1,54,876	1,54,207	6,061	1,20,175

Comprehensive rules were issued in 1904 to regulate the supply of stationery and forms to the several offices of the State.

Rules re Supply of Stationery and Forms.

Actual stock of store on hand is taken in January every year and the result submitted to Government and, on receipt of orders, the excesses and deficiencies are adjusted.

Stock-Taking.

SECTION 8—WEIGHTS AND MEASURES.

Chikka-Dēva-Rāja Wodeyar who ruled Mysore in the 17th century (*vide* Volume II, *Historical*) is said to have called in the seals used in the eighty-four *gadis* or taluks, and finding that they varied greatly, he had a common seal made, bearing the monogram of *De* in the middle, with the sun and moon, surrounded by a circle, containing the name of the *gadi*. A gold ring with this seal engraved on it was given to each Amildar. Silver ones, with only *De* on them, were given to the *hobli* and village officials, and the customs and tax collectors. Wooden stamps (*mudrekol*) with the same monogram between the sun and moon were provided, to be kept in each *chavadi* and used

Weights and Measures: their origin.

by the *totis*, *talavars* and *nirgantis*, as directed by the heads of villages, to be affixed to houses of criminals or defaulters and on the heaps of grain divided between the Government and the cultivators.

The same stamp was engraved on standard weights and measures ordered to be used in shops and markets. The weight of 3 *Kanthiraya hanas* being taken as equal to 1 *duddu*, the following was the scale of weights fixed :—

1 Duddu	=	1 tola
24 Duddus	=	1 kachcha seer
10 Kachcha seers	=	1 dhadiya
4 Dhadiyas	=	1 chikka mana
44-46 Seers	=	1 dodda mana

Weights and  
Measures in  
1800.

The weights or dry measures in this country were of two kinds, both defined very accurately. One of them was called the bazaar weight and used in the sale of what are called bazaar articles, such as tamarind, turmeric, and all kinds of drugs. The other was used for grain both in the bazaars and in all revenue transactions. The great difficulty lay in the multiplicity of weights used in different districts; for, almost every town had weights and measures differing widely from all those in its neighbourhood. The consequence of this was that the cunning *banyas* frequently took advantage of this multiplicity to deceive strangers. The inhabitants of the place could not be so easily taken in as they were all well acquainted with their own peculiar weights and measures.

The only general and uniform measure and weight was the *pucca seer* of sixty-four dubs weight. And the weight of a dub was four drams. This seer altered according to the weight of the dub. If these were lighter than four drams, more dubs were required to make up the seer; if they were heavier, fewer would do. This measure appears in some writings of very old date, as in the *Sūdra-Ganitam*, yet it is said to be of Moorish origin. It had made its

way into all accounts and had, as it were, dislodged all other weights.

Both fluids and dry articles were determined by weight, with the exception of oil, for the sale of which a kind of graduated measure was employed. All kinds of grain, by common consent, were sold by a measure which was not merely filled, but heaped up as high as possible above the lips. If a person bought only half the measure, he had to lose the heaped part, which generally amounted to 1/7th or 1/6th of the whole. The lowest standard weight was the dub. Smaller quantities were determined by common fractions. They ascended regularly by fours.

It was a very common practice to mention in the settlement of a bargain the weight to be employed. The common weight fixed upon was the copper coin of the country, and if large quantities of any article had to be weighed, stones, the weight of which was previously determined, were employed for the purpose. The common scales were nearly flat baskets suspended from a balanced pole, which was tied to a noose. It was the usual practice to weigh the article first in one scale and then in the other and nobody bought any article without seeing that this precaution was attended to.

The seer (ser) is the standard of weight and measure. The *Kachcha* seer is equal to the weight of 24 rupees or 6,607 lb. avoirdupois. Forty seers = 1 *mana* (maund) and 20 *manas* = 1 *khandi* (candy). By this weight, are sold areca-nut, sugar, drugs, cotton, silk, etc.

The standard of weight and measure.

Oil and ghee are frequently sold by measure, a seer weight of oil being put into a cylindrical brass vessel that exactly contains it, which serves afterwards as a standard.

The *pakka seer* (pucka seer) is formed by mixing equal quantities of the *nava dhānya* or nine kinds of grain (rice, uddu, hesaru, hurali, togari, avare, kadale, ellu and wheat) and then by taking 84 Rupees weight of the mixture

which is put into a vessel that will exactly contain it when heaped. This serves for a standard and measures 74·8125 cubical inches or ·3592 gallons.

This is the dry measure, of which 20 *kolagas* or *kudu* everywhere make 1 *khandaga* or *khandi*, but the number of seers to the *kolaga* is different in different parts. The Sultāni *kolaga*, established by Tipu Sultān, contained 16 seers. One of 8 seers is called the Krishnarāja *kolaga* being 1/20th of the Krishnarāja *khandi* established by Dewan Pūrnaiya. The *kolaga* of 10 seers is called *kharāru kolaga*.

The Mysore  
Weights and  
Measures  
Regulation.

To regulate the use of weights and measures of capacity in the State, the "Mysore Weights and Measures Regulation" (No. III of 1902) was passed in July 1902. Under Section 2 of this Regulation, power to prescribe the standards of weight and measure and to make rules to regulate the shapes, dimensions and designations, the method of testing weights and measures, etc., vests with Government.

Rules under  
the  
Regulation.

In exercise of the powers conferred by the above Regulation, Government prescribed rules in 1911 for regulating the use of weights and measures of capacity in all parts of the State from and after the 1st of October 1912.

The standard weight, as prescribed in the rules, is—

(a) the "seer" weight which is a mass of metal equal to the weight of Rs. 24 (of 180 grains Troy each) of British Indian currency.

Arapavu	=	3 tolas	=	$\frac{1}{8}$ seer
Pavu	=	6 tolas	=	$\frac{1}{4}$ seer
Achcheru	=	12 tolas	=	$\frac{1}{2}$ seer
Pancheru	...		=	5 seers
Dhadiah	...		=	10 seers
Mana (Maund)	...		=	40 seers

(b) The Bengal seer is equal to 80 tolas. Bengal Maund=40 Bengal seers.

NOTE.—The Bengal seer and the Bengal maund are  $\frac{80}{24}$  or  $3\frac{1}{3}$ rd times the local seer and maund of weight.

(c) Pound (Avoirdupois).

14 lbs.	=	1 Stone
28 lbs.	=	1 Quarter
112 lbs.	=	1 Hundred-weight

20 Hundredweights or	
2,240 lbs.	= 1 Ton

NOTE.—One hundred and eight pounds=175 seers local or  $52\frac{1}{2}$  seers Bengal.

The standard measure of capacity is the “Seer” measure which is a hollow bronze cylinder, capable, when filled to the brim, of holding just 108 tolas (of 180 grains Troy each) weight of distilled water at its maximum density and under the normal atmospheric pressure.

Chataku	=	1 seer	Balla	=	4 seers
Arapavu	=	$\frac{1}{8}$ seer	Kolaga	=	8 seers
Pavu	=	$\frac{1}{4}$ seer	Palla	=	100 seers
Achcheru	=	$\frac{1}{2}$ seer	Khandi	=	20 kolagas or 160 seers.

Provision is made in the rules to stamp every weight (except where the small size of the weight renders it impracticable) and every measure capacity, after verification.

To facilitate conversion of units of measure into units of weight, the following equivalent may also be given :—

1 Palla of Paddy	=	115 lbs. of cleaned rice
„ of Ragi	=	220 lbs.
„ of Horse-gram	=	240 lbs.
„ of Cholum	=	232 lbs.
„ of Bengal-gram	=	230 lbs.
„ of Till	=	180 lbs.
„ of Wheat	=	225 lbs.

Uniform  
Weights and  
Measures  
Scheme.

The Industries and Commerce Committee of the Economic Conference submitted to Government in 1916 a report containing the Committee's recommendations in regard to the weights and measures in use in the State and for improving them. The following important recommendations were made by it :—

(1) That a stamping party consisting of a clerk or tester and a gollar or artizan be entertained in each district at a cost of Rs. 22 per mensem and two additional parties at a cost of Rs. 35 per mensem each in the Cities of Bangalore and Mysore to work under the Deputy Commissioners or the President of the Municipal Councils concerned ;

(2) that each party be provided with a sufficient number of weights and measures for sale to the public and the price be fixed at a rate equivalent to the cost of production plus half an anna for each measure or weight to meet the establishment charges ;

(3) that arrangements be made to obtain the weights and measures required from private manufacturers according to approved samples and the idea of erecting a plant in the Central Jail for manufacturing the same be abandoned ;

(4) that the duty of getting approved patterns of weights and measures for distribution to the Deputy Commissioners and the Presidents of Municipalities of Bangalore and Mysore be entrusted to the Director of Industries and Commerce and a sum of Rs. 500 placed at the disposal of the Department for the manufacture of samples of weights and measures ; and

(5) that a sum of Rs. 16,000 be allotted for the purchase of 8,000 weights and an equivalent number of measures.

Government, in 1917, sanctioned the scheme of the Committee with a few modifications and directed :—

(1) that the Revenue Department should be primarily responsible for the enforcement of the rules ;

(2) that the control over the working of the whole system of introduction of uniform weights and measures should vest in the Revenue Commissioner ;

(3) that the Revenue Commissioner should arrange for the supply of weights and measures for all centres ;

(4) that standards of authorised weights and measures in general use should be supplied to all Revenue officers in Districts, all Police Stations and *patels* of important yillages ; and

(5) that a set of bronze weights and brass measures should be kept in every District Treasury for purposes of comparison with the working standards in the hands of the stamping parties.

Government also sanctioned a sum of Rs. 16,000 for stocking a sufficient supply of weights and measures. Finding that the above measures had not been fully brought into operation, Government, in 1918, transferred the entire control over measures to be adopted for ensuring an adequate supply of weights and measures and testing and stamping the same, to the Department of Industries and Commerce, the responsibility to enforce the rules continuing with the Revenue and Police Departments. In 1924, arrangements for the manufacture of seamless measures by machinery were completed and the first set of measures was got ready. A good supply of weights was also manufactured. Facilities are being provided in the State for an adequate supply of standard weights and measures. It will, however, be sometime before the time will be ripe for introducing legislation to render the use of uncertified weights and measures penal. The Mysore Premier Metal Factory has been entrusted with the manufacture and supply of the required number of sets of measures on certain conditions. The distribution of the new sets of measures is being arranged for through the help of the local bodies.

Steps have also been taken to arrange for a wide publication of the table of the authorised standards of weights and measures, their multiples and sub-multiples.

The standard of length is the Imperial standard yard :—

$\frac{1}{3}$ rd of a yard = 1 foot.

$\frac{1}{36}$ th of a yard = 1 inch.



To declare the Imperial standard yard to be the legal standard measure of length in the territories of Mysore, Government, in 1890, passed the "Measures of Length Regulation" (No. III of 1890) and by subsequent Notification, dated January 1894, approved and declared the measures of Imperial standard yard.

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 patam in 1799.  
 Mysore General Administration Reports from 1886-87 to 1923-24.  
 Annual Reports of the Amrut Mahal Department, 1886-87 to 1923-24.  
 Notes on Mysore cattle 1895.

SECTION 5—VETERINARY.

Regulation No. I of 1895.  
 do VI of 1899.  
 Mysore General Administration Report, 1905-06.  
 Revenue Administration Reports, 1907-08 to 1923-24.  
 Departmental Reports, 1908-09 to 1923-24.  
 Dewan's Addresses to the Representative Assembly, 1906 to 1925.  
 Manual of the Civil Veterinary Department.  
 Government order No. 6212-7 Agri. 38-05-3, dated 22nd March 1906.  
 Do No. 1727-37 Agri. 38-05-22, dated 4th September 1907.  
 Do No. 8354-63 Agri. 27-16-11, dated 27th February 1918.  
 Do No. R. 13584-5 R. M. 22-19-14, dated 22nd June 1920.  
 Do No. 7255-6/A & E 80-20-5, dated 5th February 1921.  
 Do No. 10652-3/A. & E. 80-20, dated 3rd May 1921.  
 Do No. L. 1772-3/A. & E. 55-21-2, dated 23rd September 1921.  
 Do No. L. 3709-10/A. & E. 136-22-2, dated 17th November 1923.

## SECTION 6—THE GOVERNMENT PRESS.

Mysore General Administration Reports—from 1895-96 to 1923-1924.  
Departmental Reports—from 1888-89 to 1923-1924.

## SECTION 7—STATIONERY.

1. General Administration Reports—1872-73, 1880-81, 1881-82 to 1885-86, 1891-92 to 1894-95, 1895-96 to 1899-1900, 1905-06 and 1906-07.
2. Departmental Reports, 1917-18 to 1923-24.
3. Hand Book of Mysore Administration, 1919.

## SECTION 8—WEIGHTS AND MEASURES.

Selections from the Records of the Mysore Commissioner's Office, 1864.  
Regulation No. III of 1902.  
Notification No. 11058/G. F. 441-92, dated 6th January 1894.  
Notification No. J. 864/Legis. 16-09-37, dated 11th September 1911.  
Government Order No. 5082-131/A. & I. 215-14, dated 5th January 1917.  
Government Order No. 8413-63/I. & C. 48-17-14, dated 22nd February 1918.  
Government Order No. 3238-49/Agri. 61-15-7, dated 28th August 1918.  
Report of the Director of Industries and Commerce in Mysore for 1923-24.  
Government Order No. I. C. 3213/I. & C. 64-24-3, dated 12th November 1924.

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