Agronomy is the Science and Economics of crop production. Crop production depends on the fertility of the soil and the availability of irrigation facilities. So in the following pages, the soil condition, the cultivation of crops are discussed from the agronomical point of view, while a detailed is attempted on irrigation in the subsequent chapter. The agronomical profile is incomplete if it does not mention techniques and tools of agricultural production. In other words, the productive forces evolved by the experience of the peasants - agrarian tools and techniques are noted at appropriate places in this chapter to make a fairly complete picture on agronomy.

In 1931, the total number of pattādars (land owners) in the state was 1,05,275. The ratio, when compared to total population is 1:4. In 1930 the total area of all the villages was about 75,54,291 acres. Of these, the ayan dry lands were 2,21,265 acres, ayan wet lands were 1,17,028 acres and inam lands were about 1,38,772 acres. The poramboke lands were 2,45,564 acres and assessed waste lands were 31,302 acres. There were 442 villages and 1511 hamlets. Different types of soil conditions could be found in this dry agro-climatic region. To Nicholas B. Dirks, Pudukkottai was neither a wet nor a dry zone, but a mixed economy zone that
had some irrigation which was not river based, thus combining the features of both wet and dry zones.

SOIL CONDITION

Soil constitutes the natural medium which supports the growth of plants. It serves not only as a reservoir of food materials needed for the plants but also as a mechanical anchorage for them. Geologists give a picture of the soil of the plains, valleys and river bed of the region. The chief soil type is sevval (red soil) followed by karisal (black soil). When mixed with sand, sevval is called manal and with gravel, it is sara]. In parts of Thirumayam and Kolathur taluks, saline soil called kalar is found. A rich chocolate loam called padugai is found in the ayacuts of the Kavinad, Vallanad and other large tanks. River alluvium of Pudukkottai includes karisal soil types. The alluvial block is formed due to the deposition of alluvium by the Vellar. The texture of the soil varies from sandy loam, sandy clay loam to pure sand. The sub-soil is generally clayey. Usually they are pale yellow, pale red or yellowish red in colour. On the whole, the soil found in Pudukkottai are of a poor nature and requires intense efforts by the ryots, for economic growth. The fertile lands of Pudukkottai were not so fertile, as the lands found in the Cauvery delta. As the river Vellar is not perennial, the advantages of getting alluvial deposits and the means of irrigation they possess are not steady.
CULTIVABLE LANDS

The fertility of lands, the availability of irrigation facilities and the crops cultivated are the main criteria for the classification of lands into nāñchāi (wet lands) and punjai (dry lands). While paddy was cultivated in nāñchāi lands, millets were in punjai lands, betel and coconuts were in garden lands. Vegetables were cultivated for domestic consumption in garden lands.

There prevailed yet another classification of well irrigated lands called achukattu lands, which were considered by the ryots as a separate class. Achukattu lands were scattered all over the tank irrigated area. Non-agricultural lands were scrub jungles, forests and grazing lands. There were six reserved forests and unreserved forests.

WEATHER CONDITIONS

Farming in Pudukkottai depended more on the weather conditions. It has a hot tropical climate. The area's meteorological history reveals the irregularity of monsoonal rhythm resulting in cyclonic weather and extreme rainfall at periodical intervals. The Kōdal Vellāmai (summer cultivation) commenced in the month of Māsi (February-March) and ended in Ādi (July-August). The Kāla Vellāmai which was more extensive normally began in Ādi and extended over four to six months. Sometimes two short term crops were grown instead
of one long term crop. In case of total failure of rain the Kōdai operations were abandoned.

PADDY CULTIVATION

Crops and livestock depended heavily upon their immediate environment. Nature in its diverse manifestations, physiography, climate, soil and water, offers in different areas different possibilities in which man cannot think himself superior. Any change in them is prohibitively costly. Therefore the peasant's choice of crop is limited to the conditions of his environment. This in turn is bound to influence the use of agricultural land. Paddy cultivation is labour intensive. Extensive paddy cultivation is generally ruled out because of the inadequacy of irrigation sources. So landless agricultural labourers could find employment only when adequate supply of water is assured. Paddy is essentially a crop of damp tropical or semi-tropical climate. It was sown by broadcast and raised by transplantation from a seed bed. Kuruval was an inferior variety sown broadcast. The superior sambā was transplanted and hence labour intensive.

The intensity of the cropping pattern of paddy was influenced by the availability of irrigation sources. Twenty percent of the lands were of double crops with first and second class irrigation sources. Seven and a half percent had only third class irrigation sources. The factors like soil
composition, climate and techniques of cultivation, also played decisive role on paddy cultivation. So in Pudukkottai it was grown mostly in the ayacut areas of big tanks like Kavinad tank, Vallanad tank, fed by the water of Vellar.

The superior sambă paddy varieties were Pallayan sambă, Garudan sambă, Raman sambă, Kaivirai sambă, Sirumanian sambă, Mulagi sambă, Kassamuvakai, Jirka sambă and Sadaï sambă. The inferior kuruval paddy varieties were Kulaladichân, Arían, Sarappalli, Kår, Iralkamathan, Cheñkuṟuvai and Aruvathâm kuruval. Sambă varieties of paddy were generally cultivated for the consumption by people of the upper class. Kuruval crop was meant for the ordinary people. Pallayan sambă was small and half round in shape. Garudan sambă had red and white streaks. Aruvathâm kuruval requires constant watering for sixty days before harvest. Arían sambă could withstand any amount of water.

For the preparation of narrangāl (nursery), certain preliminary efforts were made. A Pulithikāl (wet soil) was made by ploughing, as a preparatory ground for sowing. By the process of Parambadithal (levelling), the Pulithikāl was converted into a Tholikāl (watery soil bed). The Valuvirai (dry seeds) were sown on a moistured land. For the Viraipad (sowing) of soaked seeds the excess water in the land was to be drained. The young seedling that matured in the nursery field were
transplanted after a period of one month in case of Kuruvai and forty-five days in case of Samba. Some times unusual rains called pagaimalai (enemical rain) may dislocate the process of nursery preparation.

The field prepared for nursery transplantation was called Seikhāi or nārāngāl. It was thoroughly ploughed and manured. The grown seedlings for transplantation were carried in bundles called mudi. The Koṇḍāngai was a bundle which can be carried by a single male worker. In the kalam (floor), threshing was done by Thalayadi which is the manual beating of the harvested paddy and it was followed by Porady, in which cattle was employed to separate the grain from the stalk.

In spite of such hazardous process, the total production of paddy was not sufficient to meet the needs of the people. "Over a period of fifteen years from 1920 to 1935, on the basis of the average area and yield rate, the total production of paddy was 50,301 tonnes per year. Of this 5,525 tonnes were required for the seeds. The remaining 44,766 tonnes of paddy, equivalent to 29,850 tonnes of rice, were available for consumption. The total requirement of rice on an average was 39,250 tonnes on the basis of adult population. Hence the Pudukkottai state had to import 9,400 tonnes of rice. The value of it was Rs.12.48 lakhs at the then prevailing price of four rupees, fourteen annas per maund. This large deficit in rice production was met by imports
from the adjoining fertile areas of Tiruchirapalli and Thanjavur.19

In 1920 when the rainfall was 60.44 inches, paddy was cultivated in 1,61,000 acres and in 1934 when the rainfall was only 25 inches, area under paddy fell to 36,000 acres.20 As the rainfall was erratic, the ryots were advised to use proper seeds for different kinds of crops, practice weed control, apply manure at appropriate time in several villages of the state like Keeranur, Sendamangalam, Pungudi, Vellanur, Ammachatram, Annavasal, Sengunpatti, Keelaikurichi, Varappur, Adanur, Keelappatti, Rasiamangalam and Vadavalam, by the princely state.21 As the cost of cultivation was not commensurate with the price of paddy in the market, it was not possible for the farmers to secure adequate returns from their investments on land. But in 1916 and 1917, three and a half acres in Nallur Chatram farms were cultivated with Bankur paddy and it yielded 3750 Madras measures.22 However all the villages and lands thereon were not so fertile by nature.

Kār paddy crop gave less yield than samba crop. The grain was also much inferior in quality. Growing of Kār and Samba as a mixed crop to reduce cultivation cost was not widely prevalent in Pudukkottai. Even if cultivated the advantage gained in cost was generally reduced because of poor yield.23 In 1944, the government supplied 402 Madras measures of drought resisting
paddy seeds to twenty seven ryots. In fourteen cases it was successful, in two cases there was partial success, but in ten cases it failed. In one case it was not harvested. In dry crop cultivation, three or four kinds of seeds were often sown together to guard against the risk of total failure. The commercialisation of agriculture resulted in the cultivation of cash crops like indigo, cotton and groundnut.

COTTON

Cotton crop does not figure prominently in Pudukkottai. In spite of initial efforts the government had taken no special steps to encourage its cultivation in the state. Government's attitude to cotton cultivation benefitted the British ryots at the expense of the Pudukkottai ryots. The cotton pest regulation, asking the peasants to destroy the cotton plants in August, so as to prevent the spread of cotton pest from Pudukkottai to the lands owned by the cotton cultivators in the adjoining British territory, was deplored. It was pointed out in the Legislative Council that any possibility for the spread of cotton pest was ruled out as cotton was cultivated in detached bits of lands at Viralimalai and the destruction of plants in August would lead to the sufferings of the peasants. Though the Government's attitude in this regard was ambivalent, its positive attitude to
this crop can be seen by its encouragement given to the weaving industry at Parambur, Karambakudi and Seniyapatti.  

INDIGO

Indigo is cultivated in South India ever since 1787. It is successfully grown in alluvial loams. The colouring matter from which indigotin is derived exists in the leaf. It is produced by what is known as dry process. Karambakkudi became the important centre of Indigo cultivation in Pudukkottai. The factory at Karambakkudi was handed over to the State in 1823. As the Rajah began to treat the farm at Karambakkudi as his personal property, the security of the ryots was at stake.

GROUNDNUT

Unlike the cultivation of indigo, the cultivation of groundnut became very popular. It was popular in Alangudi taluk followed by Kolathur and Thirumayam taluks. From the zamabandhi check memo it is revealed that groundnut was cultivated in 20,000 acres in the state. The oil content of the seed varied from 44 to 50 percent depending on the vagaries of the agro-climatic conditions. Groundnut oil is an edible oil and the residual cake is used as a fertiliser and cattle feed. Generally it was grown year after year as a kharif crop. For controlling weeds, hand weeding was done. The success of the crop depended on timely irrigation at pod formation stage.
Usually it was harvested by hand pulling when there was adequate moisture in the soil. The introduction of groundnut cultivation which was highly profitable had a taking effect on the lifestyle of the Kallars who became the peaceful class of farmers. By the collaboration of the millers with traders through unethical trade practices, the peasants were deprived of their legitimate income from groundnut cultivation. By manipulating the measures and by collecting one marakkel of groundnut from every bag as a special levy for the local deity by the millers, the ryots were deprived of their full amount of income. So in the legislative council it was requested that transactions should be conducted by weight and not by bags. As groundnut was a profitable crop, its cultivation was promoted.

CASHEWNUT

The cashew tree is an ever green tropical fruit crop. It is generally referred to as a self ploughing crop. It is a saviour of environment. Its raw cashewnut has a high commercial value. The state was interested in the development of cashew plantation. The imbalanced income and expenditure of the town agricultural farm in 1939 was Rs.3269-8-4 and Rs.8288-6-4. So cashew cultivation was suggested for the economical functioning of the state farm lands.
Rotation of crops and mixed crops were widely practised in the Alangudi region. Kambu and Varagu were grown at intervals of three years as they came under crop exhausting. Kambu, thuvarai and groundnut were cultivated as mixed crops. Kambu would be harvested in three months and thuvarai may take six months. Groundnut may need more than six months for harvesting. Varagu was a six month crop sown with red gram. The important gram varieties were Kollu (Horse gram), thuvarai (Red gram), Pāsripayāru (Green gram) and Ulundhu (Black gram). In the mixed crop cultivation cholam, ragi and groundnut were cultivated. The crops were harvested in different times of the year.

Garden crops were also cultivated. Of the garden crops, betels, sugarcane, plantain, turmeric commanded wider market especially after the introduction of tubewells. Vegetables like drumstick, ladies finger, radish, brinjal and beans were produced for domestic consumption. Condiments like chillies, and coriander were also cultivated, but not on an extensive scale. Cultivation of onion on a large scale was contemplated. Verrilai of a lower black variety was cultivated by Rowthers (muslims) and native christians. The first harvest of verrilai is called Pudiyam (new), the second one is mudukāl and the third one is alagal.
Thoppu is a collection of trees. Palm groves, coconut and mango trees are generally seen in such Thoppus. The state enterprises were maintained through the Forest Department. Mango trees in Laksha Thoppu, Savukku trees in the Vellar - Perungalur region and Cashew tree plantations were some such early enterprises of the state.

Bellary onions were introduced successfully in Servaikaranpatti. New fruit gardens were started at Alangudi and Adanakottai. Producing superior mango and orange seedlings by grafting methods, were popularised. The ryots of Malaiyur and Theethanipatti reared Marikolundu, a scented leaf, in large quantities and made good profits by their sale.

THE MANURE

Manure an important ingredient, promotes the yield of the produce. Green leaves, cattle drops, village sweeping wastes and ashes are some common manures. Green leaves were collected from Ari, Avarai, Kozhinchi, Puńgu, Chembu, Poovarasu, Vāgal and Māñchal Nuna. State forest was the important source of green manure. A member of the legislative assembly complained against the system of allowing British subjects, to become auction purchasers of forest leaves as it deprived the peasants of the adjoining villages, their customary rights of using such leaves as manure in their fields.
PEST CONTROL

The common pests affecting the good yield from the land were Anai Kombu, Palli poondu and Kuḍi virattī poondu. The diseases were Sivathai, Thantithu, Kokkunōvu, Karunthal, Kavaikal nōvu and Vādai. Some other pests like Uzhuvanḍu, Nāval vanḍu, Vannam and Koṭṭal poochi also affected the crops. For the period under study, chemical pesticides were rarely used. Field rats were a common menace to the peasants. There was menace from wild animals like bears, foxes and jackals.

IMPLEMENTS

The common plough was used to mix the soil. Aruval was used for pruning the hedges. Parambu was done for levelling and smoothing the wet lands. Wood and bamboo were useful for the preparation of these tools. Iron implements like the spade and the sickle were very common.

CATTLE

The ox and the bullock were the important cattle which supplied the animal power. There was no cattle breeding centre for the state. Buffaloes were also added to the livestock position. In Sellukudy and Vengaivasal, a poor quality sheep was reared. The cattle population recorded by N.Thyagarajan is given below.
Bullock - 94,550
Cow - 55,463
Calves - 23,486
He bull - 7,634
She bull - 18,671
Buffalo calves - 8,762
Sheep - 3,40,181
Total 5,48,747

The cattle population was considered as a symbol of prosperity. So they needed better fodder crops and grounds. The state conducted cattle shows to improve the breed of cattle in the capital and taluk stations.

AGRARIAN CALENDAR

Regarding the cultivation of crops, the farmers followed traditional practices. As these practices are well-known, the sources at our disposal do not reveal systematically the methodology of agriculture practised by the farmer. By experience, the farmer evolved an agrarian calendar suitable to the locality. The salient features of the agrarian calendar pointed out by F.J.Richards, were observations meant for the whole of TamilNadu. They are given below in order to know more about the traditional practices followed by the agriculturists of this state.
CHITHRAI TO PANGUNI

Rain during Asuvvanị is unlucky. It is harmful to the coconut plantation. Rain during Paraṇi will result in bumper harvest. It is a lucky rain for ploughing. Rainfall in Krithigai may cause people to suffer. Lightning and rainbow in Chitrai will result in the failure of cambu crop.

During Vaikasi, cambu, thinai, dhal, castor, chillies and turmeric are sown. Ground is prepared for ragi. Cambu sown in Vaikasi will never fail. When paddy is sown in Rōgni, there will not be a mortar-full of rice.

Kar paddy may be planted in Āṇi; varagu, cotton and groundnut can be sown in this month. Cambu sown in Āṇi will suffice for bread. With 'Miruga Sirisha' came the end of early rain. Thunder in the early part of Ārudhra indicate the failure of rains, whereas thunder in the latter part of Ārudhra is a sign of good harvest. Rain on the eighth of Āḍi or a hallow in the full moon, are signs of abundant harvest.

Āvaṇi is a month of sprouting. Few early crops are harvested. Paddy sown will be ruined with weeds. Rain on the sixth of this month will result in prosperity. A rainbow in Āvaṇi will result in famine.
Rain on the fourth of Purattasi is a good omen. If there is rain in Swathi, grain will be found even under the washerman's slab. Paddy transplantation in Lyppasi will destroy crops. Rain on the second of Lyppasi will yield a good harvest. If there is a thunder, the picottah is the only help.

During Karthigai, crops are ripening for harvest. Rain in Margali brings ruin to the field. If it rains on Moola there will be no paddy. If the wind blows on Moola, pulses will be destroyed by insects.

Thai is a month of harvest; the thanks giving festival to Sun God is celebrated during this month. In Masi, the last of the harvest is gathered and few hot-weather crops are watered. Pahguni is a month of comparative idleness. Showers during Revathi indicate the early rains of a new year.

F.J.Richards has also observed some general beliefs of the agriculturists. He has stated, "If the fruits are abundant, the flowers are few. If the dew is excessive, the rains will fall. Plantain should bear their fruit on the northern side and coconut on the southern side." A ryot is warned against sowing paddy on a new moon day or thatching his house on Krithigai. The lucky days for sowing are Mondays and Fridays. For reaping, Mondays, Wednesdays and Thursdays are the lucky days. Tuesday is auspicious. If the horns of a crescent moon point northwards, harvest will be plentiful; if southwards, it will be drought.
Weather wisdom is also pointed out. If the white ants shed their wings in the evening, heavy rain will follow and if they carry their eggs to a high level, rain will fall within eight days. A large hallow round the moon betokens early rain and a small hallow implies delayed rain. Lightning in the north, rainbow in the west, clouds in the south, a gust of wind in the east, are forerunners of rains. Many of these beliefs of the Tamil countryside were faithfully followed by the Pudukkottai peasants.

CULTIVATION EXPENDITURE AND LAND VALUE

A statement showing the cost of cultivation per acre of wet and dry lands, in and around Pudukkottai is furnished in the tabular statement below:

<table>
<thead>
<tr>
<th>Place</th>
<th>Wet lands</th>
<th>Dry lands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs.  As.</td>
<td>Ps.  Rs.</td>
</tr>
<tr>
<td>Pudukkottai</td>
<td>16 0 0</td>
<td>7 0 0</td>
</tr>
<tr>
<td>Thanjavur</td>
<td>11 0 0</td>
<td>5 8 0</td>
</tr>
<tr>
<td>Tiruchirappalli</td>
<td>11 0 0</td>
<td>5 8 0</td>
</tr>
<tr>
<td>Madurai</td>
<td>13 3 5</td>
<td>3 6 4</td>
</tr>
</tbody>
</table>

The above schedule shows that in the Pudukkottai region, the cost of cultivation of the wet and dry lands was greater than in the adjoining regions like Thanjavur and Tiruchirappalli.
The sale value of lands has also increased in Pudukkottai, because of Chettis' investment on land. It reached up to Rs.10,000/- for one velli. In normal times the sale value of wet land was only Rs.150/- and that of dry land Rs.30/- per acre. Because of their money power the Chetti people boosted the market value of land.49

Manual labour is inevitable for agricultural operations. The cost of labour varied from half anna to three annas per day. Always there prevailed an increasing trend in the demand for labour especially during extensive cultivation. During prolonged droughts, and other unfavourable living conditions the peasants resorted to migration abroad, to earn more and for their better subsistence from Pudukkottai state.50

DARBAR AND AGRICULTURE

As land revenue constituted the major share in the income of the state, the princely state was interested in the development of agriculture. Techniques of cultivation, borrowed from the British India were introduced in the Pudukkottai State. The Agriculture Association started in 1906 under the patronage of the Darbar, initiated certain activities.51 The Coimbatore trained Taluk Instructors toured the state and conducted ploughing demonstrations.52 Improved methods in the cultivation of crops like sugarcane, groundnut, cambodia cotton and garden crops like capsicum, radish, roses and elephant yam were taught to the
ryots by means of instructions and demonstrations. The Agricultural and Industrial Exhibition at Narthamalai was conducted on a grand scale under the supervision of the Exhibition Committee during the temple festival. The Dewan Peishkar was incharge of the Agricultural Department and was assisted by the Deputy Registrar of Co-operative Societies and Village Panchayats.

AGRICULTURAL INSTRUCTORS

The state was divided into two agricultural divisions, east and west, each in charge of an Agricultural Instructor. They concentrated their work in ten selected villages. They devoted their attention on selected paddy seeds, economic planting, profitable crops and fruit culture. Measures were taken to prevent the several kinds of insect pests in seed beds and granaries. They stressed the importance of using improved agricultural implements.

In ten selected villages, the two Agricultural Instructors were expected to do propaganda work.

The centres of the east division were (1) Karambakkudi, (2) Mallankurichi, (3) Malaiyur, (4) Adanakkottai, (5) Mullur, (6) Pudukkottai, (7) Vennavalkudi, (8) Perumana, (9) Vallathirakottai and (10) Arimalam. The centres of the west division were (1) Vellanur, (2) Narthamalai, (3) Puliur, (4) Karaiyur, (5) Viralimalai, (6) Neerpalani, (7) Paramanadu, (8) Kulipirai and (9) Andakulam. The east division instructor had
his headquarters at Alangudi and the west division instructor at Annavasal. Both these places were rural centres. They used to visit other villages when there was a call for their services. The intention was, that after improving the conditions in the centres selected, they should similarly take up intensive work in the other centres. Yet complaints were made in the Legislative Assembly that the ryots were unable to get seeds, due to the absence of the Agricultural Instructors who were frequently on tour.

The instructors were expected to introduce improvements and innovations. They taught the ryots, methods of raising crops. They did not supply green leaf manure to the ryots. But they gave instructions on their use. They supplied seeds to the ryots who asked for them. They suggested the use of suitable artificial manures. But no regional survey was made. There was no research department in the state. The department made use of the experience of British India and advised the ryots on pest control.

The government did not publish their own Agricultural calendars. The State Agricultural Department supplied the Madras Agricultural Calendar at cost price of an anna to any one who asked for it. The Government maintained that cultivable lands remained fallow due to want of rains and not due to shortage of labour. To get more information to the farmers, the Government sent four officers drawing a pay of Rs.75/- to Rs.100/- a month
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But a member of the Legislative Council complained that the farmers derived little benefit from this. The Government was favourable to the issue of agricultural loans to improve irrigation and for reclamation. But it was not in favour of granting loans for the purchase of seeds and cattle.

SEASONAL ADJUSTMENTS

Experts from British India expressed the view that the cotton grown in the state was subject to the onslaught of the monsoon. They recommended carting of silt to the cotton fields in the summer to increase the productive capacity of the land. They sought the co-operation of the ryot and the state on pest control. Leading peasants were deputed to Avinashi and Coimbatore to learn the agricultural practices prevailing there. These measures encouraged the ryots to improve the methods of cultivation adopted by them. British experts instructed the peasants of Pudukkottai to follow the methods of tobacco curing adopted at Dindigul and the lemon cultivation at Kodur in Cuddapah district. Generally, the British advisers were in favour of methods followed in the Madras Presidency.

But it should be noted that there was less co-ordination between the Agriculture Department of the Madras Presidency and that of Pudukkottai State. Cotton was tried as a crop by a few ryots. The suggestion to improve cotton cultivation remained only on paper for a long time. The Darbar was bent on complaints
of pest threat to cotton cultivation in the British tract, from the rickety cotton crops of Pudukkottai. As a result the ryots were forced to abandon further cultivation of cotton crops. Though tobacco was not extensively cultivated, rich Muslim merchants started curing units in Pudukkottai. As a result, it became an important centre for the manufacture of chewing tobacco. The British experts wanted that seeds and strains like new paddy, cotton and groundnut should be tried in state farms and that successful varieties should be introduced to the farmers.

The great economic depression and the Second World War naturally prevented the Darbar from taking effective steps in improving agriculture. The Darbar invited K.V. Kanikikar of Sholapur to offer some suggestions for dry land farming. In 1935 agriculture was introduced as an optional subject of study in the Rajah's College, Pudukkottai. In the annual temple festivals cattle shows were also conducted.

ANTI EROSION WORK

The Darbar evinced interest, though belated, in anti-erosion work. The object of the anti-erosion work was to prevent further denudation in the elevated lands and the further deposit of silt in the tanks. It is obviously impossible to express the value of such preventive work in terms of money. Of all the Administrators, Sir Alexander Tottenham was very much interested
in anti-erosion work. He appointed Rao Sahib E.V. Padmanabhan Pillai, to examine the problem of soil erosion. Rubble dams and earth bunds were put up because of the initiative taken by Sir Tottenham, various varieties of grass got from pretoria and local varieties were sown on the land and contour ploughing was done. Terracing was done in some places. A sum of Rs. 43,380 was spent between 1938 and 1944 on anti-erosion work. The importance of anti-erosion work was not realised by the people. Its impact could be felt cumulatively only in the long run. The legislators however were of the opinion that its importance was only of theoretical value and was the brain child of experts.

The agronomical landscape of Pudukkottai discussed above was threatened with prolonged drought and sudden floods. Repeated crop failure caused occasional famines. During famine un-ripe grain, barks, and grass roots constituted the subsistence of the peasants. The services of the artisans were no longer in demand then. As private charity was not forthcoming, famines increased the power of the government, on its various efforts to mitigate the misery of the people. The government undertook the repair of tanks. Soup kitchens were provided. Yet, the absence of a well developed communication system, made the remedy a far off cry. As a result, the human and physical resources in connection with the agronomy of the tract were subjected to serious stress and strain. Inspite of such adverse
conditions the peasants generally did not desert their land and agriculture. Of course, there might have been temporary dislocation. Once conditions improved they would return to their lands.

The geographical conditions found in Pudukkottai, enabled Nicholas B. Dirks to characterise the region as a mixed economy zone. It had some irrigation that was not river based thus combining some of the features of wet and dry zones. In such zones, 'irrigation' assumes special significance, the details of which forms the subject matter for the next chapter.
CHAPTER - IV
REFERENCES

1. New Websters Dictionary of English Languages, 1979, p. 35.


4. Ibid.


10. A traditional classification very common for cultivable lands.


15. Appendix, Plate No.7.

16. The varieties of paddy discussed here are out of date at present because of the introduction of superior varieties after Green Revolution in independent India.

17. Appendix, Plate No.7.

18. Now-a-days, the state highway roads are used as threshing floors during the harvest season. A personal inspection of the fields has revealed the disappearance of the threshing floor, previously maintained by the village community.


29. Imperial Gazetteer of India, 1908, p. 71.


39. R.A.P., 1931-32, p. 44.


46. According to Tamil conception of astronomy, Asuvani is the first star and Revathi is the last star.


49. See Chapter VII on Peasant Community.

50. Every year peasants of Pudukkottai went to nearby countries as Plantation labourers, See Appendix XIV.


54. Ibid.


63. Ibid.

64. Ibid.

65. Nizam Tobacco, Kalaiman Tobacco and Tajmahal Tobacco are popular brands processed on a large scale here for sale.


67. Ibid.


1733, 1735, 1736, 1858, 1866-68, 1870-71, 1876-78, 1879-80, 1889-95, 1905, 1907-08 and 1914 were drought years.

Foreign scholars like Stein, Baker, Karashima and Dirks have given more importance to ecotypical conditions and the agronomical features that influenced the socio-economic conditions of valley, plains and inhospitable peripheral regions.