

METHOD OF AGRICULTURE IN COVERY DELTA REGION

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Abstract

Agricultural practice is fairly uniform throughout the state and depends entirely on the timeless and seasonal distribution of rainfall and availability of irrigational sources. Where rainfall provided the water needed for cultivation, dry cultivation is restored to, while if there are irrigational facilities, wet or garden cultivation is practised. Under canal and tank irrigation as a rule wet cultivation exists but garden cultivation depends on wells. Considerable areas of the Tiracriirappalli district were under dry cultivation. Cultivation of wet lands irrigated from the Cauvery begins with the receipt of freshes in the river i.e., about the middle of June. Except in Kulithalai and Musiri taluks Kuruvai was raised and followed by samba. In the Kulithalai and Musiri taluks, another short duration paddy was cultivated from February to April. The yield from the latter was generally poor, in portions of Karur, Musiri, and Tiruchirappalli betel-vine and in Karur turmeric formed additional crop with paddy. With the receipt of the north-east monsoon the cultivation of paddy in tank-fed wet lands began about the beginning of October. Seed-ling's were generally grown wherever there were facilities. The practice of wet cultivating crops by rotation existed and the same was carried on every year. After harvesting, these crops lands were not cultivated with the same crop immediately afterwards for one or two years.

Keywords: Agriculture, cultivation, Manure, Crops, Plough, Harvesting, Paddy, Sugarcane

INTRODUCTION

Agricultural practice is fairly uniform throughout the state and depends entirely on the timeless and seasonal distribution of rainfall and availability of irrigational sources. Where rainfall provided the water needed for cultivation, dry cultivation is restored to, while if there are irrigational facilities, wet or garden cultivation is practised. Under canal and tank irrigation as a rule wet cultivation exists but garden cultivation depends on wells. Considerable areas in country delta region were under dry cultivation. They were said to be sown with cumbu succeeded by cholam or a mixture of several crops such as cotton, castor and varagu which were all grown together under the name of "Otadum" Redgram was also sown in drills with Vargau; castor with cholam. In some poor Punjab lands which yielded only one crop annually cumbu, cholam, red gram, caster and three or four pulses used to be broadcast together so that if one failed, the loss might be made up partially by the produce of the remainder on good black soil, cotton alone was frequently grown, but not in any appreciable area. Groundnut and indigo were little grown in the region.

Cultivation System

In areas commanded by tanks, a paddy crop succeeded by ragi, cambu, or gingerly was usually cultivated. In garden lands, tobacco, chillies, or turmeric was raised and this was succeeded by

either ragi or cholam. In irrigated lands panivaragu was also occasionally sown. The grain was believed to “heat” the body too much and was not used daily as a food grain. In the taluks of Ariyalur and Lalgudi sugarcane was extensively grown. The variety cultivated gave very small and then canes seldom thicker than cholam stalks. This variety was believed to be sweeter and better adapted to the soil than any of the thicker varieties of cane.

Samba and Kar paddy are the staple produce of the irrigated taluks. Samba was planted in September and harvested in February and was generally succeeded by a crop of Valan. This was sown in April and reaped in August, and was grown exclusively as an article of food for the labouring classes. It requires but little care in cultivating and was well adapted to the low level of that tract of country, which was continually under water during the south-west monsoon. In some cases the land was not even ploughed after the harvest of samba crop and it was suitable to merely trodden in and the valan planted immediately.

In Lalgudi and Musiri and part of the Conad taluk, two crops of Kar or one of samba succeeded in some localities by cholam, cumboo, gingelly oil seed or indigo were grown. Coconuts are extensively grown in irrigated lands, and in the neighbourhood of Tiruchirappalli town.

The following extracts from the report of Mr. Wallace, collector of Tiruchirappalli, from his letter dated March 12, 1804 regarding cultivation of Valan will be of interest.

“In the western villages of Tiruchirappalli which border close on the Cauvery, advantage is taken of the little water remaining during the hot months in the river so as to produce a considerable crop of paddy at a period when the surrounding countries are parched and unproductive. This crop is called Valan. The cultivation commences in February and continues during the months of March, April and May. From the period of sowing to that of reaping four months generally elapse, so that the Valan sown in February and transplanted in March will repeat in May”.

Thus, according to Mr. Wallace, Valan was cultivated in 1804 during the four months commencing from February. But according to Mr. Puckle this was cultivated from April to August in 1862-63. He added “The Valan cultivation has been gradually decreasing in extent since Fasli 1212 (1803-1804).

In F. 1212 (1803 - 04) the decrease was 2,722 cawnies.115

In F. 1213 (1804 - 05) the decrease was 2,986 cawnies.

In F. 1214 (1805-06) the decrease was 11,718 cawnies.

The following are extracts from the report of the collector of Tiruchirappalli sent to the Saidapet Farm committee in the year 1865.

“This district is chiefly, a rice producing one. Paddy, ragi, varagu, Kambu and cholam which are grown throughout the district may be fairly called staple products. Pulses of different kinds are produced in abundance”.

A large number of varieties of plantains are grown in this district. The commonest are “Rastali”, “Mondan”, “Laddan”, “Puvan”, “Peyan”, and Raja-Valli”. The Rastali is for the most commonly grown and is largely exported. Plantain cultivation generally begins in March or April.

The area under betal was not very large, but along the banks of the Cauvery the gardens are conspicuous. Two varieties of the betal are grown; namely, the white or karpura betal and the black.

Wet Cultivation

Generally cultivation is broadly distinguished into “Wet” or “irrigated” and “dry” mainly on the basis of the character of the irrigation source. Lands irrigated by the rivers are of the best description for wet lands. They consist of loamy and sandy regar principally, a smaller proportion of clay soil, and a very small quantity of red loam or sand. They command excellent means of irrigation, the supply of water being kept steady. The freshes at certain seasons of the year bring down alluvial deposits which tend to fertilize the soil.

The wet villages are grouped according to the character of the irrigation source, whether from an anaicut (i.e. a system of channel distributing water from a river confined by a weir) or from a tank which always has water or from a more precarious source. These distinctions found obliterate differences caused by situation. In the “wet” groups the “series” and “class” of soil remain as before, but the “sort” gradation is replaced by three or four distinctions based on the greater or less advantage of level, drainage for irrigation purpose.

For the law and order “wet land” has been clearly defined. Lands which are registered as wet lands, lands from which water could not be excluded and wet lands deliberately rendered unfit for wet cultivation not because of supply of water is insufficient, but because the growing of dry crops is more profitable will be included in the term “wet lands”. Fields after registration as wet lands found unfit for wet cultivation may be transferred to dry lands.

In Tiruchirappalli District there was an extent of 156453.14 acres of wet lands with single crop and double crop. Wet compound ordinary crop and compound favourable crop was grown.

Cultivation of wet lands irrigated from the Cauvery begins with the receipt of freshes in the river i.e., about the middle of June. Except in Kulithalai and Musiri taluks Kuruvai¹¹⁸ was raised and followed by samba.¹¹⁹ In the Kulithalai and Musiri taluks, another short duration paddy was cultivated from February to April. The yield from the latter was generally poor, in portions of Karur, Musiri, and Tiruchirappalli betel-vine and in Karur turmeric formed additional crop with paddy. With the receipt of the north-east monsoon the cultivation of paddy in tank-fed wet lands began about the beginning of October. Seed-ling’s were generally grown wherever there were facilities.

In areas commended by tanks, a paddy crop succeeded by ragi, cumbu, or gingelly well usually cultivated. Panivarahu was also occasionally sown. In the taluks of Ariyalur and Lalgudi sugarcane was extensively grown. In irrigated lands, Samba paddy was succeeded by a variety of course paddy called valan. Coconuts were also grown extensively in the neighbourhood of

Trichy town.

Dry Cultivation

Lands irrigated by rain and tanks can be brought under dry cultivation. The soil is generally loamy intermixed with white grey and calcareous elements. Portions there of interspersed with pebbles yield good crops as they retain considerable moisture which serves the purpose of manure. Dry land is assessed as the supposition that it yields one crop and if time permits it yields a secondary dry crop. Two third of the soil of the dry tract consist of ferruginous soil. Most of the lands under dry cultivation situated in the following taluks such as Udayarpalayam, Perambalur, Kulithalai and parts of Musiri.

The best season for the sowings in the dry lands was July - August failing which September was the next best. When the transitional rains are received, the sowings continue till the end of October.

Dry lands were said to be sown with cumbu succeeded by cholam or a mixture of several crops such as cotton, castor and varagu which were all grown together under the name of "Otadum".¹³² Red gram was also sown in dills with varagu: castor with cholam. In some poor Punjan¹³³ lands cambu, cholam, redgram, castor and three or four pulses used to be cultivated together. So that, if one failed the loss would be made up partially by the produce of the remainder. On good black soil, cotton alone was frequently grown, but not in any appreciable area. Groundnut and onion were little grown in the district. In the case of less valuable dry lands, only one crop was raised every year. They were cultivated with gingelly oil-seed in the first year, horsegram next and varagu or cumbu in the third year.

Garden Cultivation

The garden lands are of superior quality. The soil is generally loamy and black and at the same time it is very difficult to describe the pucca quality of the soil. For the purpose of administration and assessment lands which purely depend upon rain and sometimes on private tanks are garden lands. In the Deltain tract they are termed as permanently improved dry lands or olaperi lands. The cultivation carried in garden lands is called as garden cultivation.

Garden lands are scattered throughout the Trichy district and the total area under the term "garden lands" have being increasing due to the advancement in agriculture. In that point of view, point tube wells rank the first place.

In garden lands, vegetables, combodia cotton, ragi etc., formed the chief crops. Paddy was also cultivated in some places. As the cultivation depends on well irrigation, there was no regular season for these crops, but the sowings were so adjusted that the growth of crops may be profited by rainfall and the need for irrigation minimise. In the areas of Karur, Tobacco, Chillies and turmeric were raised and these were succeeded by either ragi or cholam.

The cultivation in garden lands by rotation was almost the same as wetlands. It was carried on every year. Ragi, Cholam, Cumbu were the first crops and samba or brinjal, sweet potato, tobacco or chilly were the second crops.

Manures

Literally, manure means animal waste from stables and cow bars or, other material natural or artificial spread over or mixed with the soil to make it fertile. Artificial manure is called fertiliser.

In wet lands, under river irrigation manure was' seldom used, as the alluvial deposits left by the Cauvery water which was considered to be sufficiently fertilizing. In the case of lands situated remote from channels and of those are watered from the surplus drainage of other fields, and of other localities, fifty bundles of leaves and penning flocks were the means adopted to manure the soil. A portion of the indigo crop raised was not reaped, but ploughed up with the earth and trodden in. During the freshes, the Cauvery water contained silt to the extent of not less than fifty grains per gallon. Several tons of silt used to be deposited annually per acre.¹⁶³ the wetlands were measured by sheep as well as with leaves and twigs of which there was an unlimited supply in the neighbourhood of nearly every village and in the same manner garden lands were manured.

It was stated that there was an abundance of manure both for dry and wet lands in these taluks in which dry lands predominate. The large open plains provided pasturage for numerous flocks of sheep which were kept solely for their manure and wool. The cattle were penned up at night of during the cultivation season cattle droppings and ashes were also used.

Agricultural Operations

Agricultural Department played a major role in agricultural operations carried on in Trichy district. They introduced improved strains: Propagated improvements on paddy cultivation; undertook steps to reduce the seed rates; provided ideas for the better utilisation of manures; initiated the adoption of mechanised farming; hired out oil engines and Diesel pump sets and electric motors etc.

In Trichy district peasants usually start sowing in the month July and that will continue till December. This may vary according to the variation of crops cultivated like paddy, cumbu, ragi, cholam, varagu, samai, korra, horsegram, sugarcane, gingelly, groundnut, cotton, tobacco etc. Harvest commences from January and continues till April. The same thing happened five decades ago.

Nellore samba was the main variety of paddy that was cultivated in the Cauvery valley: A strain [ADT. 11] of this was introduced in this district three decades ago and 75 per cent of the total area under paddy was covered by the strain which yielded 10 to 15 per cent more than the local seed and had come to harvest a fortnight earlier. Besides this, kitchili samba [GEB.24], sadai samba [Co.7] poombalai [Co.2] strains, etc., suitable for garden and tank-fed wetlands have been introduced very successfully.

Cultivation of combodia cotton, which was a numerative and commercial crop was introduced and was undertaken in almost all taluks. As it required only a few irrigation during its growth, it suited well for garden lands. It was cultivated in dry lands also with varying degree of success.

A strain called CO.5 was introduced in the black soil areas to replace the uppam and nadam cotton types, as the yield of the latter was very poor both in quality and quantity.

High yielding, long duration spreading varieties of groundnuts like TMV 1 and TMV 3 and Short - duration bunch variety of TMV 2 were introduced and were popularised.

The new Coimbatore varieties of sugarcane varieties CO.419, CO.527 and CO. were introduced and have almost replaced the old local canes and also varieties like J.247, FIJB etc.

In the side of technical improvements light and efficient iron ploughs for making food pudle and paddy fields like copper 25, PSG. 6 and 10 ploughs were introduced. In the garden lands, labour saving economical implements like Bund Former for forming hedge, Ridge plough for forming ridges in sugarcane and cotton field and Junior Hoe for inter - cultivation were also introduced. The popularisation of these improved implements was pushed rapidly by the help of Takkavai Loans. Adoption of mechanized farming was another great stride in improving agriculture. Tractor ploughing became very popular and the bulldozers were in great demand for reclamation of wastelands, levelling of lands, destiling of old tanks, etc. These machines were hired out to the spots at cheaper rates by Agricultural department and they supplied oil - engine pump-sets and electric motors under the hire - purchase system.

In the case of manures, cattle manure being the best manure, the agricultural department impressed ryots mentioning the importance of conserving and preserving this by the loosebox and dry earth system. Green leaf manure was gradually found favour among wetlands owners, as it saves them a lot of trouble and money. Ryots well understood the advantages of the application of Phosphetic and nitrogenous manures but owing to world - wide depression and low prices for agricultural products, the use of these had become restricted. Later, indigenous organic manure had been made very popular and was applied in large quantities to paddy, sugarcane, plantains etc. Ammonium Sulphate and Super Phosphate had become popular and were used for paddy at 15016 and 18016 per acre respectively.

The pattern and practices of agriculture to a very large extent depended upon the mode of Irrigation. So the agricultural practices and the irrigation are two dependable variables in determining the agrarian social structure.

Rotations

Wetlands

The practice of cultivating crops by rotation existed here and was carried every year. The number of crops thus raised was generally two, and occasionally three.

First Crop	Second Crop
Kar	Kodaikal
Ragi	Peshanam
Valam	Indigo or Onions
Peshanam	Peshanam
	Peshanam
	Gingelly

If the second crop be harvested in time and there be moisture in the ground, a third crop called Vayalpayar was raised. The latter was kind of grain which takes forty days to grow.

Sugarcane, indigo and saffron generally take a whole year to grow. Plantation and betal will stand for three years. When the crops were harvested, the land was not cultivated with the same crop immediately afterwards, for one or two years. Paddy or other grain was raised and then the ryots resume the cultivation of the above said valuable products called vampire.

Dry Lands and Soil

In valuable lands any one of the higher descriptions Viz., ragi, cholam and kambu was grown first and varagu after wards or vice - versa. Pulses of different kinds are sown together with the higher description of dry cultivation. This rotation in the same year was generally carried on when seasonal showers had fallen.

In the case of less valuable lands, only one crop was raised every year. They were cultivated with gingelly oil seed in the first year, horse gram next, and varagu or kambu in the third year.

Manures

In wet lands under river irrigation manure was but seldom used, as the alluvial deposits left by the Cauvery water was considered to be sufficiently fertilizing. In the case of lands situated remote from channels and of those watered from the surplus drainage of these fields, and of other localities, fifty bundles of leaves valued at eight annas and penning flocks of sheep at an average cost of eight annas per acre, are the means adopted to manure the soil. A portion of the indigo crop raised was not reaped but ploughed up with the earth and trodden in.

The large open plain affords pasturage for numerous flocks of sheep which are kept solely for their manure and wool, the latter of which was used in the manufacture of cumblies. The cattle are penned up at night during the cultivating season.

These lands are manured by sheep as well as with leaves and twigs of which on abundant supply can be had in the neighbourhood of almost every village. In Valikondapuram and Thuraiyur where totakal cultivation was chiefly carried as each village has manure pits in which all ashes, sweepings and droppings of the cattle are, deposited and carted to the fields in the cultivating season. These are used in addition of the sheep manure and leaves.

During the year 1846 - 47 caption E Lawford, Civil Engineer, Tanj ore examined the irrigation sources of this district and gave reasons for decline in wet cultivation noticed there. According to him one cause for this decline was the inefficient state of the works of irrigation which since the cessation of the native Government have never received the improvements they have required.

CONCLUSION

The practice of wet cultivating crops by rotation existed and the same was carried on every year. The number of crops thus raised was generally two, and occasionally three. Kar, ragi, valan Peshanam were first crops. Kodaikar, Peshanam, onion, gingellyo were the second crops.

If the second crop was harvested in time, and if there was moisture in the ground, a third crop called vayalpayar was raised. Sugarcane, onion and saffron generally take a whole year to grow. Plantation and betel stand for three years. After harvesting, these crops lands were not cultivated with the same crop immediately afterwards for one or two years.

Notes and References

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6. Valan - a coarse beaved grain peculiar to the Vetticutti taluk and the western extremity of conad.
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8. One Cawney is 1.32 acres.
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11. G.O. No. 373 (MIS.), **Op. Cit**, p. 16.
12. Short duration paddy.
13. Paddy Crop with six month duration.
14. A Statistical Atlas of Madras State during 1950-51, Madras, 1961, p. 332.
15. Parnivarthu – a food grain which was not used as a food grain daily, This grain was believed to “heat” the body too much.
16. Valan – used as food by the poor classes of people.
17. R. Rathnam, Agricultural Development in Madras State Prior to 1900, Madras, 1966, p.47.
18. Vayalpayar - a kind of grain which takes forty days to grow.
19. R. Rathinam, **Op. Cit.**, p.49
20. B.H. Baden - Powell, **Op. Cit**, p.205
21. A Statistical Atlas of Madras State during 1950-51, Madras, 1961, p. 333.
22. Otadum is a Tamil word Meaning, “Together”, seeds of all the Crops mentions were mixed and sown.