

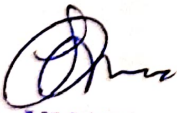


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# Agriculture in Sangam Literature

Dr.V.Parimalam

Assistant professor in Tamil Literature

Nallamuthugounder Mahalingam college , Pollachi, Tamilnadu  
India

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## Abstract

Agriculture in Sangam Literature, a cornerstone of ancient economy and society . It is the **primary occupation and a highly revered profession**. This abstract explores the multifaceted portrayal of agricultural practices, land management, water management, weeding Ploughing etc .The literature helps to understand farming, land classifications (Thinai) , specific crop cultivation—especially paddy in fertile Marutham plains, and various millets in Mullai and Kurinji regions. Detailed descriptions highlight advanced techniques such as systematic ploughing, transplanting, manuring (using green leaf, farmyard, and sheep penning), and meticulous water management through tanks and canals. Furthermore, the texts provide evidence of intercropping (e.g., cotton with millet, foxtail millet with lablab), crop rotation, and an awareness of soil fertility maintenance. a wide range of crops including sugarcane, cotton, spices (pepper, ginger, cardamom), pulses, fruits, and oilseeds were cultivated. Socially, farmers (*Ulavar*, *Vellalar*) held high esteem, and royal patronage for agricultural development plays a vital role in state prosperity. This also reveals that in Sangam period agriculture was a well-developed, sustainable system, reflecting deep ecological knowledge and contributed to nations prosperity.

## Keywords

Agriculture, Sangam literature, Food, Classification of Lands, Ploughing, Weeding, Water management

## Introduction

Food is the basic need of human life. In Food production Agriculture plays the vital role from Sangam age (700 BCE – 100 CE) in the Tamil country, forming the backbone, mainstay of the economy. The word agriculture is derived from the word 'banyan, "which means' to give." The word agriculture means "to care for others willingly." The word Agriculture is derived from the Latin word agricultura. Agriculture has played an important role in the socio-economic transformation of the world and also in the development of the country. Farmers, known as *Ulavar*, held a high social standing, even at the top of the social classification, due to their essential role as food producers.

## Agriculture in TamilNadu

The Tamils divided the land into Kurinji, Mullai, Marutham, Neithal and Palai according to the natural formation. Kurnji the mountainous region Characterized by high peaks, small hills, dense forests, irregular routes, and various geological layers. It is a land of high rainfall and cold climate. Therefore suitable mountain paddy was grown here. Mullai land is Characterized by dense forests, grasslands, pastures, and often featuring small ponds or lakes within the forest. This land is used for grassing the cows, buffaloes etc. Marutham (Agricultural Land) was the most fertile region, characterized by rivers plains, ideal for intensive cultivation. The area is highly irrigated and produces paddy and sugarcane. That is why this variety of paddy was grown more in Marutha land. Neithal (Coastal Region) is associated with fishing and salt manufacturing, but some forms of agriculture might have been practiced .Palai (Dry Lands/Desert) is Formed when Kurinji and Mullai lands became parched due to lack of rain. Limited agriculture, often involving hardy grains and wild varieties. Water, nutrients, soil, amount of rain, temperature, etc. are the reasons for the flourishing of plants and crops. They also knew that if there was a change in the crops, in certain land the

consequences could be bad. The Tamils realized that they could not grow all the crops in all the lands. It is not possible to grow rice on barren land.(Purananuru 328). Farmers understood different soil types (e.g., fertile *Menpulam*, hard *Vanpulam*, dry *Pinpulam*, salty *Kalarnilam*) and crops were cultivated suited for each land.

The nature of the land Kurinji and Mullai are waterless areas. It was called the swamp. The artificial water-rich areas that do not receive irrigation facilities naturally are called Punpulams. The land that is not used for agriculture is called barren land. The soil is well drained and the crops such as maize, grow which shows that the land would be more fertile. "Wherever it whirls, the world must follow the farmer. Thus, despite hardships, farming is the best (profession)-1031. "Farmers are the linchpin of the world, for they support all others who cannot till (the soil)." Farmers are depicted as the essential pillar holding up society, providing sustenance for everyone, including those in other occupations"-1032 says Thirukural. This couplet highlights that all other professions and sectors ultimately depend on the output of agriculture.

## Ploughing

Agriculture is a vital part of the economy. Ploughing was done using oxen-drawn ploughs. Farmers prepared the soil before the monsoon to ensure proper seed sowing.Tolkappiyam refers to ploughing as an essential seasonal task, based on soil type and crop.Lands were ploughed with oxen, often deeply and multiple times. They knew that by tilling the land, the soil would be more aerated and crop germination would be increased. The term "Palliyadutal" refers to weeding using a toothed implement drawn by oxen. They alone truly live who live by the plough. The rest must stoop and trail behind, eating what others give." This emphasizes the dignity and self-sufficiency of a life based on farming, contrasting it with the dependence of other occupations-1033. They knew that it was better to go deep than to go wide. Also large clays should be ploughed so that they become powder. In the early morning after the rain, he goes to the field and ploughs the field several times so that the soil is deep and wide before the moisture dries up. Once ploughing was classified as single ploughing, twice ploughing as double ploughing and many times ploughing was carried out by farmers. They Know that ploughing is best practice than manuring. "If ploughed and dried to one-fourth its size (thoroughly), the soil yields plenty without even a handful of manure."says thirukural. 1037"If ploughmen fold their hands (stop cultivating), even the desire-free hermits (renunciates) will lose their state (of detachment)." 1036. This powerful statement illustrates that even those who have renounced worldly desires cannot escape the fundamental need for food, which only farmers can provide.

## Weeding

Weeding, the process of removing unwanted plants that hinder crop growth, was an important aspect of agriculture in ancient Tamil society. Sangam literature provides indirect references to weeding activities, showing the attention farmers paid to maintaining healthy crops. In traditional Tamil farming, manual weeding was essential to ensure proper growth of paddy and other crops. Weeds competed for nutrients, water, and space, and removing them improved crop yields. Weeding was done by hand or with simple iron tools, often by women and labourers. Sangam texts such as Purananuru, Akananuru, and Kuruntokai describe scenes of cultivation where weeding is implied during the growth phase of crops. Akananuru refers to women working in paddy fields, removing weeds and tending to the crops while singing songs. This shows the communal nature of weeding and its cultural significance.“.

‘she bends to pull the weeds from the water-filled field, her bangles jingling...”says (Akananuru). In Kuruntokai, farmers are described working with care and attention during crop growth, suggesting activities like weeding and irrigation. Though more of a grammatical and ethical text, Tolkappiyam mentions the division of agricultural work, which includes "Velanmai" (farming duties), indirectly covering aspects like weeding and field maintenance. Grains were harvested using

sickles and stored in granaries (kalanjiyam). Women played a key role in harvesting and grain collection.

## Water management

The prosperity of the ancient Tamil kingdoms—the Cheras, Cholas, and Pandyas—was related to the fertility of the land, which depends on the management of water resources. The poets of the Sangam period frequently praised kings not just for their bravery in battlefield but for their wisdom in constructing dams protecting river to flourish rain water to nourish the fields. In Sangam period it was the duty of the ruler to supply water for agriculture. A failure of the monsoon or a decline in agricultural yield was often seen as a direct consequence of the king's misrule. The poet Kudapulaviyanar, in the Purananuru, advises the Pandya king Nedunjeliyan that those who control water and ensure its supply to the fields are the ones who will secure their name and glory in the world. The kings knew that food supply can be achieved only through irrigation. The ancient Tamils developed a variety of sophisticated techniques to suit the diverse geography of their land, from the fertile river deltas to the drier inland plains.

**Tanks and Reservoirs (Eri, Kulam)** The tank irrigation system was the cornerstone of water management, especially in regions not fed by perennial rivers. Tanks were large, man-made reservoirs designed to store monsoon runoff. **Eri:** These were large tanks that often had long, earthen bunds. They were crucial for irrigating vast tracts of land. **Kulam:** A more general term for a tank or pond. **Oorani:** These were smaller tanks, typically located near settlements, primarily intended to supply drinking water for the community. The Sirupanchamulam, a post-Sangam text, lists excavating tanks as one of the five great deeds that could lead one to paradise. **Canals and Channels (Vaykkal)** To transport water from rivers and large tanks to the agricultural fields. **Perum Vaykkal:** Main canals that drew water directly from a river or a large reservoir. **Siru Vaykkal:** Sub-canals or branch channels that distributed water from the main canals to smaller areas. **Madai / Kumili:** These were sluices or vents built into the banks of tanks and channels. They were cleverly designed with stone mechanisms to regulate the discharge of water, ensuring an equitable and controlled supply to the fields. **Check Dams (Anicut / Karsirai)** Check dams were low barriers built across streams and small rivers. Their purpose was not to stop the flow entirely but to slow it down, raise the water level, and divert it into nearby irrigation channels. The Sangam literature uses the term karsirai for these structures, with one poet comparing a warrior blocking an enemy's advance to a check dam holding back a floral river. The Kallanai the most celebrated and enduring monument to Sangam-era hydraulic engineering is the Kallanai (or Grand Anicut), built by the Chola king Karikala around the 2nd century. Constructed across the main branch of the Kaveri River, the Kallanai was designed to divert floodwaters into the fertile delta region for irrigation, preventing the water from running wastefully into the sea. It is a massive dam built of unhewn stone, over 329 meters long and 20 meters wide. Its construction in running water, without modern equipment, is considered an engineering like the Kallanai and the digging of major tanks were typically sponsored by kings. The Chola king Rajendra I, for instance, created a massive irrigation tank named Cholagangam, described as a "liquid pillar of victory." The day-to-day management and maintenance of these water bodies were a community responsibility. This system, known as Kudimaramathu.

## Harvesting

The Harvesting in the Sangam period was the culmination of a year's hard work and a time of both intense labor and joyous celebration. Sangam poems say about sounds used in the time of harvesting and seasons of harvesting. The process of harvesting was systematic and involved several stages, often depicted in poems describing life in the Marutham (agricultural plains) landscape.

**1. Reaping (Arithal):** When the crops ripened, turning the fields to a sea of gold, the harvest would begin. The primary tool for reaping was the sickle (arival). A tool named senyam is also mentioned specifically for harvesting rice. While strenuous tasks like ploughing were done by men

(uzhavar), women actively participated in lighter work, including reaping the ripe crops. Example: Harvesting Paddy (Nel). The most important crop was paddy. Poems in the Purananuru and Akananuru describe how farmers would enter the fields with their sickles to cut the stalks of rice. The harvested sheaves would then be bundled and carried from the fields.

**2. Threshing** (Por Adithal) Once reaped, the grain had to be separated from the stalk. This was a major communal activity that took place on a specially prepared patch of hard ground called the kalam (threshing floor). The Beating is used for separating grains. For smaller quantities, farmers would simply beat the sheaves of grain against the floor or a hard surface. Treading by Cattle is common method to spread the harvested stalks on the kalam and have cattle (oxen or buffaloes) walk over them in circles. The weight of the animals would separate the grain from the husks. For very large landholders and kings, the task was sometimes performed by elephants, a symbol of immense wealth and a bountiful harvest. Example: The Threshing Floor in Action A poem in the Perumpanattupadai describes the threshing floor. The sound of the farmers singing as they guide the bullocks, the sight of the grain piling up like a small hill, and the dust rising in the air create a powerful image of agricultural prosperity. The poem details how the separated grain is heaped up, ready for the next stage.

**3. Winnowing and Measuring** :After threshing, the grain was mixed with chaff. Women would use a winnowing fan (muram) to toss the grain into the air. The wind would carry away the lighter chaff, leaving the heavier grain to fall back down. Measuring and Storing: The clean grain was then measured and stored in large granaries or clay pots for future use. A portion of this, typically one-sixth, was given to the king as tax (irai). A Tapestry of Crops While paddy was central, other crops had their own harvesting methods.

Sangam literature describes the harvesting of sugarcane and the use of mechanical presses to extract the sweet juice, which was then boiled to make jaggery. This points to a knowledge of food processing. A staple in the hilly Kurinji lands, the ears of millet were harvested and the grains were separated by having farm workers stamp on them. The harvested stalks of black gram were beaten with a stick to release the pulses.

The successful completion of a harvest was a cause for immense celebration and gratitude. These celebrations are considered the ancient precursors to the modern festival of Pongal. During the Sangam era, young women observed a ritual called Thai Niradal in the month of Thai (January-February). They would pray for abundant rain and a rich harvest for the country. The harvest festival was a time for feasting, with the newly harvested rice being cooked and offered to the gods, ancestors, and the community. It reinforced social bonds and expressed collective gratitude to nature for its bounty. The detailed portrayal of harvesting in Sangam literature underscores its central importance to the economy, culture, and social fabric of the ancient Tamils.

## Manure

The farmers of the era had a strong understanding of the importance of **manuring** for maintaining soil fertility and ensuring good crop yields. While they may not have had a scientific understanding of nutrient cycles as we do today, their practices were highly effective. The Thirukkural, a seminal work of the Sangam period, explicitly states the significance of manuring. One couplet (Kural 1038) lists manuring as a crucial task for a farmer, alongside ploughing, transplanting, irrigation, and crop protection. Another kural (1037) suggests that **manuring is more important than ploughing**, and crop protection is more important than irrigation – highlighting adding nutrients to the soil. **Green Leaf Manuring**: This involved incorporating green plant material into the soil. This practice helps add organic matter and nutrients back to the soil. **Farmyard Manure (FYM)**: Animal dung, primarily from cattle (which were essential for ploughing and highly revered), was widely used. This would have been a rich source of organic matter and essential nutrients. **Sheep Penning**: This involved confining sheep to a field for a period, allowing their droppings and urine to fertilize the soil directly. This was a direct and efficient way to enrich the land with animal manure. The Sangam texts show an awareness that soil fertility was not static and needed to be actively maintained. The mention that "if land is ploughed deep and soil allowed to dry to one fourth weight, even manuring is not necessary" (Kural 1037) suggests that farmers understood the benefits of proper soil preparation and

aeration, which could sometimes reduce the immediate need for manure. However, the overarching emphasis remained on the regular application of manure for sustained productivity. The consistent use of these manuring techniques would have contributed to the general surplus of agricultural produce mentioned in Sangam literature. Farmers understood that enriching the soil directly led to better harvests.

### Crop protection

Crop protection in the Sangam era primarily involved safeguarding crops from livestock, wild animals, and birds. Vaazhmul Velil (வாழ்முல் வேலி Live Thorn Fence): This involved planting tree branches that would sprout and grow into a living fence. Idumul Velil (இடுமுல் வேலி Laid Thorn Fence): This method used cut thorny bushes arranged as fences or barricades. During the day, crops were protected from birds. At night, protection was focused on deterring animals. It's noteworthy that the Sangam people aimed to scare away animals and birds rather than harming or killing them, showcasing a deep respect for nature. Sangam society adopted a lifestyle that was in harmony with nature, causing no harm to the environment.

### Agriculture Techinques

**Crop Rotation:** Practiced to maintain soil fertility and nutrient balance. An example cited is growing black gram (urd) after rice, which we now know helps in nitrogen fixation in the soil. This involves cultivating different types of crops in a sequence on the same piece of land over consecutive growing seasons. Soil Fertility and Nutrient Balance: The primary benefit, as recognized even today, is the maintenance of soil fertility. Pest and Disease Control. Rotating crops disrupts the life cycles of pests and diseases that are specific to certain crops

**Mixed Cropping:** Cultivating multiple crops simultaneously in the same field. For example, foxtail millet with lablab, or cotton with other crops. This provided a balanced diet (starch from grains, protein from legumes) and diversified risks. This involves cultivating two or more crops simultaneously on the same plot of land, with seeds often mixed before sowing.

**Intercropping:** Growing short-duration crops like ginger and turmeric in plantations of longer-duration crops like coconut and jackfruit.

The Sangam literature clearly shows that agriculture was the most important thing in ancient Tamil society. It was the main way people lived and got their food, and it made the whole kingdom rich and stable. The texts tell us that people in the Sangam age had a smart and eco-friendly way of farming: Farmers were highly respected. They were seen as the backbone of society because they provided food for everyone. They used natural farming methods, like animal manure and natural fertilizers, to keep the soil healthy. They were experts at managing water, building tanks and canals to ensure crops always had enough. They protected their crops without harming animals, using fences and scaring tactics instead of killing. Their farming practices were in harmony with nature, making sure the land stayed fertile for a long time. In short, Sangam literature teaches us that agriculture was sustainable and key to a thriving society. It highlights how important it is to work with nature, a lesson that's still very relevant today when we think about how we grow our food.

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