



Decline in Paddy Cultivation

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Summary: *Land reforms have been touted as the reason for the decline in paddy cultivation in the state of Kerala. Are they the only reason for the decline?*

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The landscape of Kerala is such that we do not have enormous, flat tracts of paddy fields like in other states. Archaeologist Jenee Peter says that most of the paddy fields in Kerala are old river beds, accounting for their undulating shape.¹ Once, paddy fields used to dot the countryside. Not anymore. A decline in paddy cultivation and large areas lying fallow are a common sight at present.

According to Mary Thoman, 60s, who works as an agricultural labourer at Kannankuzhisherry, Ernakulam:

Nowadays, there is no paddy field-related work. I plant tapiocas, banana trees, and cowpeas. Currently, these are the crops planted in existing paddy fields.²

This essay looks at the various factors that have led to the current state of decline in paddy cultivation in Kerala through oral narratives of two farmers—one from Idukki and another from Alappuzha,—and a farm labourer from Ernakulam.

History of Paddy Cultivation

Paddy was widely cultivated in Kerala, according to Manipravalam literature.³ It was a major food crop. However, paddy cultivation was fraught with difficulties in the state. Historian Raghava Varier mentions that paddy fields in Kerala were scattered among hills and mountains. Hence, it was always difficult to make a profit from paddy cultivation. “From the time of the Perumals, there have been efforts to cultivate paddy in different ecological conditions because of this scarcity of rice.” (p. 61)

He notes that both Claudius Buchanan in the 19th century and Chinese travellers before that period remarked that the paddy fields in Kerala were not very fertile. Though

there were farmers who managed to produce excess product, Varier mentions that paddy may have been imported to Kerala in the past.



Figure 1. Pounding of Paddy in Malabar in colonial times. Image: University of Southern California Digital Archives (USCDA), 1860-1960

Agriculture, especially paddy cultivation, was not enough to sustain joint families in Kerala from the nineteenth century. Robin Jeffrey writes that by the late nineteenth century, people realised that growing coconuts could yield more profit for less work than paddy. The move to coconut farming became such a crisis that the Travancore government had to prohibit those cultivating the Maharaja’s personal land from converting paddy fields into coconut groves.

Paddy as Monetary Medium

In the past, before modern currency came to be used, paddy was given in lieu of salary for work rendered or as part of lease agreements and land tenure.

Mary Thommen, who has worked as an agricultural labourer her whole life, spoke of the earlier generations of her family receiving paddy as wages:⁴

¹ Peter, Jenee. ‘Kerala’s Wetlands and the Holocene Climate’. YouTube. Janal Talks. Accessed 16 March 2024.

<https://www.youtube.com/watch?v=7b9G4dplxCU>.

² Interview with Mary Thoman at Kannankuzhisherry on 16 November 2023.

³ Varier, M.R. Raghava. *Madhyakalakeralam: Swaroopaneethiyute Charithrapatanga*. Kottayam: Sahitya Pravarthaka Co-operative Society Ltd, 2014.

⁴ Interview with Mary Thoman at Muzhikulam on 16 November 2023.

I have heard that during the time of my grandmother, they used to be paid in the form of paddy (unprocessed rice). There was a measuring vessel called *edangazhi*. Two–three *edangazhis* of paddy were given for one day’s work. If they had worked till the afternoon, then they would get one *edangazhi*. The workers would hold out their *nadan mundu* (tied around the head), and the paddy would be poured into it and brought home. This paddy would either be boiled, dried, and made into gruel or given to shops in exchange for whatever currency was in use. The currency was used to buy things needed for a household, like meat, fish, milk, and other items. The paddy was taken by shopkeepers or rice mills. When a family had 50 to 100 kg (earlier measured in *para*), they would sell it. One could even buy clothes since workers were not given clothes by the landowners. Only paddy was given.



Figure 2. Mary Thoman at work in Kannankuzhisherry, Ernakulam. Image: JANAL Archives, 2023

Types and Processes

Due to wide-ranging soil conditions and the differing availability of water resources, different types of paddy cultivation existed in Kerala.

A few of the well-known paddy cultivation methods are mentioned below.⁵

Kaipad Fields: These are fields in areas like Kattampally in Kannur district, where paddy is cultivated in fields filled with saline water.

Pokkali Fields: Found in the Kochi area, farmers alternate the cultivation of prawn with paddy cultivation in these fields.

Kole Fields: Located in Thrissur and Ponnani, these fields lie in low-lying areas prone to flooding, and the agricultural practices are adapted to these conditions.

There were also other kinds of systems followed in Meppayar fields in Kozhikode, known for their traditional methods, and Kabani fields in Wayanad, adapted to the local geographical and ecological features.

Vasudevan Namboothiri, 70s, Puliyanam, whose family used to own paddy fields in the past, mentioned:

There was a variety of rice that was cultivated on high ground. This variety, called *karanellu* (paddy planted on land), did not require to be planted in water. They could be sown just like that.⁶

Paddy can be cultivated three times a year. *Virippu* (autumn), *mundakan* (winter), and *punja* (summer) crops are the three seasonal cultivations. Mary Thoman, an agriculture labourer, explained the process:

In my childhood, there used to be three paddy harvests a year. We would plant the seeds in mud and wait for the seedlings to grow. Once they are grown, we tie a few together into a bundle. This work will take a day and take up an entire section of the paddy field. The next day, the tied bundles are planted. We start work from one edge and go down the row in the mud. When the plants grow, we add the required water and fertiliser. We also remove the weeds growing among the paddy. Then, we add another round of fertiliser. In three months, the plant would be ready

⁵ Thomas, Jayan Jose. ‘Paddy Cultivation in Kerala’. *Review of Agrarian Studies* 1, no. 2 (December 2011): 215–26.

⁶ Vasudevan Namboothiri, 2023.

for harvest. When the rice appears, the panicles will bend down with the weight of the rice. After harvest, the field is filled with water and tilled.



Figure 3. A field being ploughed using cattle in Malabar. Image: USFDA, 1901-12

Not all fields can be cultivated three times a year. Traditionally, mundakan fields were cultivated the most. Justin J. Thayil, mid-50s, has been leasing a paddy field in his village, Purappuzha, for the past five years. He cultivates his field once a year, in November. He said:

We do a single season of cultivation. If there is too much rain, the field will be inundated, so we do not do two seasons. The lay of the land here does not allow for more.⁷

Moreover, he does not replant seedlings but rather sows the seed directly in the field to reduce labour.

Rice Varieties

Raghava Varier mentions that *Unnineeli Sandesam*, a 14th-century poetic work, mentions several varieties of rice being sold in the region: kuruva, chennellu, pongalli, aanakodan, chozhan, kaadan, modan, killiyara, and veeravithan (p. 44).⁸

⁷ Interview with Justin J. Thayil at Purappuzha on 17 January 2024.

⁸ Varier, 2014.

⁹ Vasudevan Namboothiri, 2023.

¹⁰ Ravikumar, Neethu, and Anooja Thomas. 'Compositional Analysis of Four Varieties of Rice –

Vasudevan Namboothiri, 70s, Puliyanam, mentioned a few other varieties that he remembered:

Now, rice cultivation is part of propaganda or advertisement, like in the case of pokkali rice. Not that people used to eat these varieties of rice regularly. The earlier seeds were varieties like Aryan. Later, IR-8 came, and we tried cultivating it in the '60s. The cooked rice was not palatable; it was too sticky. Then there was the variety called Jyothi, which lasted for a long time. The yield was high for that variety, and the rice was also tasty.⁹

Cheruvally, D1, Njavara, and Bhadra are some of the other varieties that are grown in Kerala at present.¹⁰ Historian K.N. Ganeshan mentions that in Ernakulam district alone there were 66 varieties of rice in cultivation, all of which are no longer in use.¹¹ Each of the three seasons of cultivation used a different variety. With the availability of high-yielding varieties, the older diversity disappeared.

Land Reforms and Paddy Cultivation

The transfer of land ownership to those no longer reliant on agriculture was one of the major factors underlying the failure of land reforms. And in most cases, the reforms were limited to paddy fields and did not affect plantation owners in Kerala. Commercial crops received a boost with the reforms effected in the late 1960s in Kerala.

When the state of Kerala was newly formed, the area under paddy cultivation had increased quite a bit, from 7,60,000 hectares in 1955–56 to 8,80,000 hectares in 1970–71.¹² Around 1965–66, rice was the most important crop in Kerala. It covered about 32% of all the land where crops were

Cheruvally, Njavara, D1 And Bhadra'. *International Journal of Advanced Research in Biological Sciences* 9, no. 5 (2022): 12–18.

¹¹ Ganesh, K.N. *Keralasamooham: Innu Naale*. Kottayam: Sahitya Pravarthaka Co-operative Ltd., 2012.

¹² Thomas, 2011.

grown. Unfortunately, starting in the 1980s, paddy fields started shrinking.

The breaking up of the plots of paddy fields following the land reforms made these fields less profitable. The agrarian labourers were given 4–10 cents of land around their hutment dwellings and large tracts of land were taken away from traditional paddy-land holding families. Most of the paddy farmers in the state had to contend with lesser area for paddy cultivation. The yield from a 1- or 5-acre field is not enough to maintain a farmer's family at middle-class living standards. Moreover, the farmer has to depend on other farmers for movement of water, soil, and bio-fertilisers affecting productivity.¹³



Figure 4. Uma variety of rice cultivated in a field in Muttar, Alappuzha. This paddy will be ready in one month and may yield up to 30 quintals per acre. Image: JANAL Archives, 2024

Tessy Sibi, 54, Muttar, said of the profit in paddy cultivation:

If we get a minimum of 35 quintals¹⁴ for one acre of land, we can make some profit. Since our land is not on lease, whatever profit or loss is our own. It is not the same for those who take land on lease because they must give the *pattom* (lease amount). Agriculture does not provide enough profit to make ends meet; it provides just subsistence. If we get a ₹50,000 profit, some of it would go into household expenses. For a farmer, it would not be enough to get

a daughter married off and cover other expenses.

Paddy Cultivation at Present

There has been a general decline in wetland cultivation—1.94 lakh hectares in 2021–22—marking a 3.9% decrease from the previous year. Production of rice also decreased, falling to 5.59 lakh tonnes and productivity to 2,884 kg per hectare, representing a decrease of 10.7% and 7.1% respectively, compared to 2020–21. Rice constituted approximately 7.69% of the total cultivated area in the state during 2021–22.¹⁵

Justin, mid-50s, Purappuzha, who has taken a paddy field on lease with a partner, gives one-third of the produce to the elderly couple who own the land. He has sown IR-8 in the field and spoke about the yield and processing:

Provided it is a good harvest, one acre of paddy field will yield 1700 kg of paddy. Last year, we got 1400 kg. So, if the yield is 1800, we will give the owner 600 kg.

If we have 50 kg of paddy, we will boil it one day and steam it the next day. Then, it has to be dried in the sun. Just about two days is enough. We will get about 35 kg of rice from the paddy. The husk can be given to cattle or chickens. The hay can also be given to cattle.

Justin uses the rice for consumption and not for sale. So, for him, the by-products are a plus. "Paddy crop not only provides food for the human population but is also a major source of fodder to the ever-growing bovine population in the state" (p. 12).¹⁶ Nevertheless, not every farmer has use for the hay. Tessy Sibi, 54, Muttar, whose land has been affected by floods every monsoon in the past few years, said:

¹³ Thomas, 2011.

¹⁴ 1 quintal = 100 kg

¹⁵ The Hindu Bureau. 'Area under Paddy Cultivation Falls in Kerala'. *The Hindu*, 3 February 2023, sec. Kerala. <https://www.thehindu.com/news/national/kerala/area-under-paddy-cultivation-falls-in-kerala/article66464264.ece>.

¹⁶ Thomas, P.M. 'Problems and Prospects Of Paddy Cultivation in Kuttanad Region: A Case Study of Ramankari Village in Kuttanad Taluk'. A Project of Kerala Research Programme on Local Level Development. Thiruvananthapuram: Centre for Development Studies, January 2002.

Earlier, when the hay was processed and sold, we used to get enough money to buy tea and snacks for the women labourers. For the past few years, we have not been taking the hay because it entails spending money on the process and finding a space to store the hay. Now, people from Tamilnadu come and take the hay away as rolls. They do not pay us anything.

Justin's main source of income is the rubber estate he inherited from his father. He also works as a full-time driver. He said he could maintain the cultivation because of the various incentives offered by the government.



Figure 5. Justin J. Thayil amidst his paddy field at Purappuzha. Image: JANAL Archives, 2024

Government Support

In the late 1980s, the state government launched a group farming programme for paddy cultivation. *Padasekhara Samitis*—groups of paddy farmers—emerged as a result of this initiative. *Krishi Bhavans* provide seeds and fertilisers to farmers at subsidised rates through these collectives.

Over the years, Kerala State and local government machinery have launched various initiatives aimed at bolstering the agricultural sector, with a particular focus on paddy cultivation.¹⁷ This shift in focus followed a period of distress in the early 2000s, marked by a surge in farmer suicides, largely attributed to plummeting agricultural commodity prices due to national agricultural trade liberalisation. In response, from 2006 onwards, the

¹⁷ Thomas, 2011.

government implemented a comprehensive strategy aimed at alleviating farmer debt, stabilising agricultural prices, and enhancing productivity and incomes in the agricultural sector.

The profitability of paddy cultivation for farmers in Kerala hinges significantly on the procurement process and the prices they receive for their crops. The state government's intervention in setting minimum support prices (MSP) has been crucial in this regard. In response to inefficiencies in primary cooperative societies' procurement efforts, the government assigned the task to the Kerala State Civil Supplies Corporation Limited (Supplyco) in 2005. Supplyco's procurement process involves farmers depositing their harvested crops with recognised agents, who issue receipts to facilitate payments directly to farmers' bank accounts.

Tessy Sibi, Muttar, explained:

We inform the people at Supplyco when the rice has been harvested. They will come and measure the water content in the paddy using a device. The weight of the rice is calculated accordingly, and the price is fixed. They take the paddy from the entire field (adjoining plots owned by others). Supplyco might give it to Nirapara, Periyar, or some other agency.

This system has benefited farmers in regions like Palakkad, providing them with a reliable means of selling their produce and facilitating access to loans from public sector banks based on their deposits with Supplyco or its agents.¹⁸

However, not all farmers are happy with the government's policies. Tessy, whose family owns a 4.5-acre paddy field, said, "There used to be a subsidy for seed, but it has been stopped now. Fertiliser has a subsidy. The amount we get is very little."

There are other ways that the local governments (not the state government) help. Justin mentioned, "The *varambu* (the

¹⁸ Thomas, 2011.

raised structure dividing various plots) was earlier made of mud. Now, panchayats give subsidies to build a concrete structure between the plots.”



Figure 6. The *varambu*, or levee, that divides the smaller plots in a paddy field is made of concrete instead of mud in Justin’s field. Image: JANAL Archives, 2024

Challenges in Paddy Cultivation

Paddy, it would seem, requires a lot of care. Tessy Sibi said, “After starting the germination, we need to work hard for the next 60 days. We should take care of it like we would take care of an infant.”

Moreover, the harvesting has to be done on time, depending on the rice variety. Tessy said:

With the D1¹⁹ variety, even if the paddy falls, we can harvest the crop. With 1255, if the paddy fell, the rice would germinate almost immediately. With D1 and Uma, even if there is a bit of moisture on the ground, they would not germinate that fast.

In Kerala, there is a seasonal shortage of labourers, i.e., there are not enough people to work on the farms during specific times like planting and harvesting.

Mary Thoman, 70s, agricultural worker, said:

It will take days to replant the paddy and other related work. We do not have enough workers for this in our village. If we are planting tapioca, we engage Tamil workers and they would finish off

the entire field including the digging of the fertiliser pit in 2-3 days.



Figure 7. A paddy field ready to be harvested near Purappuzha. Image: JANAL Archives, 2024

In the past, during harvests and other times when more labour was needed, local workers engaged in other jobs helped. Mani Narayanan, 70, from a family of toddy tappers located in Panangad, works as a housemaid. She mentioned:

I used to go for the harvest in fields near Panangad. I didn’t go for agricultural work that frequently, but some people and communities did that kind of work regularly. We would go when needed. The remuneration was in the form of cash.

People who used to work on farms are now doing other jobs that are not related to farming, like construction work, or white-collar jobs.

Tessy added how it works at present:

We had locals who worked in the fields. Now, people cannot stand in the sun. Since there is a shortage of labour, this time, 15 Bengalis came for the planting

¹⁹ D1 and 1255 are varieties of rice.

here. We tell other farmers when we need workers. They would tell the agents of the Bengali labourers, and they would come.

The pay for farm work is relatively high. One reason is the boom brought about by the demand in the construction industry. For crops like rice that need a lot of hands-on work, wages can make up a big chunk (around 40–50%) of the total cost of growing the crop.²⁰



Figure 8. The piece of wood in this canal is used to divert water to a smaller channel that takes water to Justin’s paddy field. Justin, unlike other farmers, does not have to rely on a motor and labour to divert water to and from his field. Image: JANAL Archives, 2024

Justin mentioned that his field is profitable because “we do not employ labour. All the weeding and irrigation-related work is done by my partner and me.”²¹

Farmers need to spend money on machinery and other supplies. These costs can be quite high. Instead of buying expensive machines themselves, farmers often rent them from panchayats or private sources. For example, combine harvesters are costly (around ₹21–24 lakh). Since growing crops can be expensive, the price they get for paddy becomes important. It affects how much profit they make.

Justin explained:

If the machine is available, that is used for harvesting. It costs around ₹2700 for one hour. The machine can harvest around one acre in an hour, depending

on the *kandam* (smaller plots in the field). If they are small, it will take time since the machine has to turn frequently. If the fields are on a slope (or uneven), it will take even more time.

General labour charge for a field	₹850
Labour charge for fertilising a field	₹1200
Labour charge for sowing	₹1100
Rent for harvester (one hour)	₹1800–2000
Loading charges for the boat (to take the paddy to Supplyco)	₹250–300
Labour charge for loading rice	₹1200

Table 1. Different charges a paddy farmer incurs at Muttar, Alappuzha, according to Tessa Sibi, 2024.

Since the 1980s, large tracts of paddy fields have been lying fallow, or been replanted with bananas, rubber, or coconut, as mentioned. Many fields have also been converted into residential and commercial plots. Since land prices have gone up as a result of the Gulf boom, land has become a speculative asset.²²



Figure 9. The plot on the left side of the road in Kannankuzhisherry used to be a paddy field in the past. The irrigation canal supplies water to the agricultural land on both sides. Image: JANAL Archives, 2023

Paddy cultivation, like other crops, is affected by the vagaries of the monsoon. As Justin mentioned earlier, he can plant his field only once a year because the field is inundated during other seasons.

²⁰ Thomas, 2011.

²¹ Thayil, 2024.

²² Thomas, 2011.

Tessy spoke about the issue of pests:

Around 15 days after the seedlings are planted, we apply weedicide to remove the weeds. The paddy might also get infected with *pein* (a bug); the plant would look wilted or yellowish. After a month of being planted, it might contract *churuttu* (leaf curling). This time we planted a little late, so we had to invest more on pesticides. Most of the time, we apply these as and when required. If there is rain in between, there is less need for weedicides and pesticides. Now, because it is so hot, the fields require more care. If it rains at the appropriate times, then it is beneficial; otherwise, it can cause more harm than good.

In the past paddy fields were planted with other crops in between harvests. But the use of the high-yielding varieties and pesticides has made most paddy fields unfit for other crops at present.²³ This leads to more dependence on paddy harvests.

Palakkad and Alappuzha are the primary paddy-growing areas in Kerala, yet the majority of modern rice mills in the state are clustered in the Ernakulam district, particularly in the Kalady-Perumbavoor belt. Within this area, private-sector rice mills frequently operate as cartels, according to researcher Jayan Jose Thomas, wielding substantial influence over the prices offered to farmers for paddy.²⁴

Future Steps

Though land reforms have been touted as the reason for the decline in paddy cultivation, the farmers provided other reasons. Paddy cultivation can be profitable for farmers if they obtain reasonably high prices.

Tessy Sibi explained:

The labour charges are increasing; loading charges are not going to decrease. The government should increase the paddy price to at least ₹3500 per quintal. Otherwise, it is difficult to take paddy cultivation forward.

Increasing mechanisation is the need of the time, and farmers would find it beneficial if panchayats could invest in combine harvesters, paddy transplanters, weed cutters, bush cutters, rotavators, cultivators, insecticide sprayers, and hay baling machines to drive mechanisation forward.

Farmers and farm workers may need sensitisation about organic farming practices, rather than relying on chemical fertilisers and pesticides. The use of organic materials like crop residues, animal residues, legumes, and bio-pesticides to maintain soil productivity and fertility is minimal at present. Crop rotation, mixed farming, and bio-intensive pest management is not followed on many paddy fields due to lack of awareness about larger ecological impact.

Paddy cultivation can be sustained, not just with support from the government, but when there is a need felt among the farmers, that this is a crop that needs to be grown. Justin's, who started paddy cultivation as a passion, words capture the essence of this feeling:

We have to check the field every day. Working in the kadam feels like a blessing (*aiswaryam*). Walking into the field early in the morning at 6–6:30, and breathing in the fresh air is an experience like no other.

²³ Ganesh, 2012.

²⁴ Thomas, 2011.



Figure 10. De-weeding of a paddy field, Puliyanam. Image: JANAL Archives, 2023

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