

# Shrinking Rice Cultivation In Kerala

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## Abstract

The agricultural sector is an important sub- sector of the primary sector in Kerala. For the last several decades in Kerala the area under rice cultivation and rice production has shown more or less a consistent fall. Farmers divert their arable land for cash crops, despite rice being the staple food in the state and the state almost fully depends upon its import. The major factors that cause depletion of the rice cultivation are related with the socio cultural and economic changes in the state. The aim of this paper is to analyze the factors which are responsible for shrinking of rice field in Kerala. Basically this study is based on secondary data. So the main limitation of this study is that it does not depend on the primary data.

Key words : rice, cultivation, agriculture sector, Kerala, farmers, production.

## Introduction

The agricultural sector is an important sub- sector of the primary sector in Kerala. The agricultural scenario in Kerala is somewhat unique and distinct from that of many other states in India in terms of land utilization and cropping pattern. Rice cultivation was part of the proud culture of Kerala State and it is the most important cereal and staple food produced and

consumed in Kerala. Traditionally rice has been the prime crop in the rural Kerala and the customs and culture of the state were intimately woven around rice paddy cultivation. Other cash crops such as rubber, which currently plays much greater economic role, came to Kerala much later perhaps in the late eighteen century. The lush green of paddy fields is one of the most captivating features of Kerala's landscape. However, recent years have seen drastic changes in the rice paddies in the state, both in quality and quantity. In this paper we examine the factors which are responsible for the declining rice paddies of the state.

The total geographical area of the State is 3886287 Ha. Geographical area in Kerala has been classified according to thirteen different uses of land during 2011-12 as forest, land put to non-agricultural use, barren and un cultivable land, permanent pastures other grazing land, land under miscellaneous tree crops, cultivable waste, fallow other than current fallow, current fallow, marshy land, still water, water logged area, social forestry, net sown area (Agricultural Statistics 2011-2012, Government of Kerala). Net area sown represents the area sown under the first crop during the year. Area cultivated during any part of the agricultural year should come under net area sown. In calculating the net area sown, area sown more than ones will be

counted only once. Out of 3886287 Ha of total geographical area, 2040132 Ha of land constituting 52.5 per cent is cultivated once with various crops during the year 2011-12. It is decreased by 1.5 per cent when compared with the previous year. The gross area sown represents the total area cultivated under all food and nonfood crops including the area sown more than once during the year 2011-12. The gross area sown during 2011-12 was 2661757 Ha as against 2647461 Ha in 2010-11. The gross area is increased by 0.54 per cent over the previous year. The total cropped area is 2661757 Ha during the year 2011-12 (Agricultural Statistics 2011-2012, Government of Kerala).

The paddy cultivating wetlands of the state are mainly located in the coastal plains and the midlands. Extensive rice fields, growing specific cultivars (more than 600 in the state), are seen in the coastal region of Kerala, along the coastal marshes and the backwaters, lying almost at the sea level. The midland region, with altitudes ranging up to 75 meters above mean sea level, are made up primarily of flat-bottomed valleys and undulating terrain with net work of streams, rivulets and rivers. The highly fertile wetlands in this area make good locations for rice paddies. Rice is cultivated in three seasons in all the districts of Kerala except Wayanad district. In Wayanad there is no autumn paddy cultivation. Kuttanad is called as rice bowl of Kerala because of rice cultivation. Trichur and Palghat are the other two places in Kerala where large scale cultivation is done.

The area under rice cultivation of the state decreased drastically over the past several decades. The decrement in the area under rice paddy began during the late 1970s, picked a faster pace and it still continues further. The farmers of Kerala

have almost discarded rice cultivation for cash crops or left their land fallow for years, for lack of justifiable economic returns. In the state, the area under cash crops expanded during the last 20 years, while that of food crops plummeted to just nine percent of the total cultivated area ([www.Keralabiodiversity.org](http://www.Keralabiodiversity.org)). Rice remains the staple food in the state. Although radical changes have happened in the state's food habit, the primacy of rice remains unchallenged. The state needs about 40 lakh tonnes of rice per annum to feed their people. However, it hardly produces 770000 tonnes.

The sharp fall in the area under paddy cultivation as well as in the quantity of rice produced in the State has had important implications for Kerala's economic, ecological and social development. The area under rice cultivation increased substantially during the first fifteen years after the State's formation – from 760000 hectares in 1955–56 to 880000 hectares in 1970–71. In 1965–66, rice accounted for the highest share of gross cropped area in Kerala (32 per cent of the total). There was, however, a steady decline in the area under rice cultivation from the 1980s onwards – from 850000 hectares in 1980–81 to 560000 hectares in 1990–91 and 320000 hectares in 2001–02 and 230000 hectares in 2007–08 (agricultural statistics 2011-12). Today, rice occupies only the third position among Kerala's agricultural crops with respect to area under cultivation, and it is far behind coconut and rubber. The area under paddy cultivation in the state is decreasing regularly. Area of rice is collected in three seasons and its area is estimated even in panchayath level. Upland cultivation of paddy is the new change in Kerala. The total paddy area during the year 1961-62 was 753000 hectares and in 1975-76 it was 876000 hectares. Thereafter a steady decrease in paddy cultivation and

reached to 229000 hectares during the agricultural year 2007-08. But in 2008-09 area of paddy cultivation was increased as 234000 hectares. During 2011-12 the area under rice declined by 5027 hectares. That is on comparing with the year 1975-76, area of paddy cultivation is decreased 76 per cent during the year 2011-12 (Economic Review 2012).

- The area under paddy cultivation in Kerala during the agricultural year 2011-12 is 208160 Ha
- It is decreased by 5027 Ha (2 per cent) than the previous agricultural year 2010-11.
- On comparing with 2001-02, 35 per cent of paddy area decreased during 2011-12.
- On analyzing the area of last 10 years, paddy cultivation is high during the agricultural year 2002-03 and the area is 310521 Ha.
- Paddy accounted 7.82% of the total cropped area in the state during 2011-12 (agricultural statistics 2011-12).

The agriculture in Kerala has undergone significant structural changes in the form of decline in share of GSDP from 26.9 per cent in 1990-91 to 9.1 per cent in 2011-12 indicating a shift from the agrarian economy towards a service sector dominated economy (Economic Review 2012). The major factors jeopardizing the rice culture are apparently the changes in the socio cultural settings of the state, urbanization and infrastructure development, economic empowerment due to foreign remittance, inadequate wetland conservation laws, and boom in the real estate ventures etc.

### **1. Lack of Interest in Agriculture**

In general, during the last few decades people entering agriculture as an occupation in rural Kerala has reduced drastically. Only around 26 per cent of the

total rural population in the state now goes for agriculture as a line of work. Labor shortage, increased labor charges, and hikes in the cost of input are direct detractive factors. The growing apathy to cultivation of rice is an important thrust for farmers to gradually divert the water logged rice fields to drier and perennial crops such as coconut, areca nut or rubber. The state's agriculture scenario has under gone a drastic shift in various aspects giving more importance to the cash crops than the cultivation of cereals. Thus annual production of rice in the state shows a trend of decrease, although there is a comparative hike in the productivity thanks to perhaps new fertilizers, high yielding varieties and cropping procedures. It is reported that the agriculture laborers have also decreased in the state from 25.6 per cent to 16.1 per cent of the total during 1991-2001. There is also a fall of 12.2 to 7.1 in the percentage of cultivators to main workers during the same period (Kerala state planning board 2004). The lack of government support for rice cultivation also seems to be a factor for the loss of interest; the incentive for rice production in the state is only Rs. 350/- per hectare, which is negligible compared to other crops. The disparity in minimum support price (MSP) for rice and other cereals is also obvious; MSP for wheat is almost double the MSP for rice ([www.ers.usda.gov](http://www.ers.usda.gov)).

### **2. Urbanization and Infrastructure Development**

Urbanization in Kerala resembles that of some Asian countries, in that the urban growths here always coexist with rural attributes. The transformation of rural to urban in Kerala usually happens by conversion of the rural agriculture lands particularly the rice growing wetlands, primarily because of the low market price for such water logged lands and the prevailing market forces do not appreciate

the value of ecological services that such lands provide the community. Kerala has shown a consistent growth in population density. Urbanization always involve growth of infrastructure i.e., buildings, roads, communication facilities etc. In the case of Kerala the road network particularly is growing in rapid pace, although not much in its quality. Road development is single most critical factor that opens up any ecosystem or traditional practices for rapid changes. Infrastructure development demands considerable lands to be divested from its former original use. The high demand of independent houses due to the breakdown of the erstwhile joint family system also has lead considerable demand in diversion of lands, and the first victim is the wetlands or rice paddy, because of their low market price.

### **3. Foreign Remittance**

The gulf boom happened in the latter half of the seventies paving way for the flow of foreign remittances, essentially for the purpose of expenditure of the family members, of the migrants, left in the state. This brought in considerable economical empowerment, especially of the lower middle class. Currently it is reported that in the state about 27 persons per hundred households work abroad, making Kerala one of the states in India having very high remittance rate from abroad. Recently it has been reported that the total bank deposits in Kerala has crossed Rs 122000/- crores of which more than Rs 34000/- crores are of non-resident Keralites (The India Economy Review 2009). The funds flowing in from the migrant workers are not put into any sustaining productive ventures and it largely goes to constructing residential buildings. The high remittance from abroad along with rising disregard towards environment, ecology, agriculture or agriculture based industries pushed the state to change its

physical terrain and setup, not to talk about its social and value systems, as a whole. The state is increasingly becoming a consumer state and in terms of food crops it is totally dependent on imports. The larger flow of foreign money is promoting high degradation of 'rice culture' in Kerala, and along with the valuable wetland ecosystems, which provides ample scenic beauty if nothing else, and several invaluable ecological services. As the remittance rate grows up it pushes up the craze for more globalized life style, the number of houses, consumer shops and vehicles on the road increases, and every road junction grows like a miniature city.

Moreover as the surplus money is not put into productive uses, it promote an incessantly consumer society that relies exclusively on imports for its needs. The rising demands for buildable lands detract the public to go for an efficient use of their local resources, ecological setup or agriculture, and instead they adopt the much more lucrative step of selling out their holding to real estate ventures or build hosing colonies or big shopping plazas. Large shopping malls and auditorium are becoming quiet essential trademarks of Keralites rural centers recently. The high remittance from abroad boosted the real estate / construction sector in the state weaning away the lands under rice paddy and the labor force involved in cultivation and the small land owners to real estate sector.

### **4. Seasonal Shortage in Labour Supply**

There was wide agreement that seasonal shortage of agricultural labour is a major challenge facing rice cultivation in Kerala today. Movement of the work force from agriculture to a diverse set of non-agricultural occupations has been occurring at a much faster rate in Kerala than in the

rest of India from the early decades of the 20th century. According to National Sample Survey (NSS) data, by 2004–05, only 35.5 per cent of Kerala's workers were engaged in agriculture, fishing and forestry, while the Indian average was 56.5 per cent. The vast expansion of mass education and the rapid growth in construction and service-sector incomes in recent years have boosted occupational diversification in Kerala. Between 1993–94 and 2004–05, persons engaged in agriculture and allied activities in the State declined by 879000, even as the total number of workers increased by 1605000 (NSSO 1997, NSSO 2006, Jayan Jose 2012). Such trends in Kerala's labour market have had important implications for paddy cultivation in the State. The gap between investment and production made the cultivators away from rice cultivation, while the high job opportunity and attractive wages shifted the workforce to other lucrative construction works.

#### **5. Low Levels of Profitability**

Paddy cultivation in Kerala is seriously constrained by relatively low levels of profitability. Three major factors that affect profitability are costs of cultivation, yield levels and prices. First, labour costs are relatively high. It is also noted that Kerala's agriculture workers are privileged to have highest real wage rate compared to other states of India, this is a major reason for low return from agriculture. At the same time the expenses involved in purchasing other agricultural inputs are an equally large burden. Typically, farmers hire machinery either from the panchayath or from private sources, since not all panchayath own costly machinery such as combine harvesters (one harvester costs between Rs 2.1 million and Rs 2.4 million). They pay Rs 1200 per hour as hire charges to the panchayath for a combine harvester, and Rs 1800–2000 per

hour for hiring this machine from a private source. Secondly, the productivity of rice cultivation in Kerala is still relatively low. In 2008–09, the yield of rice in Kerala (2,519 kg/hectare) was lower than the yield levels of Punjab (4,022 kg/hectare), Andhra Pradesh (3,246 kg/hectare) and Tamil Nadu (2,683 kg/hectare) (Government of India, 2010). The production of rice in 1951 was 641000 tones where as it decreased to 630000 tones in 2008 (Report of the Expert Committee Constituted by the government in 1999 on Paddy Production in Kerala). Thirdly, in Kerala, the minimum support price (MSP) for paddy announced by the State government, which was only Rs 700 per quintal in 2006 and was gradually increased in the subsequent years, rose to Rs 1400 per quintal in 2011. However, even Rs 1400 per quintal are not remunerative enough for a person who is primarily dependent on farming. Paddy needs intense monitoring during the 120-day period of its cultivation, and, taking into account the time and labour spent by him and his family members a net income of Rs 10,000 per acre per season is far from adequate (Jayan Jose 2012).

#### **6. Competition from Other Crops**

Over the years, large tracts of paddy fields in Kerala have been converted into land for the cultivation of crops such as coconut, banana and rubber. The area under rice cultivation as a proportion of the gross cropped area in the State declined from 32.1 per cent in 1965–66 to 12 per cent in 2003–04. During the same period of nearly four decades, the area under coconut cultivation increased from 22.5 per cent to 35.1 per cent and that under rubber cultivation from 5.9 per cent to 18.4 percent of the total cropped area. Banana, coffee, pepper, areca nut and cardamom are the other crops for which the area under cultivation has increased over the years. Field research conducted in 2004

indicated that the net income from cultivation of 1acre of rice in Kerala was only Rs 2400, whereas the net income from cultivation of 1acre of banana was Rs 46000. The fact that it has to compete with other high-value crops is a constraint that limits the expansion of rice cultivation in Kerala.

#### **7. Land as a Speculative Asset**

The conversion of paddy fields into residential and commercial plots has been going on at a rapid pace in Kerala since the 1980s. The high density of population, inflow of remittance incomes from migrant workers, and the fast growth of the services sector have created a high demand for land in the State. Land prices have gone up and land has become a speculative asset. Keeping the wetland fallow for a while, as a prelude to diverting it for real estate ventures is become a common trend in the state. Growth of real estate business in the state was rapid since late nineties. There is thus great pressure on farmers to sell their paddy fields and to use the money from the sale of land for a variety of needs, including children's education and marriages, purchasing a car and building a new house. Interestingly, some farmers said that the money they received from selling small pieces of their paddy fields is what helps them to remain in paddy cultivation. They use the money from such sale of land as security, and also to meet their additional expenses. Most of the wetlands in the state are under threat from being transformed in to built-up areas since the late 90s.

#### **8. Wetland Conservation Laws**

The Kerala state practically lacks an effective act to conserve the wetlands and its rice paddies from the apocalyptic conversions. The Ramsar convention (International convention on wetlands) had prioritized four wetlands of the state, for conservation actions. However, illegal

transformation is not news even in such areas. The Kerala Land Reform Act (1971) had a direct negative impact on the rice culture of the state. It enforced the ownership of the land holdings to the tenants and had notable advancement in socioeconomic empowerment of the less privileged people. However, as it promoted small land holding, the huge gap between the investment and return, most of the small land holders stopped cropping rice. There were laws and regulations for protecting rice paddies of the state particularly those in the Kuttanad region of Alappuzha District right from 1952. Conversion of wetlands to house hold is a usual practice in Kerala. Most of the agriculture belts of Palakkad have got legally converted as housing plots prior to the Land Acquisition (amendment) Bill (2007). The Kerala Conservation of Paddy Land and Wetland Bill (2007) is a recent attempt to prevent paddy and other wetland encroachment. The bill stress upon conservation of rice paddies and dissuade following cultivable lands in the state. However, the bill apparently is not farmer friendly for various reasons and most of the rice paddies in the Malabar region are not covered by the bill. Moreover, recent trend of growing political interference in enforcement of the rules is also going to be a challenge to rice paddies. It is claimed that the bill would prevent conversion of Kerala's agriculture wetland, about 22,000 hectares per annum.

A reversal of this trend of long-term decline in paddy cultivation in Kerala is necessary for at least two reasons. First, because, as the Government of Kerala's Economic Review 2010 notes, food grains produced in the State account for only 15 per cent of its total consumption of food grains (GOK, 2010, p.106). Kerala imports food grains from Tamil Nadu, Andhra Pradesh, Madhya Pradesh, Bihar and

Gujarat to fully meet its consumption needs. It is the State's relatively efficient public distribution system that has so far ensured availability of food grains at reasonable rates to the population of Kerala. Secondly, paddy fields are a vital part of Kerala's environment and ecological systems. They provide natural drainage paths for flood waters, conserve ground water, and are crucial for the preservation of a rich variety of flora and fauna. In several regions of Kerala, paddy cultivation is carried out in a manner that enriches the specific geographical and ecological features of these regions.

#### Conclusion

For the last several decades in Kerala the area under rice cultivation and rice production has shown more or less a consistent fall. Farmers divert their arable land for cash crops, despite rice being the staple food in the state and the state almost fully depends upon its import. The major factors that cause depletion in the rice cultivation are related with the socio cultural and economic changes in the state. The disregard of the ecological services from the rice paddies is another reason for the mass conversion of the rice paddies. A reversal of this trend of long-term decline in paddy cultivation in Kerala is necessary because food grains produced in the State account for only 15 per cent of its total consumption of food grains and paddy fields are a vital part of Kerala's environmental and ecological systems.

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