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RESEARCH ARTICLE

FOOD SECURITY IN KERALA: A CASE OF SHRINKING PADDY FIELDS

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ABSTRACT

Paddy cultivation was a part of proud culture of Kerala. According to State Planning Board Kerala lost over 500,000 hectares of paddy fields between 1980-2007. Paddy cultivation in Kerala has witnessed a steady decline. The sharp fall in area under paddy cultivation as well as quantity of rice produced has had important implication for Kerala's economic, ecological and social development. The state produces less than 15% of the requirement of rice in the state. The situation is a threat to food security in the state and needs urgent attention.

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INTRODUCTION

Rice is the most widely consumed staple food for large part of the world's human population, especially in Asia. According to FAO it is the agricultural commodity with the third highest worldwide production. It is the most important grain with regard to human nutrition and caloric intake. It is well suited to countries and regions with low labour costs and high rainfall. World production of Rice in 2015-16 was 738.8 million tones. One of world's largest producers of rice, India accounts for about 20% of world rice production. (103.5 million tonnes in 2016). The country has the largest area under rice cultivation (43.46 million hectares). The 7 major rice producers n India are West Bengal, U.P, Andhra Pradesh, Punjab, Tamil Nadu, Odisha and Bihar. Paddy cultivation was a part of the proud culture of Kerala State. Rice is the most important cereal and staple food produced and consumed in Kerala. There has been a trend of decline in area and production of paddy from 1956-57 to 2016-17. Accounting for 2.76% India's total population and having a density of population of 860/sq.km as compared to India's average density of population of 382, it has important implications for Kerala's economic, ecological and social development. Paddy fields are a vital part of Kerala's environment and ecological system- providing natural drainage path, conserving ground water and preserving rich flora and fauna. Today Rice occupies only the 3rd position among Kerala's agricultural crops with respect to area under cultivation far behind coconut and rubber. Govt of Kerala Economic Review notes that foodgrains produced in the state account for only 15% of the total consumption of foodgrains (GOK 2010 p 106). The production of paddy is just 5.49 lakh tones in 2015-16, demand is estimated to be around 40 lakh tones/year. Rice is imported from other parts of the nation and price of Rice has increased manifold during the period 1951 to 2017. During the 60 years period from 1956-57 to 2016-17, the area under paddy cultivation has shrunk from 7.62 lakh hectares to 2.02 lakh hectares in 2016-17. Area under paddy cultivation has shrunk in almost all the districts. Only Wayanad, Alappuzha and Thrissur has recorded a marginal increase in land area under paddy cultivation.

Problems facing paddy cultivation in Kerala

Seasonal shortage of agricultural labour is major challenge facing rice cultivation in Kerala today. Movement of workforce from agriculture to a diverse set of non agricultural occupations has been occurring at a much faster rate in Kerala than any other state in India. The vast expansion of education, rapid growth in construction and service sector has boosted occupational diversification in Kerala.

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Table 1. Area and production of paddy in Kerala from 1956-57 to 2016-17

Year	Area (in lakh hectares)	Production (lakh tones)
1956-57	7.62	8.87
1961-62	7.52	10.04
1966-67	7.99	11.24
1971-72	8.75	13.76
1976-77	8.54	12.95
1981-82	8.07	13.06
1986-87	6.63	10.33
1991-92	5.41	10.60
1996-97	4.31	8.71
2001-02	4.22	7.04
2006-07	2.64	6.42
2007-08	2.29	5.28
2008-09	2.34	5.90
2009-10	2.34	5.98
2010-11	2.13	5.28
2011-12	2.08	5.68
2012-13	1.97	5.08
2015-16	1.96	5.49
2016-17	2.02	N.A

(Dept. of Economics and Statistics, Govt. of Kerala, and Economic Review)

Table 2. Area under paddy in different districts of Kerala (Area in hectares)

District	2011-12	2012-13	2013-14
Thiruvananthapuram	2395	1816	2001
Kollam	2097	1387	1363
Pathanamthitta	2802	2280	2468
Alappuzha	36251	36195	37402
Kottayam	21410	17571	15746
Idukki	1264	1176	661
Ernakulam	7731	3940	4052
Thrissur	21172	23098	22275
Palakkad	83998	79201	82896
Malappuram	7528	6674	7548
Kozhikode	2920	2511	2433
Wayand	8995	10230	11481
Kannur	5740	6684	5079
Kasargode	3857	3514	4206
Total	208160	198277	199611

The Hindu Oct 2015

2. Another reason is that paddy cultivation in Kerala is seriously constrained by relatively low level of profitability due to high costs of cultivation, yield levels and prices – Higher costs of labour, having machines and purchase of fertilizers are also reasons for reducing profitability.

3. Moreover productivity of paddy cultivation in Kerala is still relatively low. Yield//hectare of rice in Kerala (2519 hectares) is higher than the Indian average of 2178/hectare, but lower than Punjab (4,022 Kg/hectare) and Andhra Pradesh (3,246 Kg/hectare). Inter-country comparison show that according to FAO data in China, the yield was 6,556 kg/hectare and 4,895 Kg /hectare in Indonasia (FAO 2010). There is much more scope for raising productivity of paddy in Kerala.

Cost of Paddy Cultivation

Table 3. Labour cost/day

Year	Male	Female
2009	200	75
2010	250	100
2011	300	150
2012	400	200
2013	450	250
2014	600	300

Source: Krishi bhavan, Moncompu

Table 4. Cost of machine hours in Mancompu in Kuttanad

Year	Cost of machine hour
2009	100
2010	1200
2011	1250
2012	1500
2013	1800
2014	2500

Source: Krishi Bhavan, Moncompu

The data above reveal that there has been a tremendous increase in the cost of paddy cultivation due to a rise in labour cost and cost of machine hours. Labour cost has tripled and the cost of machine hours has more than doubled over the period 2009-2014. Given the high costs of cultivation and modest yield in Kerala, price of paddy is a decisive factor for paddy cultivation, MSP of 1470/quintal (in 2016-17) is not remunerative enough for farmers who primarily depend on farming. Paddy needs intense monitoring during the 120 day period of cultivation and taking into consideration, time and labour spent by farmers, the income derived is far from adequate.

4. The unpredictability involved in paddy cultivation poses another problem, the yield obtained varies widely across years according to climatic variation or climate change and changes in rainfall pattern.

5. 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. During the period 1966-67 to 2003-04, area under coconut cultivation increased from22.5% to 35.1% and rubber cultivation from 5.9% to 18.4%.

6. The conversion of paddy fields into residential and commercial plots has been going on at a rapid pace in Kerala.

The high density of population (860/sqkm) inflow of remittances from migrant workers and fast growth of service sector have created high demand for land in the state. Land prices have gone up and land has become a speculative asset. There have been commendable initiatives in Kerala over the last five years to expand paddy cultivation. Area under paddy cultivation rose from 2.29 lakh hectars in 2007-08 to 2.34 lakh hectare in 2008-09. Recently area under paddy cultivation was 1.96 lakh hectares in 2015-16 which rose to 2.02 lakh hectares in 2016-17. This increase is considered only marginal, but is a step in the right direction. Enormous possibilities exist with respect to use of technology, availability of agricultural machinery at affordable prices, mechanization of agricultural operation, ensuring seed varieties of high yield and quality, better irrigation and water management and ensuring higher minimum support price are steps in the right direction and most importantly a positive change in the general attitude towards paddy cultivation is the need of the hour.

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