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Government of Kerala

**Ensuring Food Security through Group
Farming in Paddy Cultivation**

A Case Study of Nedumbassery

Grama Panchayat in Ernakulam District

Evaluation Division

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Abstract

The present study is about the group farming scheme initiated by the Nedumbassery grama panchayat to expand the area under paddy cultivation since 2002-03. The Annual plan of the panchayat has been framed so as to necessitate the need to develop technologies taking into account the diversity and micro-environmental specificity that characterise small farm conditions. After implementing this policy for the past nine years the local body is successful to reduce further conversion of paddy lands, so as to retain the existing paddy area and at the same time, bring more fallow land under cultivation, promote lease land cultivation and also convert sizable area from single crop to double crop and double to triple crop. The programme envisages enhancing the existing area under paddy cultivation through bringing additional area under paddy by cultivating paddy in cultivable fallow lands.

Disclaimer

This working paper has been prepared by Smt. Rajeena. T.M, Research Assistant, District Planning Office, Ernakulam. The facts and figures in the report are based on quick field survey done by the author and do not reflect the views or policies of Kerala State Planning Board. The purpose of this document is to provide a comprehensive overview of the scheme/projects implemented by the Local Self Government during XI Five Year Plan.

Introduction

Food grain production is becoming a matter of concern for India as a whole and Kerala in particular. Rice is the staple food of Malayalees and as Kerala's population continues to grow steadily, demand for rice is also growing. It is only past history that the former princely State of Travancore, a constituent of the present Kerala, had made great progress in providing food security for its people and was also exporting rice till the middle of the last century. The food scene in Kerala is turning grim as factors ranging from global to local accelerate the scarcity and price hike of food grains. Our land and water resources are declining and we have been experiencing shortage of our main food grain- rice- even for own consumption at least from the beginning of the present century. The challenge facing our Government for the next few years will be to feed the escalating population, keeping the prices low to benefit poor consumers and reducing production costs to benefit poor growers.

Scope of the Study

It is difficult to justify a labour-intensive crop like rice in a state that has near 100 per cent literacy and is better off by putting its human resources in more productive industries. Kerala's achievements in educating its people are precisely why paddy fields are dwindling from their peak in the 1970s. The mass spread of education, pre- and post-independence, opened up alternative sources of employment for millions of Keralites within the short span of two or three generations. Workers from communities that historically depended on agriculture suddenly found more lucrative opportunities in retail, education, civil service, construction, tourism etc. It is the classic textbook case of economic diversification within an increasingly skilled workforce. Meanwhile, rice's viability as a crop has diminished significantly with rising labour costs.

Surging food grain prices and worsening global supplies are now bringing the domestic food crisis to the boil. The crisis has been building up for some time. Grain output has been stagnating for over a decade and there is a growing gap between supply and demand. Attaining long-term food security requires the raising of incomes and making food affordable. To ensure food security for the vulnerable section of the society a multiple pronged strategy is to be evolved. To begin with all existing social safety net programmes need

amalgamation and should focus on vulnerable and underprivileged regions and groups. Low incomes and high food prices prevent individual food security. Hence initiatives like group farming method adopted by Nedumbassery grama panchayat has to be welcomed.

Objectives of the Study

The major objectives of the study are:

- To find out major reasons for declining trend in Paddy cultivation
- To evaluate role of collective actions like group farming in sustaining paddy cultivation.
- To analyse how the concerned panchayat addressed the existing issues in paddy cultivation.

Methods of Data Collection

The area selected for the study is Nedumbassery panchayat situated in Parakkadavu block of Ernakulam district.

- There are various Karshaka Sangams and Kudumbasree units engaged in group farming. These units are engaged in Paddy cultivation from 2002-03 onwards.
- The cultivation during these years is taken for the study. Interview method was used with structured interview schedules.
- Primary data were collected from the various Karshaka Sangams Kudumbasree units engaged in the cultivation of mushroom using questionnaire.
- Secondary data were collected from the plan documents, studies and reports of Nedumbassery grama panchayat and Krishi Bavan.

The outcomes of the results were studied and the major problems were identified.

Project Details

Nedumbassery Grama Panchayat

Nedumbassery is a small village in Ernakulam district of Kerala, south India. It is about 27 kilometre from Kochi and around 40 kilometre from Thrissur. The Cochin International Airport is located at Nedumbassery. This village is in between the two small towns of Aluva and Angamaly. A small hamlet of considerable natural beauty and home to very hospitable and courteous people, this village is endowed with enough water resources to meet the demands of its increasing populace. The zeal with which the local authorities tend to water bodies in the area helped to eliminate water shortages even during acute summers. It has a population of 28,607 as on 2001, with a sex-ratio of 1012 females to 1000 males. There are 6721 households in the village.

Nedumbassery panchayat along with the Krishi Bhawan has come up with a project to convert 12.5 acres of barren land into cultivable paddy fields. Measures are being adopted to convert the unused land at the Nedumbaasery grama panchayat into arable land in immediate effect. Fifteen years ago there were around 1,000 acres of cultivable land in the panchayat of which most of it was taken for the construction of the airport, the busiest airport in Kerala.

Nedumbassery panchayat has initiated the scheme, group farming to increase the area under rice cultivation since 2002-03. During the initial years 30 hectares of land were utilised for the cultivation of rice. The major objectives of the schemes are

- ❖ to increase productivity
- ❖ to increase the area under rice cultivation
- ❖ to empower Kudumbasree and local farmer co- operatives through modern farming techniques.

The group is composed of small scale farmers organised through kudumbasree and farmer co- operatives. Padasekhara Samitis have been formed by organising landless small scale farmers with the support of Kudumbasree. Various awareness programmes likes seminars and workshops were conducted to familiarise various

governmental schemes by the Krishi Bhavan. The farmers have been convinced about the possibility of risk aversion through collective action and reduction in the cost of production. Initially the panchayat authorities, with the help of Agriculture Officer has identified the cultivable land in the area which are kept idle for a long period of time. During the initial years of the implementation of the scheme, the land owners were disinclined to lease their land for cultivation. The panchayat representatives including the President and the various ward members has played a very active role in resolving this problem by taking vigorous role in negotiating with land owners to acquire land on lease.

As a part of the scheme, High Yielding Variety seeds are distributed to the farmers at free of cost. Fifty per cent subsidy for fertilisers and pesticides has been distributed among the groups. The Krishi Bhavan has adopted the policy of upholding organic farming with the clear intention of gradual reduction in the use of chemical fertilisers and pesticides.

Major Reasons for the Declining Trend in Paddy Cultivation

Attitude of People towards Agriculture

The mass spread of education, pre- and post-independence, opened up alternative sources of employment for millions of Keralites within the short span of two or three generations. A large proportion of youth in the countryside is on their way out of agriculture. Rising disenchantment with the profession pushes them out of agriculture while opportunities in other sectors of the booming economy pull them out of agriculture.

Shortage of Labour

The agricultural sector of Kerala especially the paddy sector endures from the acute shortage of labour. Due to an acute shortage of labour, farmers had discontinued cultivating a second crop a few decades ago itself.

There are various reasons contributing to this like increasing literacy rates, internal and external migration, low return

rate from agriculture, seasonal nature of work etc. One of the several reasons for shortfall of labour in paddy cultivation has been attributed to the success of the National Rural Employment Guarantee Scheme, which has started absorbing a large chunk of native labour within the state.

Lack of Cultivable Land

Kerala, a state that depends on rice and vegetables experience the large scale conversion of cultivable land for commercial purposes. It is facing a severe paddy crisis caused by large-scale reclamation of agricultural land for construction and an acute shortage of farm workers. According to the State Planning Board, Kerala lost over 500,000 hectares of paddy fields between 1980 and 2007. The harvest almost halved to 630,000 tonnes during this period, severely threatening Kerala's food security.

The gap between demand and supply of rice which was around fifty percent till the mid seventies was widening every year as the area under rice declined at a very fast rate due to large scale conversion of paddy lands for raising other cash crops such as coconut, rubber, banana, etc. or for residential purposes. While analysing paddy cultivation in Kerala it can be seen that the area under paddy cultivation has experienced a steady decline over the past years. In 2002-03 the gross area under paddy was 2.87 lakh hectares. This came down to 2.34 lakh hectares in 2009-10.

Table I
Rice Production Scenario: Area, Production and Productivity in Kerala

<i>Year</i>	<i>Area (In Lakh)</i>	<i>Production (In Lakh)</i>	<i>Productivity</i>
2003-04	2.87	5.70	1984
2004-05	2.90	6.6	2300
2005-06	2.75	6.30	2285
2006-07	2.63	6.41	2435
2007-08	2.29	5.28	2306
2008-09	2.34	5.90	2521
2009-10	2.34	6.25	2671

Source: Directorate of Economics and Statistics, Government of Kerala

An examination of the data on area and production in rice in Kerala during the last three decades shows that there is decline to the tune of 73.6 per cent in rice area with a corresponding decrease of 54.2 per cent in production. At present, rice is grown in a gross area of 2.34 lakh hectare producing 6.25 lakh tonnes with a productivity of 2671 kilogram.

Other Reasons

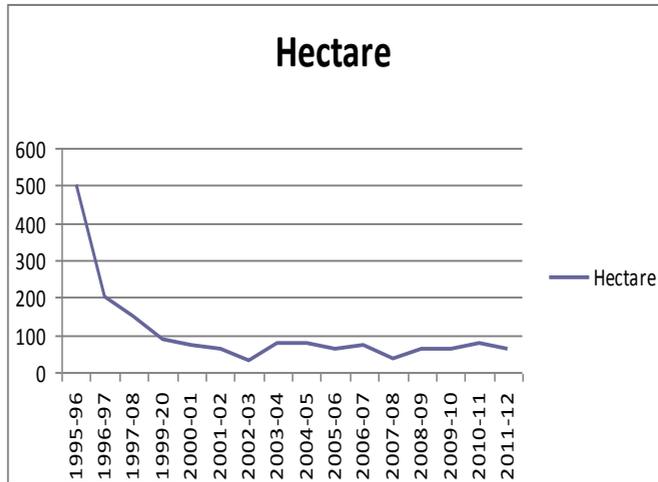
Apart from the above cited points, there are various other reasons for the declining trend in paddy cultivation like, financial constraints of the farmers, crop failure, lack of technical knowledge etc.

Role of Group Farming in Sustaining Paddy Cultivation in Nedumbassery Grama Panchayat

The alarming decline in paddy cultivation has been arrested to an extent during the last one decade due to efforts taken by the Central and State governments and the local bodies. The group farming system implemented by Nedumbassery grama panchayat has helped to retain the paddy area and brought some barren land in the panchayat under paddy cultivation. There are good short- and medium-term potentials for increasing rice yield levels, cropping intensity and unit area productivity in the different rice ecosystems. The authorities were successful in identifying production constraints in different areas and regions and formulated separate packages needed for increasing productivity.

The panchayat has started the implementation of group farming in paddy cultivation since 2002-03. It was started on a sample basis in 30 hectares of land. During 2003-04 the authorities were able to utilise 90 hectares of land under paddy cultivation.

Trend Line Showing the Land Area under Paddy Cultivation in Nedumbassery Grama Panchayat



After implementation of the scheme the authorities were able to arrest further conversion of paddy lands so as to retain the existing paddy area and at the same time, bring more fallow land under cultivation and promote lease land cultivation.

Measures Adopted by Nedumbassery Panchayat to Address the Existing Problems in Paddy Cultivation.

The Panchayat authorities have adopted the following measures to unravel some of the problems existing in Paddy cultivation.

- Large scale cultivation on the arable fallow land.

- Various awareness programmes have been conducted to make a change in the negative attitude of the people towards agriculture.
- The panchayat authorities along with Krishi Bhavan have ensured the involvement of all categories of people for the promotion of paddy cultivation, by constituting the padashekhara samities from all sections of the society.
- Upholded the traditional practices related with paddy cultivation by taking into account the stance of the traditional and old farmers.
- Women empowerment - increase in the female work participation rate. The number of female entrepreneurs has also increased.

Findings and Suggestions

The important findings and suggestions of the study are as follows:

- Protection of economy and ecology can be attained through initiatives like group farming.
- By ensuring the involvement of the Kudumbasree units in group farming women empowerment has been attained. There has been a tremendous increase in the female work participation rate. The number of female entrepreneurs has also increased.
- To increase paddy yields the obvious solution is to encourage mechanised paddy farming and overcome shortages of labour. This can give farmers the option of a second sowing season, which would increase yield and the income of farmers.
- The present subsidy pattern of government has to be changed. Earlier subsidies were given to the Sangams for the direct purchase of the fertiliser. Now the Sangams have to pay full amount for the purchase of the fertiliser and the government will reimburse the amount only after submitting the payment receipt.
- The activities necessary for the cultivation of paddy must be included in the permissible works under MGNREGS.

- Effective implementation and monitoring of laws against the reclamation of wet lands has to be ensured. Among the strategies for increasing rice production in the State, area expansion needs immediate attention since Kerala cannot afford to any more conversion of paddy lands, ecologically or economically.
- Revitalising group farming programme has to be evolved.
- Constitution of farm advisory service for each district.
- Popularisation of High Yielding Varieties of rice.

Limitations of the Study

The important limitations to the study are as follows:

- As the study is confined to a small area like Nedumbassery grama panchayat, the results cannot be generalised.
- Due to time restriction the study has not evaluated the multi dimensional aspects of paddy cultivation in the local body concerned.
- As it is a quick study no comparative evaluation has been carried out.

Conclusion

Food availability is the necessity for food security and in India and the per capita net availability of food grains increased by 10 per cent over the last 50 years. But the significant increase in food grains has not been able to keep in pace with the increase in population. If countries agree to be graded in terms of provision of food security to their citizens, India would rank along with Ethiopia at the lower end.

Food grain production is becoming a matter of concern for India as a whole and Kerala in particular. Rice is the staple food of malayalees and as Kerala's population continues to grow steadily, demand for rice is also growing. It is only past history that the former princely State of Travancore, a constituent of the present Kerala, had made great progress in providing food security for its people and was also exporting rice till the middle of the last century. The food scene in Kerala is turning grim as factors ranging from global to local, accelerate the scarcity and price hike of food grains.

Our land and water resources are declining and we have been experiencing shortage of our main food grain- rice- even for our own consumption at least from the beginning of the present century. The challenge facing our Government for the next few years will be to feed the escalating population, keeping the prices low to benefit poor consumers and reducing production costs to benefit poor growers.

The low profitability in paddy cultivation appears to have contributed to the shifting of paddy land to other crops. The future of the rice production in Kerala lies in improving productivity with reasonable cost of production through promotion of High Yielding Varieties of seeds and scientific management of cultivation to make rice production a remunerative enterprise for the farmers.