

Constraints in Rice Production - Strategy to Overcome



Agriculture

KEYWORDS : Rice production, Constraints intensity, Profile characters and Strategy

| | |
|----------------------------|---|
| N. Srihari Narayana | Research scholar, Department of Extension Education, S.V. Agricultural College, irupati |
| V. Sailaja | Assistant professor, Department of Extension Education, S.V. Agricultural College, Tirupati |
| P.V. Satyagopal | Associate Professor, Department of Extension Education, S.V. Agricultural College, Tirupati |
| S.V. Prasad | Professor and Head, Department of Extension Education, S.V. Agricultural College, Tirupati |

ABSTRACT

Rice is life for most people living in Asia. It has shaped the cultures, diets and economies of millions of people. In India Rice is the staple food of nearly 65 per cent of the total population. It contributes 55 per cent of total cereal production. Any decline in its hectareage and production will have a perceivable impact on the nation's economy and food security. Statistics on area and production of rice clearly revealed the existence of wide fluctuations in both aspects of area and production based on the availability of water resources. In the context of food security, such wide fluctuations in area and production are not desirable to meet the future rice requirements of the increasing population. The possible reason for such variations was due to numerous constraints faced by the rice farmers. After having thoroughly study the various constraints faced by the rice farmers viz., Socio-economic; Bio-physical; Technological; and Institutional constraints, a suitable strategy was evolved addressing the various constraints which would be helpful for the policy makers, researchers, extension functionaries to plan and modify the extension programmes so as to mitigate these constraints faced by the rice farmers and thereby to augment rice production.

INTRODUCTION

Rice cultivation is one of the most important developments in history. Rice has fed more people over a longer period of time than any other crop. Almost one fifth of the world's population, depend on rice cultivation for their livelihoods. In Asia, where about 90 per cent of rice is grown. India stands first by occupying 44.6 m ha are which is the highest area occupied by a single crop in the world and stands second by producing 148mt of rice during 2008 (USDA report). It contributes 21.50 per cent of global rice production and a share of 15 per cent in global rice export. It is the principal food crop cultivated throughout the Andhra Pradesh state providing food for its growing population, fodder to the cattle and employment to the rural masses. Any decline in its hectareage and production will have a perceivable impact on the state's economy and food security. Andhra Pradesh rice is mostly cultivated under irrigated eco-system under canals (52.00%), tube wells (19.31), tanks (16.20%), other wells (8.80%) and other sources (3.70%).

The study area, Nellore is famous for its paddy fields, thereby deriving its name from "Nell". Nell + Oru (Nel in Tamil indicates Paddy and oor is town in both Telugu and Tamil languages). The reasons for shrinking of paddy lands in Nellore are due to numerous constraints that are present in this aspect. Some of the farm level rice production constraints include stagnating yield, declining profit, high cost of labour, unavailability of the labour, unavailability of quality seed in time, unavailability of sufficient farmyard manure. Rice farmers are also facing marketing problems which in turn lead to distress sale. Economic factors like price fluctuation and existing gap between rice grain and parboiled rice are adversely affecting rice production. Therefore, enhancing adaptability and stability of productivity and providing more entitlement to livelihood to the rice growing population is a major challenge to the agricultural research and development system.

Hence the present study gives an insight into intensity of constraints faced by the Rice Farmers in Nellore district of Andhra Pradesh and developing a suitable strategy to mitigate the constraints faced by the Rice farmers.

MATERIAL AND METHODS

The present investigation was conducted using ex-post facto research design. The study was conducted in Nellore district of

Andhra Pradesh which occupies 8th place in cultivating rice in the state. Out of the 46 mandals in Nellore district, 4 rice growing mandals have been purposively selected and 2 rice growing villages were selected from each mandal at random, thus making a total of 8 villages for the study. Among the rice farmers 15 farmers from each village were selected thus making a total of 120 farmers for the study and interviewed through a well-structured interview schedule developed for the study in consultation with the experts of ANGRAU.

RESULTS AND DISCUSSIONS

A. SALIENT FINDINGS OF THE STUDY

The present study revealed that majority of the rice farmers belonged to the age group of 36-55 years, had high school education, had medium land holding, farming experience and training undergone. Majority of the respondents had medium levels of credit orientation, social participation, mass media exposure, extension contact, economic motivation, scientific orientation, management orientation and innovativeness. From the study it was also evident that majority of the respondents had high risk orientation with regard to profile characteristics. From the table-1 it is evident that majority (63.33%) of the rice farmers faced moderate constraint intensity in rice production followed by severe (20.84%) and less (15.83%) constraint intensity.

Table-1: Distribution of respondents according to their extent of constraint intensity

| S.No | Category | Frequency | Percentage |
|------|-------------------------------|-----------|------------|
| 1. | Less constraint intensity | 19 | 15.83 |
| 2. | Moderate constraint intensity | 76 | 63.33 |
| 3. | Severe constraint intensity | 25 | 20.84 |
| | Total | 120 | 100.00 |

Mean:145.70 S.D.: 6.23

B. STRATEGY TO OVERCOME THE VARIOUS CONSTRAINTS FACED BY THE RICE FARMERS

Keeping in view, the profile characteristics, constraints faced by the rice farmers, a suitable strategy was developed to mitigate the constraints faced by the Rice farmers. The strategy encompasses the integrated role of researchers, extension functionaries and policy makers. The effective performance of specified roles will definitely mitigate the various constraints faced by the rice farmers.

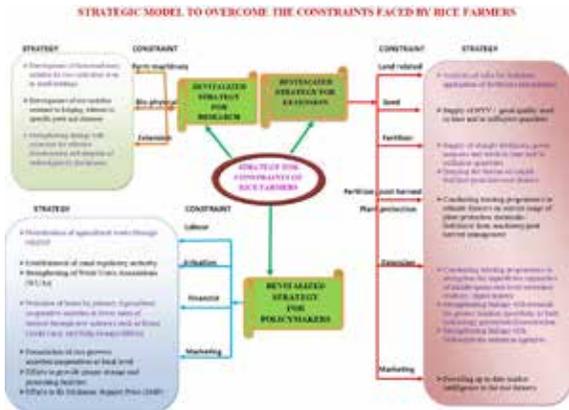
I. REVITALIZED STRATEGY FOR RESEARCHERS

Strategy to Overcome Farm Machinery Constraints

Suitable farm implements, equipment and machinery should be developed specifically for the rice cultivation for the operations like transplanting, weeding, harvesting etc. The machinery developed should be in such a way that it should suit to different rice situations. Machinery suitable for smaller fields should be developed which can be repaired at local level. Heavy machinery which is not suitable for wetlands should be modified or refabricated suited to the land situation. Farmers should be trained to use the implements, equipment or machinery by the government and private agencies for proper utilization of the farm equipments.

Strategy to Overcome Bio Physical Constraints

New rice varieties should be developed with shorter duration so that the harvest does not coincide with the summer showers. Varieties which are also resistant to water lodging, tolerant to specific pests and diseases should be developed. Farmers should be trained on the specific application of weedicides which are more effective to curb weeds.



Strategy to Overcome Extension Constraints

To improve the efforts of extension agencies and personnel, reforms in the agricultural extension system by restructuring the technology dissemination system, based on a multi agency system, comprising of the public as well as the private sectors should be brought in the main stream. Innovative, decentralized institutional arrangements need to be promoted to make the extension system farmer responsive and farmer accountable. Ensure greater farmer participation in determining research and extension agendas, strengthen research extension linkages and allow greater location specificity in both technology generation and dissemination.

II. REVITALIZED STRATEGY FOR EXTENSION FUNCTIONARIES

Strategy to Overcome Land Related Constraints

Fertilizers should be sold to the farmers based on the analysis of the soil. Extension agencies should analyze the soils of all mandals and should have a micro situation assessment of soils of farmers. Straight fertilizers should be made available to farmers in time and in required quantities. Avoid mono cropping and maintaining crop rotation with legume crops is essential.

Strategy to Overcome Seed Constraints

The government agencies should make sure about the availability of HYV (High Yielding Variety) seed well in advance for distribution, among the farmers. The State Seed Development Corporation officials should procure quality seed only after undergoing rigorous quality checks and grading and it should be available for farmers on subsidized rates. Distribution of seed should be done at local level taking the Panchayat into consideration. Stringent disciplinary measures should be taken by the government against the default distributors those who are involved in adulteration of seed.

Strategy to Overcome Fertilizer Constraints

Input dealers should definitely participate in the local level training programmes of Agricultural Officers and Agricultural Extension Officers and should be made to know the requirement of stocks in the coming season. The fertilizer dealers those who are involved in black marketing, stocking of fertilizers and selling at higher prices at peak requirement should be blacklisted and deactivation of their license. FYM (Farm Yard Manure) schemes should be implemented by the Government agencies at local level. Vermicompost units should be developed at farmers field and they should be trained in vermicompost production. Farmers should be promote for growing green manure crops like daincha, sunnhemp etc., to substitute the FYM.

Strategy to Overcome Plant Protection Constraints

Correct pesticide or weedicide specific to the situation should be recommended by the extension personnel which is surely available in the market. The extension personnel should be trained about the latest plant protection chemicals and weedicides available in the market which are more effective and at the same time are of less price. They should also know the nature of formulation and how it affects the pest, fungus or weed in question. The input dealers also should be trained by the government and NGO (Non Government Organization) organizations to help the farmers in choosing the specific chemical suited to the local conditions and specific needs. The extension personnel should be trained regularly more seriously about the specific and needy technologies in relation to plant protection and weed management. They should be trained by the scientists, state training agencies and national level plant protection training institutions to be more prepared for the recent plant protection and weed problems.

Strategy to Overcome Post Harvest Constraints

Proper storage facilities should be created at Panchayat or mandal levels. Where ever possible market yards should provide storage facilities to farmers at lower rates. Food Corporation of India should take measures to purchase rice to the maximum possible extent from farmers. Public-private partnerships to be promoted to set up the processing units by the Government. Farmers should be trained on value addition like processing of rice bran oil, ready to eat products, vitamin, iron or calcium enriched rice flakes or puffed rice, flavoured rice and also on cultivation of scented rice, golden rice etc. The rice mills should be operated to support the farmers by making new ordinance by the state government. The functioning of rice mills should be transparent. Farmers should be made aware of export procedures and policies. Farmers and extension personnel should be given training on the latest methods of controlling storage pests and diseases like air tight mechanism, use of repellents, fumigation etc.

Strategy to Overcome Extension Constraints

To improve the technical competence of the extension personnel proper training strategies should be made. Subject matter specialists are responsible for specific expertise such as agricultural management and particularly rice farming. They should act like extension advisors and pass technical expertise suitable to the local needs and latest innovations to the grass root level. To overcome the crisis of extension staff, recruitment of grass root level staff must be done by the government. The multi level extension efforts should be used in the areas where, public sector, NGOs and private extension agencies are available. Duplication of efforts by creating different extension agencies by the agricultural university, State Department of Agriculture other NGOs and private agencies should be avoided.

Strategy to Overcome Marketing Constraints

Distress sale should be avoided by making the farmers aware of the demand to their produce and market rates available at different markets. This can be done by the partnership of government, NGOs and private agencies. Farmers should be made aware in the usage of latest Information Communication Technologies like mobile phones, which are now effectively used by the Acharya N.G.Ranga Agricultural University to support the farmers on market price and knowing the market behaviour well in advance and selling the produce at correct time.

Strategy to Overcome Social Constraints

The extension personnel should encourage the younger generations to involve in forming. They should be informed about the contract sales directly to the consumer by involving value addition and export potential and increase the interest of rural youth towards agriculture. Youth should be encouraged to perceive agriculture as business from which they can make good profits and provide job opportunities to others in the society. To avoid the sale of small holdings especially by the small and marginal farmers to the real estate business people for commercial ventures, which they think will fetch good amount of money, these farmers should be made aware that agriculture can be more profitable if they join in groups and take up large scale cultivation.

III. REVITALIZED STRATEGY FOR POLICY MAKERS

Strategy to Overcome Labour Constraints

Contract labour schemes can be implemented with the support of Panchayat and local bodies. Arrange contractors who will organize a group of labourers and train them to be more skilful and efficient to work as a team. Prioritization of agricultural works related to rice farming should be routed through NREGP (National Rural Employment Guaranty Programme) helping the farmers and as well as labour. Development of suitable new farm equipments viz., drum seeder, fertilizer applicator, power operated threshers, combine harvesters, transplanters, power operated weeders etc., by the agricultural engineering agencies is very essential to cut down the manual labour and drudgery of rice farmers.

Strategy to Overcome Irrigation Constraints

To pursue the constraints of untimely irrigation water in some areas, regulations should be made for release of water properly by establishing separate canal regulatory authority. At the local level water use management agencies and associations can be formed to see that all the categories of farmers should get proportionate distribution of irrigation water. To combat drainage problems research should be undertaken by the State Agricultural University and State Department of Agriculture on sub surface drainage and mid season drainage. In the areas where the fields are below sea level free electricity should be provided to farmers for at least four hours a day to pump out the water by the use of motors.

Strategy to Overcome Financial Constraints

Farmers should be given loans at very lower rates of interests through new schemes and programmes. Involvement of bankers and cooperatives should be strengthened to support the farmers to avoid the private money lenders. Crop insurance and loans for initial investment should be provided to farmers to take them out from the vicious cycle of indebtedness. Market price should be derived based on the different parameters of cost of cultivation which is increasing season to season. There should not be any deviation after the fixation of minimum support price by the government. The procedures for the institutional finance should be clear and simple to the farmers like Kisan Credit card. Institutional lending should be encouraged through SHGs to avoid delay in advancing institutional finance.

Strategy to Overcome Marketing Constraints

The involvement of middlemen should be avoided by the formation of cooperatives and farmer groups or farmer organization. The functioning of present market yards and market committees should be made more effective and transparent. Department Of Agriculture (DOA) should facilitate direct marketing of rice by strengthening and reforming grass root level organizations to avoid the involvement of middlemen in marketing. The solution for distress sale also lies in providing farmers access to safe and scientific storage. Dominance of millers in the market should be minimized by making rigorous policies, and government ordinances in favour of farmers. The Panchayats should develop a procurement, processing and marketing mechanism to reduce the influence of millers in rice market. Promotion of a network of village godowns should be done with govt. support. Rice growers societies or cooperatives should be started at village or Panchayat level, for profit maximization.

CONCLUSION

The thorough analysis of the various constraints faced by the rice farmers pave way to develop a suitable strategy which would aptly be suitable to the conditions of the rice farmers. The strategy developed would also be helpful for the policy makers, researchers, extension functionaries to plan and modify the extension programmes so as to mitigate the constraints faced by the rice farmers and thereby to augment rice production.

REFERENCE

- Arathy, B. 2011. Constraint analysis of rice farmers of Trissur district of Kerala. M.Sc. (Ag.) Thesis. Acharya N.G. Ranga Agricultural University, Hyderabad. || | FAO. 2010. World crop statistics. | Srinivasa Gowda, R.G., Chinnaswamy K.P., Govindan R., Sannappa. B and Ramesh, K.V. 2004. Production practices, management strategies and constraints adopted by multivoltine rearers for seed cocoon production, Mysore journal of Agricultural Sciences. 38 (1):95-102. || Subbaiah Choudary, P. V. and Ahamed Ali, S. M. 2008. Consortium of Indian farmers association – status paper on rice. <http://www.indianfarmers.org> || Tilakarantne, T.G. and Somaratne. 2002. Strategies to overcome scarcity of agricultural labor: An empirical study of a rural village in the dry zone. Annals of Sri Lanka Department of Agriculture. 4:399-406. || | USDA report. 2008. <http://www.fas.usda.gov/psdonline/> || www.indianstat.com |