

# Adoption of Eco-Friendly Technologies Among Paddy Farmers in Cuddalore District

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## Abstract

An innovation becomes successful only when it is accepted and adopted by many people with remunerable profit out of it. Adoption of any innovations varies from individual depending on their individualities, acquaintance with the technologies and accessibility of resources. Hence, the present study attempts to assess the extent of adoption of eco-friendly technologies among paddy respondents. The study was conducted in Parangipettai block of Cuddalore district. A total number of 50 respondents were identified from the selected 5 villages by using proportionate random sampling method. The statistical tools used in this study were percentage analysis and cumulative frequency method. Nearly half of the respondents (48.00 per cent) belonged to medium level followed by high (28.00 per cent) and low (24.00 per cent) levels of adoption category. The finding of the study would reveal adoption of eco-friendly technologies would help the policy makers to provide policy guidelines to enhance the adoption of eco-friendly technologies.

**Key words : Eco-friendly technologies, Sustainable Agriculture, Environmental sustainability and Organic farming.**

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Eco-friendly knowledge system are strategies and techniques developed by local people to cope-up with the changes in socio cultural and environmental conditions there are the practices that the accumulated by the farmers due to the constant experimentation and innovation they are time tested and natural resource management practices.

The eco-friendly agronomic practices are environmental friendly, the eco-friendly agronomic practices after solution to sustainable agricultural development. The eco-friendly agronomic practices are invaluable and they are often regulated by western scientific research. In recent years eco-friendly agronomic practices are gaining significant and a number of scholars have shown considerable interest in the eco-friendly agronomic technologies of rural people.

Think about the improvement of eco-friendly agronomic technologies. The present study was

carrying out to study the eco-friendly agricultural practices followed by Cuddalore district of Tamil Nadu.

## Methodology

The study was conducted in Cuddalore district of Tamil Nadu. Out of thirteen blocks in Cuddalore block, Parangipettai block has been selected purposively. The farmers now adopted various eco-friendly technologies suggest by Govt. of Tamil Nadu where taken up there cultivation in order to progress the adoption of the technologies which are viable in the environment to get maximum yield of paddy crop. Hence Parangipettai block was selected purposively for this study. A total number of 50 farmers were identified from the selected 5 villages by using proportionate random sampling method. Nine independent variables *viz.*, age, educational status, farm size, farming experience, annual income, social participation, extension agency contact, risk orientation and

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scientific orientation. Dependent variables such as adoption were considered for the study. The statistical tools used in this study were percentage analysis and cumulative frequency method.

### Findings and Discussion

**Table 1.** Distribution of respondents according to their overall adoption of eco-friendly technologies in paddy (n=50)

Category	Number	Per cent
Low	12	24.00
Medium	24	48.00
High	16	28.00
Total	50	100.00

The Table 1 shows that 48.00 per cent of the farmers had medium level followed by high and low levels of adoption category 28.00 per cent and 24.00 per cent respectively. The reason for the respondents under medium level of adoption may be due to the outcome of training program conducted by state department of agriculture which might have motivated the respondents to adopt the recommended eco-friendly technologies in paddy.

#### I. NURESERY AREA

**A. Agronomic practices :** Adoption level of the nursery technologies was very high, as it is evident from the table. The hot water treatment for breaking dormancy was only not prevalent in the area, may be because of the difficulty and relatively good germination rate of seeds. Keeping the seeds in wet gunny bags to facilitates sprouting was practiced by (80.00%) of the farmers.

**B. Nutrient management :** Majority of the respondents (90.00%) of them applied FYM in the correct doses in the nurseries. About (24.00%) of the paddy farmers practiced azospirillum seed treatment. Majority of the respondents stated that FYM being locally

available, good source of nutrient and have good water holding capacity were the important reasons influencing the adoption of FYM.

#### II. MAIN FIELD

**C. Transplanting :** Majority of the paddy farmers (84.00%) adopted the right stage of transplanting. The probable cause might be good knowledge and experience of the respondents towards transplanting.

**D. Bio fertilizers :** Nearly half of the paddy farmers (48.00%) had adopted the azospirillum root dip method, and quantity for broadcast found 32.00 per cent of the respondents. The bio-fertilizers are eco- friendly and environmentally safe and low cost this may be the probable reason for adoption of bio fertilizer technologies.

**E. Organic Manure :** A vast majority (94.00%) of the paddy farmers adopted the quantity of the FYM to be applied in the main field while 84.00 per cent respondents had adopted the quantity of green manure applied in the field. This might be due to fact that the respondents were caution about soil and environmental health.

**F. Water management :** It was also adopted correctly by 82.00 per cent of the paddy farmers towards water management.

**G. Weed management :** Most of the respondents had adopted the weed management technologies. Use of clean seeds, composting and summer ploughing for weed control was adopted by 80.00, 64.00, 78.00 per cent respectively. This is due to the fact that most of the respondents where literate and known the advantage of summer ploughing and usage of clean seeds so that weed infestation can be controlled.

**H. Eco-friendly pest and disease management :** Majority of the paddy farmers

(80.00%) practiced trimming and plastering of the bunds. The use of light traps was very paltry, being only 16.00 per cent. The comparatively low level of awareness in its use and the complicated nature of setting it may be the reason. Neem use both as an oil spray and kernel extract found to be (40.00 and 44.00% respectively).

**I. Rodent management :** Among the rodent control technologies bird perches were adopted the most by 70.00 per cent of the paddy farmers and use of bottle in field by 16.00 per cent of the respondents. The easiness of its use and no expense could be the reason for higher rate of adoption.

**Table 2.** Technologies wise adoption level on eco-friendly cultivation technologies in paddy

Eco Friendly Technologies	Number	Per cent
<b>I. Nursery Area</b>		
<b>A. Agronomic Practices</b>		
1. Hot water treatment at 50°C for 25 hours to break seed dormancy	-	-
2. Keeping water in wet gunny bags in darkness for 24 hours to facilitate sprouting	40	80.00
<b>B. Nutrient management</b>		
<b>3. Azospirillum seed treatment</b>	12	24.00
4. Application of FYM/Compost	45	90.00
<b>II. Mani field</b>		
<b>C. Transplanting</b>		
5. Transplanting seedling at the right age	42	84.00
<b>D. Bio-fertilizers</b>		
6. Seeding dip with Azospirillum /5 packets (200gm each) per hectare.	24	48.00
7. Azospirillum broadcast /10 packets (200 gm each) per hectare	26	32.00
<b>E. Organic Manure</b>		
8. Application of FYM/Compost 12.5 tonnes per hectare.	47	94.00
9. Application of green manure/6.25 tonnes per hectare.	42	84.00
<b>F. Water Management</b>		
10. Maintaining 1.5-2.5cm water depending on seedling height	41	82.00
<b>G. Weed Management</b>		
11. Usage of clean seeds	40	80.00
12. Proper Composting	32	64.00
13. Summer Ploughing	39	78.00
<b>H. Eco-friendly pest and disease management</b>		
14. Trimming and plastering of field bunds	40	80.00
15. Neem oil spray at 3 Per cent	20	40.00
16. Neem Kernel Extract at 5 Per cent	22	44.00
17. Light traps	8	16.00
<b>I. Rodent Management</b>		
18. T-shaped bird perches	35	70.00
19. Use of bottle in field	8	16.00
<b>J. Harvest</b>		
20. Harvesting at 80 per cent grain maturity stage	42	84.00

\* Multiple responses

**J. Harvest :** The Adoption of the right stage of harvest of paddy crop was high (84.00%).

### Conclusion

Most of the paddy farmers (48.00%) belonged to medium level followed by high (28.00%) and low (24.00%) levels of adoption category. The finding of the study would reveal adoption of eco-friendly technologies would help the policy makers to provide policy guidelines to enhance the adoption of eco-friendly technologies.

### References

- Balakrishnan, T and Vasanthakumar, J. 2010. Adoption of Sysyem of Rice Intensification (SRI) Technology among farmers in Cuddalore District of Tamil Nadu. *Journal of Global Communication*, 3(2): 62-65.
- Ganapathisankaran, S. 1997. Impact of Integrated Watershed Development Programme on Farmer Beneficiaries. Unpublished M.Sc. (Ag.) Thesis, AC and RI, Madurai.
- Guna, B. 2013. A Study on Knowledge and Adoption of Eco-friendly Practices in Rice at Sirkali Taluk. Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalaiagar.
- Kabir, M. S., Haque, M. E. and and Uddin, H. 2007. Constraints in Adoption of Eco-friendly Rice Farming Practices. *Journal of Extension Education*, 20, 133-137
- Shanmugaraja, P., Kishorkumar, S., Prabudoss, V., Priya, K and Ram Sundar, T. 2022. Constraints Experienced by the Paddy Farmers in the Adoption of Integrated Nutrient Management Technologies. *International Journal of Food and Nutritional Sciences*, 11(10): 501-507.
- Vijayalan, R. 2001. A Study on Awareness, Knowledge and Adoption of Eco-friendly Agricultural Practices in Rice. Unpublished M.Sc. (Ag.) Thesis, Tamilnadu Agricultural University, Coimbatore.
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