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Utilization of Eco-friendly practices of paddy crop by tribal farmers of Mandla district, Madhya Pradesh

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Abstract
The study was conducted in Mandla district with the objective to investigate the utilization of eco-friendly practices of paddy crop by tribal farmers. There are three blocks in Mandla district has been selected randomly for the study. Five villages were selected by using simple random sampling method. Twenty tribal farmers from each village who randomly selected thus 300 tribal farmers were selected for the investigation purpose. The data were collected by using personal interview method. The higher percentage of the tribal farmers had medium utilization of eco-friendly practices with overall mean 2.03. The result of association between utilization of eco-friendly practices and attributes of tribal farmers revealed that, age, education, size of land holding, farming experience, material possession, social participation, annual income, extension participation, scientific orientation, decision making, attitude and knowledge shows the positive and significant association at 0.05 level of probability.

Keywords: Utilization, eco-friendly practices, tribal farmers

Introduction
Eco-friendly and environmentally friendly are synonyms used to refer to goods and services considered to inflict minimum or no harm on the environment. To make consumers aware environmentally friendly goods and services often are marked with eco-labels. Eco-friendly farming is the process of producing food naturally. This method avoids the use of synthetic chemicals and generally modified organisms to influence the growth of crops. The aim of eco-friendly agriculture is to manage the resources of rural communities to improve their welfare, Preserve biodiversity and ecosystem services, and develop more productive and sustainable farming system.

Eco-agriculture is both a conservation strategy and a rural development strategy. Eco-agriculture recognizes agricultural producers and communities as key stewards of ecosystems and biodiversity and enables them to play those roles effectively. Eco-agriculture applies an integrated ecosystem approach to agricultural landscape to address all three pillars – conserving biodiversity, enhancing agricultural production and improving livelihood – driving the divers' elements of production and conservation management systems. The core of this ecological-based farming is ensuring that business or agricultural activity is consistent with the natural functions of ecosystems, where for instance, the cycle of soil nutrients and biodiversity structure are maintained so as to create a system of agriculture that is resistant to pests and has self-maintained natural soil nutrients (Mishra 2014) [6]. Thus, farmers will no longer depend on costly chemicals and artificial pest control. Paddy is one of the major crop of Madhya Pradesh with area, production, and productivity of 1882.6 thousand ha, 2775 thousand tones and 1474 kg/ha respectively (International Plant Nutrition Institute 2013-14). The socio cultural as well as the economic life of tribal farming community of selected region is integrally associated with paddy cultivation. This study, therefore, identifies the utilization of eco-friendly practices of paddy crop by tribal farmers of Mandla district, Madhya Pradesh.

Material and Methods
The present study was conducted in Mandla district (Madhya Pradesh). The district comprises 9 blocks out of which 3 three blocks was selected randomly. Five villages selected from each block, 20 tribal farmers were selected from each village to make the total sample size of 300 respondents. The data were collected through well-structured and pre tested interview schedule. The data were analyzed through mean and percentage. For the study of extent of utilization of these practices 8 major management practices of eco-friendly practices were selected which are using in paddy cultivation namely; Soil conservation, water conservation,

Seed management, Integrated weed management, Integrated disease and pest management, Integrated nutrient management, Storage management and Residual management practices.

Results and Discussion

The study revealed that higher per cent (62.66%) of tribal farmers had medium level of utilization of eco-friendly practices of paddy crop with overall mean score 2.03.

Table 1: Distribution of the respondents according to their Utilization towards recommended eco-friendly practices of paddy

S. No.	Categories	Frequency	Percentage
1	Low (1 to 45)	66	22.00
2	Medium (46 to 90)	188	62.66
3	High (91 to 135)	46	15.34
	Total	300	100.00

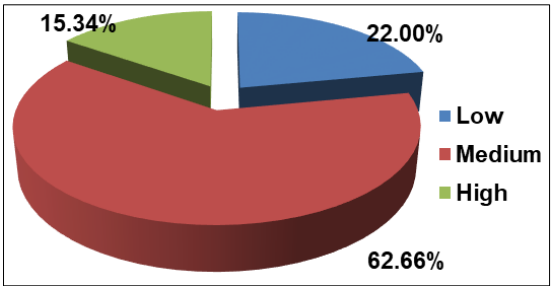

Fig 1: Distribution of farmers according to their utilization of eco-friendly practices

Table 2: Utilization regarding major recommended Eco-friendly farming practices of paddy

S. No.	Eco-friendly practices	Mean value	Rank
1	Soil Conservation	1.77	VIII
2	Water Conservation	1.89	VI
3	Seed Management	2.40	II
4	Integrated weed management	1.98	IV
5	Integrated disease and pest management	1.99	III
6	Integrated Nutrient Management	1.90	V
7	Storage Management	2.72	I
8	Residual Management	1.81	VII
	Overall Mean	2.03	

Major practice of eco-friendly practices, storage management 91.66 per cent of tribal farmers had complete utilization of sun drying, 65.34 per cent had complete utilization of stored in form of seeds. 60.66 per cent of farmers had complete utilization of moisture free bins. In the seed management practices 66.00 per cent of farmers had complete utilization germination test, 59.00 per cent had complete utilization of rising in water, and 56.00 per cent had complete utilization of selecting healthy seed. In the practice of integrated disease and pest management 53.34 per cent of farmers had complete utilization of summer deep ploughing, 42.34 And 32.00 per cent had complete utilization of crop rotation and proper spacing respectively, 32.33 had complete utilization of resistant variety as cultural control. While 41.66 and 40.00 per cent of farmers had complete utilization of tying of upper part of seedling and pheromone trap respectively as mechanical control and 26.33 per cent had complete utilization of bio-pesticide under biological control of disease and pest management.

In the integrated weed management practices 36.34 and 30.00 per cent of farmers had complete utilization of weed control through sickle and hand hoe respectively as mechanical control, whereas 42.34 per cent had complete utilization of stale seed bed and 34.34 and 34.00 and 29.00 per cent had complete utilization of mulching, clearing bunds and soil solarigation respectively as cultural control. And 21.66 per cent of farmers had complete utilization of bio-herbicide as biological control. In Integrated Nutrient Management 68.66 per cent of tribal farmers had complete utilization of FYM and composting, while 66.00 per cent has soil testing, 21.66 per cent and 38.00 per cent had complete utilization of bio fertilizer and vermicompost respectively as Integrated Nutrient Management. This may be due to lack of positive attitude and lack of awareness about the farm yard manure or green manure. This finding is supported by Oinjam and sudhakar (2014) [8], Borthakur *et al*. (2015) and Assis *et al*. (2011) [3].

In water conservation 32.34 per cent of farmers had complete utilization of deep ploughing while 30.00 per cent and 24.34 per cent had utilization of water harvesting and SRI technique respectively as water conservation measures. This finding is supported by Hari Krishna (2016) [7]. In the management of residual of crops cent per cent had completely utilized residue of crop as fodder while 23.68 and 6.66 per cent had utilization of mulching and direct ploughing. In the practice of soil conservation 69.00 per cent had complete utilization of plough against the slope, whereas 59.34 per cent had utilization of vegetative hedge and 22.66 per cent had utilization of contour cultivation as soil conservation measures. The study concluded that farmers who utilize the eco-friendly practices had mostly relied upon the traditional practices like weed control method, seed management, disease and pest control this may be due to lack of awareness about advanced method of technologies used in the eco-friendly practices. The farmers of study area were not so illiterate they had enough exposed to mass media for uplift their knowledge. This finding is supported by Murali *et al*. (2017) [7].

Table 3: Association between the utilization of eco-friendly practices and the attributes of tribal farmers

S. No.	Farmers attributes		Chi-square value	Degree of freedom	Nature of association
1	Age	X_1	07.49	4	Significant
2	Education	X_2	14.32	6	Significant
3	Size of land holding	X_4	9.50	4	Significant
4	Farming experience	X_5	11.46	4	Significant
5	Social participation	X_6	08.49	3	Significant
6	Annual income	X_8	07.81	2	Significant
7	Material possession	X_9	16.29	4	Significant
8	Extension participation	X_{11}	15.01	6	Significant
9	Scientific orientation	X_{14}	11.47	4	Significant
10	Risk orientation	X_{15}	10.85	4	Significant
11	Decision making	X_{16}	12.01	4	Significant
12	Attitude	X_{18}	10.02	4	Significant
13	Knowledge	X_{19}	12.41	4	Significant

Table 3 shows that association between the attributes of tribal farmers with their utilization of eco-friendly farming, and practices. The results also depict that the variables *viz*., age, education, size of land holding, farming experience, material possession, social participation, annual income, extension participation, scientific orientation, risk orientation, decision making, attitude knowledge shows significant association with their utilization towards eco-friendly practices in paddy crop at 0.05 level of probability.

Conclusion

It is concluded that majority (62.66%) of farmers had medium utilization of eco-friendly practices of paddy crop. The variables are age, education, size of land holding, farming experience, material possession, social participation, annual income, extension participation, scientific orientation, risk orientation, decision making, attitude, and knowledge shows significant association with their utilization towards eco-friendly practices in paddy crop at 0.05 level of probability. The Government also plays an important role to growth of the eco-friendly agriculture especially for cereals industry through policy development and program support. Research and development (R & D) and marketing are also very important issues or aspects to be look into in order to increase the production of organic products through eco-friendly farming practices.

References

1. Anonymous. Census Report 2011. Government of India, 2011a.
2. Anonymous report. Department of Farmer Welfare and Agriculture development, of Mandla district (M.P.), 2014-16.
3. Assis K, Mohd Ismail HA. Knowledge, attitude and practices of framers towards organic farmers. International Journal of Economic Research. 2011; 2(3):1-6.
4. Ecoagriculture-Wikipedia. En.wikipedia.org/wiki/Eco agriculture International Plant Nutrition Institution, Madhya Pradesh-Region Profile Sap.ipni.net/article/Madhya Pradesh, 2013-14.
5. Mishra Mandavi. Role of eco-friendly agricultural practices in Indian agriculture development. International Journal of Agriculture and Food Science Technology. 2014; 4(2):25-29.
6. Murali Krishnan L, H Philip, K Raghavendra Chowdary, Quadri Javeed, Ahmad Peer, Maddina Sreekanth. case studies about eco-friendly conservation 2017. practices in the Nilgiris district of western Ghats Journal of Pharmacognosy and Phytochemistry. 2017; 6(5):1228-1230.
7. Oinam T, Sudhakar B. Adotion of recommended paddy practices by the farmers of Bishnupur district of Manipur State. EPRA Journal of Economic and Business review, 2014, 2(7).