

**RESEARCH ARTICLE :**

Assessing the knowledge level of ethno- agriculture practices in paddy among the tribal farmers of Kalrayan hills

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SUMMARY : In recent century the tribal people had huge type of knowledge that possesses and employ orient is an important in agricultural sector, yet often the various type of element in the research information of traditional agriculture was documented for the sustainable agriculture. This information was extremely different, ranging from detailed knowledge of specific plants growth in cultivating broader sector of categorization that how better to particular cultural group views. The peoples inhabit and how this may use to shape the cultivation practices were coping up with the environment was most important in recent decades of agricultural cultivation practices. Indigenous agricultural practices are the progenitor's knowledge of the tribal community that has passed from one decade to another decade to be followed by generation to generation. This paper deals with the various indigenous agricultural practices adopted by the tribal farmers of Kalvarayan hills in Villupuram district of Tamil Nadu. The 300 tribal respondents were selected by the proportionate random sampling method with ten revenue villages in the Kalrayan hills. The practices has been sent to the various SAU, principle scientist and research experts to identify the Ethno agricultural practices in paddy and the data were analysed by appropriate statistical methods. The study concluded that majority of tribal respondents had high level of knowledge in different Ethno agricultural practices of paddy (Venkatesan *et al.*, 2016) and Lakra *et al.*, 2010).

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BACKGROUND AND OBJECTIVES

Ethno agricultural knowledge is a accumulation of information and behavioural that attitude local to use the land and agricultural practices without disturbance of natural resources. Transfer the tribal people. Ethno agricultural practices is usually adapted

and with natural ecological environment with tribal society to enhance social and cultural beliefs. This knowledge can be simple or complex. It is not static but evolves in response to changing ecological, economic and socio-political circumstances based on the creativity and innovation of community members and as a result of the influence of other cultures

and outside technologies (Natarajan and Santha, 2006).

Through the long path from primitive agriculture, tribal farmers in Kalrayan hills have developed more effective farming techniques through their own age old practices by their followed procedure of their progenitors with difficult problems faced during the farming practices. This type knowledge is based on their ancestor's knowledge gained through social interaction within their community bounded with factors environments. Tribal farmer's knowledge has been the mainstay of the indigenous agricultural practices.

An agriculture practice managed by farmers in tribal area embodies practices that are logic and different from those contained in agriculture science imparted in institutions of formal education. The tribal farmers work with their ethno knowledge in agriculture is continuously found with the linkages associated with ecological stability and productivity under natural resource. Agriculture is the back bone of the tribal people of Tamil Nadu. More than 80 per cent of the tribal population of Tamil Nadu state depends on agriculture for their livelihood.

The Tamil Nadu state offer scope for cultivation of a wide variety of agricultural crops and animal husbandry practices because of highly diversified topography, altitude and climate condition. It is one of the most potential zones for eco-friendly agriculture. In the field of agriculture, Kalrayan hill is one of the predominant place where indigenous knowledge is extensively used for the cultivation of crops. Kalrayan hill is one of the historical place, where immense use of indigenous knowledge is widely seen in agricultural and allied activities. Keeping this in view, the study observed that majority of the tribal farmers had high level of knowledge in ethno agricultural practices (Karnaraja and Natarajan, 2018).

RESOURCES AND METHODS

Sample collection:

The Villupuram district of Tamil Nadu in Kalrayan hills' was purposively selected for the study considering the availability of tribals farmers engaged in ethno agricultural practices. Among fifty revenue villages in Kalrayan hills ten villages were selected based on the maximum numbers of tribal farmers engaged in ethno agricultural practices and tradition familiarity with the Tamil dialect culture of people. Rationality of the twenty collected indigenous agricultural practices was

determined based on judge's opinion, accordingly fifteen ethno agricultural practices are found to be rational and five ethno practices are found to be irrational in paddy, fifteen indigenous agricultural practices under paddy crops were collected from the tribal respondents belonging to the Kalrayan hills by determining the rationality and selected. Data were collected from 300 tribal respondents with fifteen rational ethno agricultural practices in paddy were sought under two categories with knowledge and without knowledge. A well-structured interview schedule was used for collection of data from the respondents. The frequency of the farmer's knowledge was calculated from each of the practices and expressed in percentage (Majhi, 2008).

OBSERVATIONS AND ANALYSIS

The Table 1 revealed that out of 15 indigenous farm practices in paddy 11 practices observed that above one fourth of the respondents had high level of knowledge in the following practices *viz.*, coating of cow dung solution in paddy grains for protection of pest and diseases (91.66 %), sun drying of harvested paddy for one or two days in the field itself (90.66%), broadcasting the crushed *Neem* leaves in the paddy to reduce insect attack (90.00 %), grounding of rice in a heavy weight wooden grinder (Urral) (88.3%), threshing by hitting the paddy bundles with wooden blocks (88.33%), incorporating crop residue and leaves of tree as a manure (86.66%), application of green leaf manure and FYM (85.33%), covering rat holes with mud (85.33%), parboiling of paddy for improving the edible quality of the rice (84.00%), irrigation from the channels when the well completely dries up (80.00 %), seed rate @ 20-25 kg per acre (76.66%) Singh *et al.* (2010), followed by soaking of seeds for 24 hours in water and covering with paddy straw and bamboo leaves for early sprout (73.00%), summer ploughing (66.00%), burning of farm waste and trash on the nursery for better germination (64.66%) and use stingy bugs against caseworm (55.66%). This may be due to the reason of many of the tribal respondents followed the indigenous practices traditionally which was followed by their progenitors. This may show the high level of knowledge in paddy indigenous practices. This finding is similar to the findings of Geethu Krishna and Sanilkumar (2019).

Table 1 : Distribution of tribal respondents according to their knowledge level of ethno agricultural practices in paddy (n=300)

Sr. No.	Ethno farm practices in paddy	No. of the respondents	Per cent
Paddy			
1.	Soaking seeds for 24 hours in water and covering with paddy straw and bamboo leaves for early sprout	219	73.00
2.	Seed rate @ 20-25 kg per acre	230	76.66
3.	Burning of farm waste and trash on the nursery for better germination	194	64.66
4.	Summer ploughing	198	66.00
5.	Application of green leaf manure and FYM	256	85.33
6.	Incorporating crop residue and leaves of tree as a manure	260	86.66
7.	Sun drying of harvested paddy for one or two days in the field it self	272	90.66
8.	Threshing by hitting the paddy bundles with wooden blocks	265	88.33
9.	Parboiling of paddy for improving the edible quality of the rice	252	84.00
10.	Irrigation from the channels when the well completely dries up	240	80.00
11.	Grounding of rice in a heavy weight wooden grinder (Urral)	265	88.33
12.	Use stingy bugs against caseworm	167	55.66
13.	Bradcasting the crushed <i>Neem</i> leaves in the paddy to reduce insect attack	270	90.00
14.	Coating of cow dung solution in paddy grains for protection of pest and diseases	275	91.66
15.	Covering rat holes with mud	256	85.33

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