



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; SP2: 658-661

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Identification of traditional tribal agricultural practices in pachaimalai hills, Tamil Nadu

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Abstract

The tribal population in Tamil Nadu state is about 5.2 lakhs representing 1.10 percent of the total population. Among the various tribal communities "Malayali Gounders" of Pachamalai hills in one of the predominant tribal communities in Tamil Nadu state. This paper focused identification of traditional tribal agricultural practices were identified in paddy, sorghum and tapioca. In addition ten common traditional tribal agricultural practices were also identified in pachaimalai hills of tamilnadu. A sample size of one hundred tribal farmers was selected randomly from twenty villages. Data were collected by interview with the help of well-structured interview schedule. It concluded that majority of the respondents were found to have medium to high level of adoption of indigenous agricultural practices. Hence it is suggested that the extension workers to utilize the services of the farmers with indigenous knowledge in educating the other farmers.

Keywords: Traditional tribal agricultural practices, identification

Introduction

There are approximately two hundred million tribal people in the entire globe, which means, about 4.00 % of the global population. According to India's census 2011, Schedule Tribes comprise 8.6 % of the total population. There are around 700 different tribes living across India. The distribution of ST populations varies widely across India's state and territories. In Tamil Nadu, STs represent only 1% of the population. The tribal population of Tamil Nadu was 5.74 lakhs, where as the total general population was 5.58 crores as per the 1991 census. There are 36 tribal groups in the state. Pachamalai is located in the North western part of the Tiruchirappalli district in Thuraiyur taluk which separate the district from the Salem district. This is an important hill in the district inhabited by the Malayali (hillmen) tribes (Nazeer, 2015) [6].

The term traditional tribal agricultural practices denote a type of knowledge that has evolved within the tribal community and has been passed on from one generation to another. This knowledge is generated and transformed through systematic process of observing local conditions, experimenting with solutions and readopting previously identified solutions to modified environmental, socio-economic and technological situations (Brouwers, 1993) [3].

Traditional knowledge systems may appear simple to outsiders but they represent mechanisms to ensure minimal livelihoods for local people. They are often tuned to the needs of local people and the quality and quantity of available resources (Rangnekar, 1994) [9]. There is a need to analyze the importance of traditional agricultural practices for allied Agricultural activities. It is also reported that traditional agricultural practices is farmers friendly, economic and environmental friendly, socially accepted and suited to specific local and environmental conditions (Sharma, 2015) [11]. So eventually, traditional agricultural practices are fruitful for sustainable development of the community and country as a whole.

Research methodology

Based on the maximum area and production of major crops in the hilly tracts of Pachaimalai Hills, the crops like paddy, sorghum and tapioca were selected. A total of 20 villages namely Tupsengattupatty, Puthur, Periyasithur, Nachilipatti, Boodhakkal, Kampur, V. Thannirpallam, Nadasithur, Manal odai, M. Puthur, Parathal, Nagoor, Valaiyur, Silaiyur, T. Thannirpallam, Ramanathapuram, Melur, Sempulichaanpatti, Erumaipatti and Erukkaadu were selected from three blocks viz., Vannaadu, Thenpuranaadu and Kombai. Proportionate Random Sampling procedure was used to select the respondents of 100 Malayali tribal farmers (Table 1). The data were collected with the help of a well-structured and pre-tested interview schedule, group discussion and observation technique.

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Table 1: Block-wise distribution of selected respondents

S. No.	Name of the block	Name of the crop	Total number of tribal farmers (crop-wise)	Number of tribal farmers selected (n = 100)
1.	Vannaadu	Paddy	279	40
2.	Thenpuranaadu	Sorghum	285	40
3.	Kombai	Tapioca	139	20
Total			703	100

The study comprises of sixteen independent variables *viz.* age; education; farm size; farming experience; annual income; occupation; nature of family; social participation; socio-economic status; mass media exposure; information source utilization; information sharing behaviour, innovativeness; risk orientation; achievement motivation; and fatalism. Extent of adoption was taken as the dependent variable. The sixteen independent variables were measured by applying suitable statistical techniques and the dependent variable was measured by appropriate scoring procedure.

Findings and discussion

Identification of traditional tribal agricultural practices

The tribal farmers in Pachaimalai hills practiced agriculture as their major occupation. The wisdom of tribes is expressed in all their agricultural activities right from sowing to the post harvest technology.

The important traditional tribal agricultural practices identified in major crops *viz.*, paddy, tapioca and sorghum in the study area and general traditional agricultural practices are discussed in the succeeding pages:

A. Paddy

Paddy crop is largely cultivated in Vannadu block. Totally 12 traditional agricultural practices were identified in paddy crop in Vannadu block. They are as follows.

1. Six ploughings are made in the main field for better yield

This practice is mainly done to eradicate weeds and to bring the soil to a fine tilth condition so as to have good erosion control and to get high yields.

2. Using a wooden leveling board

A wooden leveling board is used to level the main field after ploughing and before transplanting to destruct the crabs so as to prevent the entry of crabs in the field.

3. Trimming the bunds in the main-field

During the main-field preparation, the bunds are trimmed well to avoid weed growth and also to prevent the entry of rats and snakes.

4. Soaking of paddy seeds in water for sprouting

Paddy seeds are soaked in water and covered with wet cloth until they sprout before sowing. It is the no cost technology which enables faster germination of paddy seeds.

5. Plastering the bunds

Plastering the bunds is being done during last ploughing to avoid water leakage and to destruct the rat holes.

6. The elevated place in the field is identified for raising nursery

Majority of the respondents land holdings are present in hilly slopes. The nursery is raised only in elevated places of the

field because if it is raised in the low lying areas then water drainage would be a problem.

7. Non-application of fertilizers in nursery

The farmers do not apply fertilizers to their paddy nursery, because they believed that application of fertilizer may result in maturity of seedling in the nursery.

8. Thirty days nursery is better for transplanting

The farmers believed that 30 days old seedling is essential and opt for getting better yield in the paddy crop. Moreover the 30 days seedlings are pest free and healthy and hence this practice is followed.

9. Application of green leaf manure

The farmers apply neem leaves as green leaf manure to their paddy fields since they have experienced that application of neem leaves would reduce the pest incidence. Also neem leaf manures easily available in required quantities during the entire cultivation period.

10. After harvest, paddy is sundried well before storage

Proper sun-drying is very much essential to bring the moisture content of seed to the optimum level for future use, and hence the tribal farmers followed this practice.

11. Storage of paddy grains in kudhirs

Paddy grains are stored in the tall mud pots or bins which are popularly known kudhirs (Plate-1). These mud pots are made up of clay soil mixed with plant fiber. The height of Kudhir ranges from 180 cm-200 cm on the top there is an opening and at the bottom there is a slide which enable the farmers to draw the grains from Kudhir whenever needed. By using kudhir, the farmers can store grains for a long period without pest attack and also they can save space.

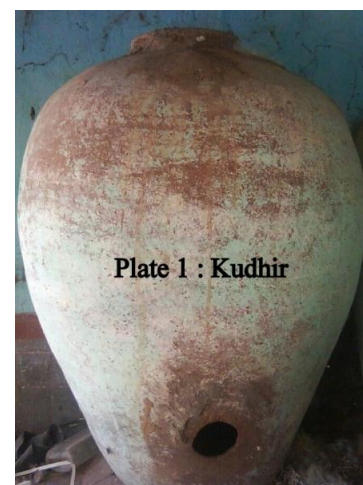


Plate 1: Kudhir

12. Kudhirs coated with cow-dung slurry

The Kudhirs used for storage purpose are coated with cow-

dung slurry. It is mainly done to prevent the storage pest attack.

B. Sorghum

Sorghum crop is largely grown in Kombai area. Totally 5 traditional agricultural practices were identified in sorghum crop. They are as follows.

1. Local variety in rainfed sorghum

As for as sorghum crop is concerned, the local varieties namely Makkatai, Thalaivirichan and Irungucholam are cultivated, as they traditionally practiced the same.

2. Cultivation of chencholam

Local variety called chencholam is widely cultivated because the straw of this variety is very much liked by the cattle. Also it could be used both for fodder and grain purposes.

3. Soaking of sorghum seeds in water

Sorghum seeds are soaked in water before sowing. This practice is followed to have good germination of seeds.

4. Mixed cropping in rainfed sorghum

In rainfed sorghum the crops like lablab, red gram and gingelly are cultivated as intercrop. The main purpose of cultivating intercrop is to get assured income even if the main crop fails due to certain inevitable natural calamities.

5. Mixing sorghum seeds with dried neem leaves

During this storage, sorghum seeds are mixed with neem leaves to avoid the incidence of storage pests.

C. Tapioca

Tapioca is mainly cultivated in Thenpuranadu area. In tapioca crop, traditional agricultural practices were identified. They are as follows.

1. Selection of setts with shorter internodes

The setts with shorter internodes alone are used for planting. Because, they enhances easy and quick germination; and ensures a strong and healthy crop.

2. The setts should be planted with in few hours after cutting

The setts should be planted within few hours after cutting. Otherwise the wet milky portion of the setts would result in poor germination.

3. The setts are planted at one inch depth in the soil

The setts are planted at one inch depth in the soil. If it is planted in more depth that would result in improper roots development. Hence this practice is being followed by the tapioca growers.

4. Top dressing of fertilizer in Tapioca

Top dressing of fertilizers is done at 5th month of planting on the anticipation of rainfall, since the rainy season coincides only at the time of 5th month, after planting Tapioca and hence application of fertilizers during the time would be effectively utilized.

D. General traditional practices

The general traditional agricultural practices commonly practiced by all the three categories of farmers were

identified. They are as follows.

1. Tying of polythene sheets to scare away the birds

Thick polythene sheets are tied to a long pole and the pole is placed in the centre of the field during the maturity phase of the crops like thenai (*Setaria italica*) samai (*Panicum moliare*), varagu (*Paspalum Scrobiculatum*) ragi (*Eleusine coracana*) and tapioca. Because of the wind the polythene sheets produce a peculiar sizzling sound due to the force by wind. This sound scares away the birds those come for eating the grains.

2. Beating drums to scare away the birds

In the crop fields of ragi (*Eleusine coracana*), thenai (*Setaria italica*), varagu (*Paspalum scrobiculatum*), panivaragu (*Panicum miliaceum*), sorghum and cumbu during the maturity phase, drums are beaten by small children to scare away the birds.

3. Displaying crow's carcass to scare away the crows

The carcass of the crow is tied to a long pole and it is placed in the centre of the field. The purpose is to drive away the birds. Such a practice is prevalent in most of the tribal pockets in South India (Balasubramaniam, 1992) [2]. This is done to scare away the birds.

4. Summer ploughing

The land is ploughed on the immediate receipt of summer showers. By doing this practice, the weeds can be controlled effectively, moisture can be retained well and erosion could be controlled.

5. Shallow ploughing after summer rain

Shallow ploughing in dry land is done after every receipt of summer rain, to conserve moisture.

6. Dusting of ash to control pests

Ash is dusted over the crops like ragi, thenai, samai, varagu, panivaragu and paddy. The ash is dusted on the infected leaves of the particular crop to prevent the pest incidence.

Conclusion

It concluded that majority of the respondents were found to have medium to high level of adoption of indigenous agricultural practices. Hence it is suggested that the extension workers to utilise the services of the farmers with indigenous knowledge in educating the other farmers.

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