



UNDERSTANDING THE EFFECT OF SOCIO-ECONOMIC CHARACTERISTICS AND PSYCHOSOCIAL FACTORS ON INDIGENOUS AGRICULTURAL PRACTICES AMONG TRIBALS IN SUBANSIRI DISTRICT OF ARUNACHAL PRADESH

Natarajan. M; T. Kalidasan and Hibu Taba

Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar, 608002, Tamil Nadu, India.

Mail Id: mnrajpriya@gmail.com

Abstract

The paper deals with the profile characteristics of tribal farmers on traditional farming systems practiced by the indigenous communities. The study was conducted in the Lower Subansiri District of Arunachal Pradesh in order to document the indigenous practices oriented with agricultural and allied activities of the tribal farmers. The information was collected by using of well structural interview schedule, personal interview, photo documentation, field observation and participant observation of the study area. This study argues that we need to identify the indigenous knowledge which has scientific rationality, so that it can be incorporated in agriculture and allied fields. It also deals with the constraints of suggesting the practices of indigenous practices in the study area and the strategy for using indigenous knowledge in agriculture and allied fields to get food security, livelihood and ecological balance in a sustainable mode. A total of 120 respondents was selected for the study. Finally, through this study, it can be revealed that identification and documentation will lead to food security with sustainability if the proper extension intervention for indigenous knowledge will be carried out in the study area. Further, the study concluded that the majority of the respondents engaged with the personal, socioeconomic and psychological characteristics of the tribal respondents.

Keywords: Indigenous agricultural practices, the profile characteristics, Tribal Farmer.

Introduction

Indigenous knowledge encompasses spiritual relationships with the natural environment and the use of natural resources, the relationship between people, and is reflected in language, social organizations, values, institutions and laws. These knowledge systems are usually embedded in naturalistic epistemologies and belief system, which differ radically from those of scientific systems (IUCN, 1997)

Indigenous knowledge is the knowledge of indigenous people inhabiting in different geographical region of the world with their own language, culture, tradition, belief, folklore, rites and rituals (Wareren and Cashment, 1998). In course of close interaction with nature and natural resources for their livelihood, farmers have developed indigenous knowledge to mitigate their immediate environment for maintaining sustainability in agriculture field. Therefore, indigenous knowledge, developed based on the necessities, experimentation, curiosity and observation of ethnic groups to mitigate the immediate situational problems.

Through the long path from primitive agriculture, tribal farmer in particular has developed a number of farming techniques through their own age old experiments by trial and error in an attempt to overcome numerous problems faced during the farming operations. This knowledge is based on many generations of insight gained through close interaction within the natural and physical micro-environments.

Tribal Farmers' knowledge has been the mainstay of the indigenous agricultural practices. Agriculture practices, managed by farmers in tribal area embody practices that are logic and different from those contained in agriculture science imparted in institutions of formal education. It is between the spaces, the interstices of sectors, the invisible

ecological flows between social sectors where the tribal farmers work and their knowledge in agriculture is uniquely found. It is through these linkages that ecological stability and productivity under resource scare conditions are maintained by the tribal farmers.

Agriculture is the main occupation of the tribal people of Arunachal Pradesh. About of the total population of the state depends on agriculture for their livelihood. The state offers more scope for cultivation of a wide variety of agricultural and horticultural crops 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, Arunachal Pradesh is one of the states in India, where indigenous knowledge is extensively used for the cultivation of agricultural crops. Lower Subansiri is one of the Districts of Arunachal Pradesh where immense use of indigenous knowledge is widely seen in agricultural and allied activities. Due to rapid urbanization traditional knowledge may be lost. Keeping this in view, the title was taken to study about the profile characteristics among the tribal farmers of Lower Subansiri District in Arunachal Pradesh has been made to understand the socioeconomic factors of the indigenous agricultural practices.

Materials and Methods

Lower Subansiri District of Arunachal Pradesh was purposively selected for the study considering the availability of tribal farmers engaged in indigenous agricultural practices. Among the two blocks (Ziro-I and Ziro-II), one block, namely Ziro-I was selected based on the maximum numbers of tribal farmers engaged in indigenous agricultural practices and researcher's familiarity with the dialect and culture of people. From respective block, four villages were selected based on the maximum population. Thus, a total number of

four village's viz., Hong-I, Hija-I, Old Ziro-II and Mudangtag are purposefully selected for the study. The rationality of the collected indigenous practices was determined based on a judge's opinion. Accordingly, twenty five independent variables were sent to the judge's opinion, fifteen independent variables be taken for analysis were to understand the socioeconomic characteristic factors to develop the tribal household welfare. Data were collected from 120 tribal farmers identified based on the proportionate random sampling method. Simple percentage was used for interpretation of results. A well-structured interview schedule was used for collection of data from the respondents. The

frequency of the farmer's personal characteristics and psychological factors measured and calculated and expressed in percentages.

Results and Discussion

In order to have an in-depth idea to assess the various characteristics of the tribal respondents was analysed and the results are presented in Table 1.

Assessing the characteristics of the tribal respondents

The findings of various characteristics of the tribal respondents are presented in table1.

Table 1 : Distribution of respondents according to their profile characteristics of the tribal respondents (n=120)

Sl.No.	Category	Number	Per cent
1. Age			
1	Young	07	05.83
2	Middle	42	35.00
3	Old	59	59.17
2. Occupational status			
1	Agriculture as primary occupation	114	95.00
2	Agriculture as secondary occupation	006	05.00
3. Educational status			
1	Illiterate	66	55.00
2	Primary school level	33	27.50
3	Secondary school level	14	11.67
4	Higher secondary level	07	05.83
5	Collegiate level	00	00.00
4. Annual income			
1	Low	78	65.00
2	Medium	29	24.17
3	High	13	10.83
5. Farming experience			
1	Low	55	45.83
2	Medium	54	42.50
3	High	11	11.67
6. Farm size			
1	Small Farmer	61	50.83
2	Medium Farmer	45	37.50
3	Big Farmer	14	11.67
7. Social participation			
1	Low	38	31.67
2	Medium	75	62.50
3	High	07	05.83
8. Economic motivation			
1	Low	48	40.00
2	Medium	44	36.70
3	High	28	23.30
9. Mass media exposure			
1	Low	36	30.00
2	Medium	43	35.83
3	High	41	34.17
10. Fatalism			
1	Low	29	24.17
2	Medium	36	30.00
3	High	55	45.83
11. Risk orientation			
1	Low	65	54.17
2	Medium	51	42.50
3	High	04	03.33

12. Scientific orientation			
1	Low	44	36.67
2	Medium	39	32.50
3	High	37	30.83
13. Information seeking behavior			
1	Low	03	02.50
2	Medium	22	18.33
3	High	95	79.17
14. Extension agency contact			
1	Low	73	60.84
2	Medium	34	28.33
3	High	13	10.83
15. Livestock possession			
1	Low	74	61.67
2	Medium	29	24.17
3	High	17	14.16

The data in Table revealed that more than fifty per cent of the respondents (59.17 per cent) were old aged, followed by middle age (35.00 percent) and young age (5.83 per cent). This might be due to a younger generation migrated to urban areas for better employment purpose and economic development of the family welfare and mostly old age generation engaged in agriculture and its allied activities. This finding is in accordance with the findings of Venkatesan *et al.* (2014).

From the Occupational status that most of the respondents (95.00 per cent) were found to be agriculture as their primary occupation. Respondents with agriculture as a secondary occupation constituted only a limited proportion (05.00 per cent). It could be concluded that the majority of the farmers depend only on agriculture for their livelihood. Most of the villages in the study area are covered with tribal hamlets without any basic infrastructure facilities. Hence, there was no option for them to get any other jobs. This finding is in line with the findings of Narasimhan (2014).

It could be observed in Educational status, that majority of the respondents were illiterate (55.00 per cent), followed by the categories viz., Primary school education (27.50 per cent), secondary school level (11.67 per cent) and higher school education (05.83 per cent) respectively. None of the respondents were collegiate level. Hence, it could be concluded that the majority of the respondents were illiterate. Most of the respondents selected were older age and the absence of educational institutions during their tender age must have resulted with similar findings of Guna (2013).

It could be seen that the Annual income, that nearly three-fifth of the respondents had low levels of annual income (65.00 per cent), followed by the respondents with medium level of annual income (24.17 per cent) and the rest of them were high level of annual income (10.83 per cent) respectively. This might be due to the fact that the majority of them were engaged only in farming traditionally and also less education which shows that results in lesser income from the agriculture. This finding is coined with the findings of Guna (2013).

It could be seen that from the above Table, about half the proportion of the respondents had Low level of farming experience (45.83 per cent), followed by the medium level of experience (42.50 per cent) and a high level of farming experience (11.67 per cent). This might be due to the fact that existences of a majority of the tribal respondents are under

older age group. This finding is similar to the findings of Ram *et al.* (2015)

The result in Farm size, observed that half of the respondents were small tribal farmers (50.83 per cent), followed by the medium level of tribal farmers (37.50 per cent) and the rest were big farmers (11.67 per cent). As many of the farm holdings were traditionally owned. It would have resulted with the obtained farm holding categories. This finding is reported with the same findings of Sangma (2017).

The data in above Table, revealed that the majority of the respondents had a medium level of social participation (62.50 per cent), followed by low level of participation (31.67 per cent) and the rest of them only belonged to a high level of social participation category (05.83 per cent). This might be due to lack of awareness about social organisation and lack of time for the respondents in the study area, as most of the tribal farmers are falling under older age group. This finding is in agreement with the findings of Narasimhan (2014).

The Table 1 also, revealed that the majority of the respondents had low levels of economic motivation (40.00 per cent), followed by the medium level of economic motivation (36.70 per cent) and a high level of economic motivation (23.30 per cent). As most of the farmers are small and marginal farmers, had more land holding with low to moderate annual income. Besides the researcher observed that most of the farm holdings are fully affected during winter season because of cold, frosty and non-availability of irrigation water results with the reduction in yield of agriculture products. This may be the probable reason for low level of economic motivation in agricultural practice. This result is supported by the findings of Karnaraja (2015).

According to the mass media exposure, the majority of the respondents had a medium level of mass media exposure (35.83 per cent), followed by high level of mass media exposure (34.17 per cent) and the rest of the respondents had a low level of exposure towards the mass media (30.00 per cent). The majority of the respondents possessed less education and more respondents engaged in farming were restricted to the lesser exposure to the mass media. This might have resulted in medium level of mass media exposure. This finding is in line with the findings of Guna (2013).

It could be observed that from Table 1 that the majority of the farmers had high levels of fatalism (45.83 per cent), followed by a medium level of respondents (30.00 per cent) and low category of fatalism (24.17 per cent) respectively. It may be observed that high level of fatalism may be due to the fact that tribal farmers are conventional in nature and believe their own traditional activities. This finding is oriented with the findings of Sangma (2017).

It could be observed that from the above Table 1, that exactly half of the proportion of the respondents were having a low level of risk orientation (54.17 per cent), followed by a medium (42.50 per cent) and a high level of orientation towards risk (03.33 per cent). As most of the respondents were small and marginal farmers with more land holdings and poor annual income, resulted to take lesser risk in their activities. This might be the reason for low level risk orientation. This finding is same in the findings of Guna (2013).

It could be observed from the Scientific orientation, that the majority of the respondents had a low level of scientific orientation (36.67 per cent), followed by the medium level of scientific orientation (32.50 per cent) and a high level of scientific orientation (30.83 per cent) respectively. The low level of risk orientation among the majority of the respondents would have resulted 36.67 per cent. The results are similar to the results of Venkatesan *et al.* (2014).

It could observe from information seeking behaviour, that more number of the respondents had a high level of information seeking behaviour (79.17 per cent), followed by a medium level 18.33 per cent of the respondents and a low level of information seeking behaviour (02.50 per cent). From this, it could be concluded that most of the farmers had a medium level to low level of information seeking behaviour. This might be due to their poor educational status and lower social participation with extension agency contacts in the study area. This finding is on par with the findings of Kalirajan (2001).

It is evident from the Extension agency contact, that the majority of the respondents had a low level of contact with extension agency (60.83 per cent), followed by a medium (28.33 per cent) and a high level (10.83 per cent) respectively. This may be due to the reason of less awareness about the activity of extension agencies and irregular visits of extension officials of the study area may be the reason to attributes of the existing low to medium levels of extension agency contact among the tribal respondents. This finding is conformity with the findings of Sangma (2017) who reported that low level of extension agency contact among the respondents.

It could be observed from above Table in livestock possession, that the majority of the farmers had belonged to low level of livestock possession (61.67 per cent), followed by a medium (24.17 per cent) and a high level (14.16 per cent) category of livestock possession respectively. The results are in close agreement with the findings of Sangma (2017).

Conclusion

In order to improve the tribal indigenous work efficiency, Government and Extension workers should plan and execute the economic livelihood of the household in the hilly zone. Make coverage for social security and the legal

protection of the tribal society's work force, particularly the tribal people's welfare is to be improved in their household labour, in the mentioned region who have participated in agricultural activities and spend a lot of time, but they do not have any support from developed organizations and agencies. The efforts should be made to make the tribes of our society sufficiently open minded to accept the ability of the indigenous practices in the field of agriculture and its allied activities of planning and managing in case of development of tribal welfare.

The analysis concluded that the personal, socioeconomic and psychological characteristics of the tribes revealed that majority of them were old aged, had agriculture as main occupation, majority of them were illiterate, had low annual income, had medium farm experience, had small farm size, had medium level of social participation, had low level of economic motivation, had medium level of mass media exposure, high fatalism, had low level of scientific orientation, high level of information sharing behaviour, had low level of extension agency contact and low level of livestock possession. Hence, considering these characteristics of the tribes to be accelerating the active participation of the respondents and document the indigenous practices to develop the sustainable agriculture in the Kalrayan Hills of Villupuram District.

References

- Guna, B. (2013). A Study on Knowledge and Adoption of Eco-friendly Practices in Rice at Sirkazhi Taluk, Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar.
- Kalirajan, V. (2001). Adoption of Indigenous Agricultural Practices in Tirunelveli District of Tamil Nadu, Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar.
- Karnaraja, D. (2015). A Study on Knowledge and Adoption Level of Maize Growers in Madurai Districts, Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar.
- Narasimhan, R. (2014). Awareness, Knowledge and Adoption Behaviour of Eco-friendly Agricultural Practices in Perambalur District of Tamil Nadu", Unpublished M.Sc. (Ag) Thesis, Annamalai University, Annamalai Nagar.
- Ram, K.; Patel, J.K. and Gordhan, S.B. (2015). Adoption Regarding Eco-Friendly Technology Adopted by the Paddy Growers to Combat Environmental Hazards in Paddy Cultivation, *Agriculture Update*, 10(4): 327-334.
- Sangma (2017). A Study on Knowledge and Adoption of Indigenous Agricultural Paddy Cultivation and Dairy Management Practices Among the Tribal Farm Women of West Garo Hills District of Meghalaya, Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar.
- Venkatesan, P.; Sundaramari, M. and Venkattakumar, R. (2014). Profile of Tribal Farmers, *Journal of Extension Education*, 26(3): 5315.
- Warren and Cashment (1988). Indigenous Natural Resource Management Systems for Sustainable Agriculture Development-A Global Perspective, *Journal International Development*, 3(4):387-401.