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ASSESSING THE KNOWLEDGE LEVEL OF ETHNO-AGRICULTURAL PRACTICES IN CUMBU AMONG TRIBAL OF KALRAYAN HILLS IN TAMIL NADU INDIA

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Abstract

Indigenous Agricultural Practices have facilitated exhaustive farming method for a long duration of time by the collection of technologies by their progenitors with a strong culture of the cultivation method of land or decline in crop production (Johnson, 1977). The tribal people of the Kalrayan hills of Villupuram district Tamil Nadu had rich cultural belief with followed fatalism and high experience with their forefathers cultural spirit in indigenous practices play a vital role in effective method to stabiles the sustainable agricultural development in the tribal areas by certain effective blending of the indigenous practices with appropriate recommended technological methods. In this context, the study undertaken for collecting, tabulating, documenting, analyzing with appropriate rationality method, and enhance the study of assessing the knowledge level of the selected indigenous practices in slash land cumbu cultivation practices in kalrayan hills. In this study 27 ethno agricultural practices were taken on low land cumbu, in different zone of Hamilton's of Kalrayan hills were identified for personal interview to assessing the knowledge level of cumbu practices. The selected ethno agricultural practices were interviewed with 300 respondents in different cluster of people. The examine was taken to analyze with appropriate statistical tools to verify their knowledge level in cumbu cultivation of adoption. These package of practices which was accounted by the tribal community utilizes their socioeconomic development, thus the indigenous agricultural practices sustain the livelihood and welfare of the tribal community of Kalrayan Hills which resulted the high level of knowledge in cumbu practices.

***Keywords*:** Indigenous Agricultural practices, Cumbu, Assessing the Knowledge level.

Introduction

Kalrayan hills in Tamil Nadu is a pasture land of indigenous knowledge in agriculture and allied activities. Tamil kalar tribal groups in kalrayan hills were mostly found in Eastern Ghats of Tamil Nadu, have rich traditional culture and indigenous knowledge which is situated in the Villupuram district of Tamil Nadu. The tribes in Kalrayan Hills were more in nature, having belief and faith in the practices of the hill zone. They managed their knowledge with traditional culture through agriculture and maintained a traditional cultural lifestyle through their forefathers knowledge passed from generation to generation (SADCC/ICRISAT. 1985 and Ramakrishnan, 1963). The indigenous practices accompanied by way of them in their communities is to establish their notion with their traditional subculture observed with the aid of them to help their tribal society, for this reason the take a look at must be taken to have a look at the ethno agricultural practices of tribes in kalrayan hills will help their needs for proposing an movement paradigm for maintenance and diffusion of acceptable indigenous knowledge for the benefit of the tribal farming society.

Materials and Methods

In this paradigm, a study on assessing the knowledge level of ethno-agricultural practices in cumbu among tribal of kalrayan hills was carried out. This paper discusses about the various indigenous practices documented in cumbu was analyzed by the tribal farmers and the result denote that high level of knowledge possessed by the respondents in cumbu cultivation.

Results and Discussion

Table: Distribution of tribal respondents according to their knowledge level of Ethno Agricultural Practices in cumbu.

n=300

Cumbu			
1.	Spreading of cumbu ear heads circularly to a height of 1 foot and cattle threshed	180	60.00
2.	Drying of cumbu until a metallic sound is produced	192	64.00
3	Storage in earthen pots covered and tied with a cloth.	260	86.66
4	Spreading of Nochi leaves over the storage container to control pest	265	88.33
5	Mixing of seed purpose cumbu with dried neem leaves	265	88.33
6	Spray turmeric powder and ash solution (2Kg of turmeric powder + 8 Kg of ash + 200 liter of water per acre) To control sucking pests like aphids, hoppers etc.,	165	55.00
7	Cumbu ear heads are sun dried for two days and stored without seed separation by building a storage structure called 'Kudhir'.	260	86.66
8.	Soak the cumbu seeds in common salt solution before sowing to secure good germination under adverse conditions.	265	88.33
9	Soak the cumbu seeds in cow urine for half-a-hour and sun drying them before sowing to control head smut and to induce drought tolerance.	260	86.66
10	To ensure quick germination of cumbu seeds and to avoid shoot fly attack, enough water is boiled and kept in an open place throughout the night for cooling. In the next day morning prior to sowing, the cumbu seeds are immersed in cold water for some time and sown in the field, which produces better germination.	250	83.33

11	Country plough is run at the early stage of cumbu crop to ensure optimum plant population.	198	66.00
12	Sowing cumbu during the Tamil months Vaikasi - Aani (May-June) to avoid shoot fly and stem borer.	220	73.33
13	Sowing cowpea as an intercrop in cumbu to minimize stem borer attack due to its repellent smell.	165	55.00
14	Sow lab-lab as an intercrop to reduce stem borer damage in cumbu.	195	65.00
15	Pouring neem cake extract, drop by drop on the cumbu shoot to control shoot borer.	195	65.00
16	Dusting ash on the infected leaves of cumbu to prevent the pest incidence.	229	76.33
17.	Dusting ash at a milking stage to control ear head bugs.	195	65.00
18.	Growing coriander as a mixed crop in cumbu to control the parasitic weed (Striga lutea).	150	65.00
19.	A red / yellow/ dark cloth is tied to a long pole and fixed in the centre of the field to scare away the crows.	270	90.00
20.	Mixing cumbu seeds with ash to prevent storage pests.	275	91.66
21.	Local varieties are adopted in dry lands to avoid more water coinciding with the harvesting stage.	280	93.33
22	Cumbu seeds are treated with cow urine at 1:10 ratio to enhance germination.	270	90.00
23	When a sample of dried cumu grain is chewed, metallic sound indicates its dryness.	255	85.00
24	It is pounded well into course powdery form and consumed.	240	80.00
25	This ethnic food control fever, blood pressure and even diabetes in human beings and it is very effective	160	53.33
26	Dusting Chula ash in pearl millet fields to control green leaf hoppers sitting on the inner side of leaves.	150	50.00
27	Storing cumbu seeds by mixing with ash.	260	86.66

The Table there revealed that out of 27 ethno agricultural practices in cumbu 15 practices observed that above three fourth of the respondents had a high knowledge level namely viz., Local varieties are adopted in dry lands to avoid the more water logging with the harvesting stage (93.33 per cent), Mixing cumbu seeds with ash to prevent storage pests (91.66 per cent), A red / yellow/ dark cloth is tied to a long pole and fixed in the centre of the field to scare away the crows (90.00 per cent), Cumbu seeds are treated with cow urine at 1:10 ratio to enhance germination (90.00 per cent), Spreading of Nochi leaves over the storage container to control pest (88.33 per cent), Mixing of seed purpose cumbu with dried neem leaves (88.33 per cent), Soak the cumbu seeds in common salt solution before sowing to secure good germination (88.33 per cent), Storage in earthen pots covered and tied with cloth (86.66 per cent), Cumbu ear heads are sun dried for two days and stored without seed separation by building a storage structure called 'Kudhir' (86.66 per cent), Soak the cumbu seeds in cow urine for half-an-hour and sun drying them before sowing to control head smut and to induce drought tolerance (86.66 per cent), Storing cumbu seeds by mixing with ash (86.66 per cent), the dried cumu grain is chewed, when the metallic sound indicates its dryness (85.00 per cent), To ensure quick germination the cumbu seeds soaked with hot water and kept in a place in night for cooling and sown in the field, which produces better seedlings (83.33 per cent), It is pounded well into course powdery form and consumed (80.00 per cent), Dusting ash on the infected leaves of cumbu to prevent the pest incidence (76.33 per cent). In the observation the result indicated that 13 practices had a high level of knowledge in cumbu indigenous practices followed in the kalrayan Hills. This finding is coined with the findings of M. Natrajan (2019) and Mushonga, J.N. (1986).

In the table below three fourth of them followed the practices namely viz., Sow cumbu during the Tamil months Vaikasi - Aani (May-June) to avoid shoot fly and stem borer (73.33 per cent), Country plough is run at the early stage of cumbu crop to ensure optimum plant population (66.00 per cent), Dusting ash at milking stage to control ear head bugs (65.00 per cent), Growing coriander as a mixed crop in cumbu to control the parasitic weed (Striga lutea) (65.00 per cent), Sow lab-lab as an intercrop to reduce stem borer damage in cumbu (65.00 per cent), Pouring neem cake extract drop by drop on the cumbu shoot to control shoot borer (65.00 percent), Drying of cumbu until a metallic sound is produced (64.00 per cent), Spreading of cumbu ear heads circularly to a height of 1 foot and cattle threshed (60.00 per cent), Spray turmeric powder and ash solution to control sucking pests like aphids, hoppers (55.00 per cent), the cowpea could grow as an intercrop in cumbu to minimize stem borer attack due to its repellent smell (55.00 percent). This ethnic food controls fever, blood pressure and even diabetes in human beings and it is very effective (53.33 per cent), and Dusting Chula ash in pearl millet fields to control green leaf hoppers sitting on inner side of leaves (50.00 per cent), in this observation of the result nearly half proportionate of the respondent had medium level of knowledge which may tail other practices becomes low due to the change of knowledge by recent days become of the Mansoon failure and climatical change in the hilly track. This finding is similar to the findings of Natarajan (2019) and Obilana *et al*. (1987).

Conclusion

From the observation of result the 27 ethno agricultural practices in cumbu, which had grown in the kalrayan hills tribal farmers were possessed a high level of knowledge in 16 practices which had been denoted above three fourth of the respondents. The remaining 11 practices resulted that respondents had a medium level of knowledge were the result related that above half proportionate of the respondents in cumbu cultivation. Since most of the tribal farmers in kalrayan hills are culturally better than traditional knowledge for organic farming, the agricultural officer's support them in cultivating the organic practices cope up with ITK. These farming technologies which has been denoted an ethno agricultural practices provide an enormous scope and opportunities to manage the local verities and their cultural practices to coverage the sustainable crop improvement to with stand of their traditional practices.

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References

Briton-Jones, H.R. (1922). The smuts of millets. Egypt Ministry Agricultural Technology and Science Service Bulletin. 49: 8.

Johnson, A.W. and Burton, G.W. (1977). Influence of nematicides on nematodes and yield of sorghum-sudangrass hybrids and millets. Plant Disease Reporter 61:1013-1017.

Mushonga, J.N. and Appa, R.S. (1986). Progress in sorghum improvement. Pages 103-118 *in* Proceedings, Second Regional Workshop on Sorghum and Millets for Southern Africa, 23-27 Sep 1985. Gaberone, Botswana. Bulawayo, Zimbabwe: SADCC/ICRISAT SMIP.

Natarajan, M. and Santha, G. (2006). Indigenous agricultural practices tribal women. Indian J. Traditional Knowledge, 5(1): 118-121.

Obilana, A.B.; Riches, C.R.; de Milliano, W.A.J.; Knepper, D. and House, L.R. (1987). Witch weeds (*Striga* species) of southern Africa. A field identification guide. Bulawayo, Zimbabwe: SADCC/ICRISAT Sorghum and Millets Improvement program, in cooperation with the Department of Agricultural Research, Botswana. 3 pp.

Ramakrishnan, T.S. (1963). Disease of millets. New Delhi, India; Indian Council of Agricultural Research. 152 pp.

SADCC/ICRISAT (1985). Proceedings of the First Regional Workshop on sorghums and millets for southern Africa. Harare, Zimbabwe, 23-26 Oct

SADCC/ICRISAT S. and Millets Improvement Program (1985). Proceedings, First Regional Workshop. Oct 23-26, 1984. Harare, Zimbabwe. Bulawayo, Zimbabwe.