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Knowledge on Indigenous Cultivation Practices for Sustainable Agriculture

V. Iraianbu
Department of Agricultural Extension,
Centre for Agriculture and Rural Development Studies, Tamil Nadu Agricultural University
Coimbatore-641 003, Tamil Nadu, India

The study investigated knowledge on indigenous cultivation practices for sustainable Agriculture and Food Security in six agro climatic zones of Tamil Nadu. Data were collected using pretested comprehensive questionnaire administered to 170 respondents randomly selected using the simple random sampling technique. Data collected were analyzed using descriptive tools such as frequency counts, average and percentages. It can be concluded that majority of the respondents were old, completed primary education with own land holding size of less than two ha and agriculture as the main occupation. Findings revealed that majority of the respondents aware of the cultivation practices in native literature and related proverbs. It indicates that the farmers still take pride in practicing agriculture. The scope for traditional agriculture and stressing its value through native literature are found to be bright through the careful analysis of this research.

Key words: Agriculture, Indigenous Knowledge, Cultivation Practices, Literature and Proverbs.

Modern agriculture focused on maximizing productivity by increasing the usage of inputs which are mostly inorganic in nature. It became imperative to feed the huge population at any cost and it warranted new technologies to handle the situation. It will not be prudent to totally dismiss the wisdom gained over a period of time. According to Pushpangadan (2002), Indigenous Technical Knowledge (ITK) is a community based functional knowledge system, developed, preserved and refined by generations of people through continuous interaction, observation and experimentation with their surrounding environment. It is a dynamic system, ever charming, adopting and adjusting to the local situations and has close links with the culture, civilization and religious practices of the communities. Terms used to designate this concept include traditional, environmental or ecological knowledge, rural knowledge, local knowledge and farmer's or fisher folk's knowledge. Traditional knowledge is the ingredient for sustainability of natural resources including forest, water and agro-eco systems across landscape continuum spanning from households through farms, village commons and wilderness. Parvathi et al., (2000) recorded that indigenous knowledge in post-harvest operations is highly valued, since in many cases the new tools and techniques are not available or are beyond the means of farmers. Mendoza (1999) recorded that when faced with difficulties in implementing their activities, farmers try to innovate or adopt existing innovations, depending on the available resources.

Material and Methods

As the study was designed to elicit information on the awareness of farmers on traditional agricultural practices, popular agricultural references in Tamil literature and their perception of scope for agricultural development, the sample farmers were drawn from the population, farmers who practice agriculture either in their own land or leased-in land and selected at random manner. The data collection was so organized that the information collected from farmers represents the entire state so that the data are not skewed or biased. The regional variations in adoption, literary fervor and resource availability were also taken into account in deciding the sampling design. The farmers were selected randomly by adopting multi stage random sampling method.

Selection of farmers

The study was carried out covering the different agro climatic zones in Tamil Nadu. Out of the seven agro climatic zones, six agro climatic zones were selected for the study except Nilgiris district where the cropping pattern is different from other zones. One district was selected randomly from each of the six agro climatic zones. Giving weightage to gross cropped area proportionately the number of taluks from each district was selected randomly. Thus, the fourteen taluks were selected for the study. Similarly proportionate number of villages from each taluk was selected randomly. Ten farmers who own or leased-in agricultural land were selected randomly from each of these seventeen villages. Thus, 170 farmers were selected randomly for the study.

Results and Discussion

Socio-economic characteristic of the respondents

The socio-cultural beliefs play a significant role in knowledge in adoption of Indigenous Practices

*Corresponding author email: raianbu@hotmail.com

in Agriculture among the rural households in Tamil Nadu. The belief systems existing across the rural people may inhibit the indigenous practices in agriculture. The study revealed that the majority of the farmers (55.29 per cent) belong to old age category are engaged in farming activities (Table 1).

Table 1. Socio-economic characteristics of respondent

Characteristics	Frequency (No of respondents =170)	Percentage
Age		
21-30	6	3.53
31-50	70	41.18
50 and Above	94	55.29
Gender		
Male	165	97.06
Female	5	2.94
Education Status		
Primary School	62	36.47
Secondary Education	63	37.06
Higher Secondary Education	27	15.88
Under graduation	14	8.24
Post-graduation	1	0.59
Others	3	1.76
Mother Tongue		
Tamil	158	92.94
Tamil +Telugu	4	2.35
Kanada	3	1.76
Telugu	3	1.76
Urdu	2	1.18
Family Size		
< 4 members	110	64.71
5-6 members	44	25.88
> 6 members	15	8.82
Occupation		
Agriculture	161	94.71
Business	6	3.53
Government job	3	1.76
Size of Land holdings		
Marginal farmers	59	34.71
Small farmers	49	28.82
Semi-medium farmers	28	16.47
Medium farmers	26	15.29
Large farmers	8	4.71
Caste		
BC	97	57.06
MBC	43	25.29
SC	9	5.29
Others	21	12.35

Lack of interest on the part of youngsters and other employment avenues available to the young generation may be the reasons for this situation. Almost all the respondents were male but for 2.94 per cent were female respondents. It indicates prevalence of patriarchy in ownership though women perform maximum operations in fields. Among the sample farmers, 37.06 per cent had completed the secondary education while 36.47 per cent had completed primary school. There were also 15.88 per cent respondents who completed higher secondary education and 8.24 per cent of the respondents were graduates while 0.59 per cent had completed post-graduation and above. Agriculture has been chosen by majority of the respondents who could not admit any other occupation by virtue of their limitations in academic achievements. However, 1.76 per cent had chosen it for the love of the profession despite higher qualifications. Evidently Tamil was the Mother tongue for many of the respondents (92.94 per cent) and other minor constituents are Kanada (1.76 per cent),

Table 2. Knowledge on Cultivation practices in native literature and related proverbs

Characteristics	Frequency (No of respondents =170)	Percentage
Uzhuthundu Vazhvare Vazhvar	152	89.41
Neer uyara nel uyarum	24	14.12
Importance of raising bunds	51	30.00
Necessity for raising bunds	72	42.35
Aadipattam thedi vidhai	167	98.24
Kurinji, Mullai, Marutham, Neythal	111	65.29
Yer Yezhuvathu	28	16.47
Kaani Nilam Vaendum	90	52.94
Uzhavukkum Thozhilukum vanthanai seivom	41	24.12
99 types of flowers	61	35.88
Flower once in 12 years	160	94.12
Maamazhai Potruthum	31	18.24
Nadanthai Vazhi Kauvery	12	7.06
Kangai nathipurathu	64	37.65
Uzhuthundu vazhvare	164	96.47
Neer uyara proverb is found in Purananooru	146	85.88
Agala uzhuvathilum	166	97.65
Kaalathe payir sei	169	99.41
Month Suitable for cultivation	132	77.65
Varapae Thalakani	114	67.06
Azhuthukonde Irunthalum	101	59.41

Telugu (1.76 per cent), and Urdu (1.18 per cent). Majority (64.71 per cent) farmers have a family size of four or less. The average family size with less than four members and five to six members constituting 64.71 per cent and 25.88 per cent respectively. It indicates that the farmers have adopted the small family norm in the state to reduce further fragmentation of their landholdings. About 94.71 per cent of the respondents continue to have agriculture as the main occupation and 3.53 per cent of respondents involve themselves in business related activities. It indicates that the importance of agriculture cannot

be under-emphasized despite the push given to secondary and tertiary sector by the government. The government should take adequate measures to promote the farmers who are solely dependent on farming for their livelihood. It was decided at the beginning of the survey that only farmers who own/ leased in Agricultural land will be considered for the survey. Out of the 170 respondents nearly 34.71 per cent of the farmers own land of size less than 0.99 ha. The actual distribution of farmers by the size of holdings is given in Table 1. The respondent farmers were predominantly from the backward and most backward communities with 57.06 per cent and 25.29 per cent respectively. The others and Schedule caste Community constitute 12.35 and 5.29 per cent respectively. Land is still vested with the caste Hindus and the scheduled caste people do not have land in proportion to their populations. It indicates the status of property distribution still prevalent in rural areas.

Table 3. Knowledge on folk Songs

Characteristics	Frequency (No of respondents =170)	Percentage
Yetra Paatu	107	62.94
Nadavu Paatu	52	30.59
Yer Mangalam	43	25.29

Knowledge on traditional cultivation practices found in native literature and related proverbs

The study also tested knowledge of farmers on the quotes on the traditional cultivation practices found in the native literature and related proverbs (Table 2). Uzhuthundu Vazhvare Vazhvar, is found in the Thirukkural and the author of the work is Thiruvalluvar. It means that farmers are the people who lead royal life and all others are dependent on him. 'They live, the plough for life who steer: All others worship in the rear'. Out of the 170 respondents, 89.41 per cent have responded correctly indicating the popularity of the work among the rural population. It indicates that the farmers still take pride in practicing agriculture. Neer uyara nel uyarum, is found in Purananooru, ancient Tamil literature and this famous quote is attributed to the poet Avvayar. About 14.12 per cent of the respondents rightly answered. Farmers were probed further on the importance of raising bunds and 30.00 per cent of the respondents rightly answered the question that this will result in high panicles. A supplementary question was also asked regarding the necessity for raising bunds and 42.35 per cent of the respondents correctly answered as water source. Aadipattam thedi vidhai, in which Tamil month Aadi synchronises with the monsoon season is considered the ideal month for commencing the cultivation. Majority of the respondents 98.24 per cent knew about this proverb. The respondents were expected to be aware of this proverb which is taught right from the primary schools. Kurinji, Mullai, Marutham, Neythal: The region comprising hill and the adjacent areas are called Kurinji. The forest terrain is called Mullai. The cultivable region with lush green fields with paddy and other crops is called Marutham. The coastal region is Neythal. Tamil literature has separate moods, music, and genus associated with each of these landscapes. Among the respondents 65.29 per cent reported that they knew this traditional type of land classification

Table 4. Knowledge on plant nutrients

Characteristics	Frequency (No of respondents =170)	Percentage
Use of Nutrients		
Manure	34	20.00
Fertilizer	36	21.18
Manure + Fertilizer	45	26.47
Green Leaf Manure	39	22.94
Organic Manure for Personal Use	16	9.41
Total	170	100.00

"Yer Yezhuvathu", this poem with 70 versus was written by Kambar. It narrates the various operations involved in the cultivation of paddy starting from preparation of land to post harvest technology. As Kambar was from delta region, he chose the main crop paddy for his poem on agricultural practices. Only 16.47 per cent of the respondents answered correctly. "Kaani Nilam Vaedum", was a popular line by Poet Bharathi often quoted in literary circles in which the poet invokes Goddess Parasakthi to give him agricultural land with a few coconut trees. More than half of the respondents i.e., about 52.94 per cent said correctly and others answered wrongly or said no idea.

"Uzhavukkum Thozhilukum Vanthanai Seivom", is again a popular verse by Bharathi. He proclaims the importance for agriculture and other occupations. Around 24.12 per cent of the respondents answered correctly. Types of flowers in Kurinji Pattu by Kabilar is one of the well-known Sangam poems and it enumerates 99 flowers known for the beauty and fragrance. More than one-fourth of the respondents (35.88 %) answered correctly. As majority of the respondents had less academic qualification, their response is understandable. Flower once in 12 years indicates Kurinji flowers which blooms once in 12 years. Majority of the respondents (94.12 %) rightly answered. Maamazhai Potruthum, the opening song in Silappathikaram, written by Elangovadigal has encomiums for the natural forces like Sun, Moon and the rain. Instead of appeasing the deities, the poet worships the elements of nature which make this world prosper. Only 18.24 per cent responded correctly. Again this is attributed to the educational background of the respondents.

"Nadanthai Vazhi Kauvery" from Silappathikaram highlights the role of Kaveri in bringing prosperity to the farmers. Only 7.06 per cent of the respondents knew correctly. "Kangai nathipurathu", a popular song of Bharathi on national integration has figured in a film. Nearly 37.65 per cent answered correctly. Agala uzhuvathilum, proverb, conveyed practices in

a nutshell and their awareness indicates application of them. This proverb emphasizes the importance of indepth tillage. Majority of the respondents (97.65 per cent) said that they knew this proverb.

Table 5. Knowledge on cropping practices

Characteristics	Frequency (No of respondents =170)	Percentage
Growing Thinai, Varagu	50	29.41
Harvesting at night	58	34.12
Mixed cropping	87	51.18
Allana Seithaal	56	32.94
BT cotton and BT Brinjal	23	13.53
Pulses in Paddy field	36	21.18
Practice of Animal Slaughter	16	9.41
Part of cultivation as offerings	46	27.06
Doing Puja during irrigation	55	32.35
Offering Goat during Well Digging	49	28.82
Offering Pongal on first Harvest	128	75.29
Celebrating Pongal	161	94.71
Knowledge of Traditional/ High Yielding/ Genetically Modified Varieties	127	74.71
Therodum Alavu Thennaiku	129	75.88
Use of Implements		
• Modern implements	128	75.29
• Ploughing cattle	27	15.88
• country plough	2	1.18
• All the above	13	7.62
Use of modern implements		
• Easy to use	55	32.35
• No need of man power	32	18.82
• Time savings	83	48.82
Samba Varieties	111	65.29
Use of Traditional Varieties	14	8.24

"Kaalathe payir sei", this proverb stresses the need for timely sowing. All the respondents said that they knew this proverb which indicates the month suitable for cultivation and about 99.41 per cent of the respondents correctly answered as the Tamil month of Aadi as suitable for cultivation and another 0.59 per cent of the respondents indicated Aadi in combination with Purattasi and Vaikasi as suitable for cultivation. "Varapae Thalakani", it highlights the involvement of the farmer in his field. He treats the bund as a pillow and spreads straw as bed sheet to safeguard his crops. Farm becomes his home. More than half of the respondents (67.06%) said that they knew this proverb. "Azhuthukonde Irunthalum", it conveys the need for cultivation despite crop failures and shortage of resources and 59.41 per cent of the respondents said they knew this proverb.

It could be observed from the Table 2 that an optimistic trend is prevailing. More than 50 per cent of the farmers have responded correctly and this proves the existence of indigenous knowledge and traditional literature in the agricultural sector. Strengthening these concepts may improve the pride in continuing in agriculture despite the odds they face in their survival. The mass media should frequently educate the farmers on festive occasions like Pongal and make these things ingrained in the minds of the farmers. The efforts will be highly encouraged.

Table 6. Knowledge on water management

Characteristics	Frequency (No of respondents =170)	Percentage
Yetram eraithal	108	63.53
Kamalai	95	55.88
Public Maintenance of Lakes and Ponds	120	70.59
Kudimaramathu	108	63.53
Responsibility for increasing water source		
• Government	118	69.41
• Local bodies	34	20.00
• Farmers	18	10.59
Irrigation during afternoon	14	8.24

Knowledge on folk songs

The knowledge on folk songs in Yetra Paatu, Nadavu Paatu and Yer Mangalam is presented in Table 3. In yetra paatu agriculture was pursued with lot of involvement in the olden days. Celebration and songs formed a part of various operations. They helped in removing drudgery and forging team work. At the time of irrigation using Yetram, a native way of irrigation songs were used to be sung to overcome boredom and enjoy the work. They are fast disappearing in the rural areas due to modern irrigation methods.

Table 7. Use of harvested produce

Characteristics	Frequency (No of respondents =170)	Percentage
Minor Millets	162	95.29
Taste of local vegetables	158	92.94
Rendering small quantities for sale		
For money	23	13.53
Free of cost	147	86.47
Wages in kind		
Wages for produce	61	35.88
Things for produce	109	64.12

More than half of the respondents (62.94 per cent) said that they have heard these songs and the results are encouraging. In Nadavu Paatu at the time of transplantation, songs were used to sung to lighten the cumbersome work. It is popular in many oriental countries. Haiku poems in Japanese make a

reference to this practice. The film Seven Samurais by Akira Kurosawa ends with a transplantation song sung by the farmers after the subjugation of dacoits. Only 30.59 per cent of the respondents said that they have heard these songs. The next generation may not be aware of this practice at all. Agriculture as an enjoyable activity is fast disappearing. Simillarly in Yer Mangalam references to worshipping of plough with devotional songs before commencing cultivation are abound in Sangam literature. Only 25.29 per cent of the respondents said that they have experience in singing these songs. It may be due to the opinion that agriculture is no more a holy profession or vocation this practice as a superstition or due to non-transfer of this practice through generations.

Table 8. Knowledge on soil management practices

Characteristics	Frequency (No of respondents =170)	Percentage
Implement used for ploughing		
Bull	22	12.94
Implements	148	87.06
Weeding		
Man power	141	82.94
Implements	8	4.71
Weeders	21	12.35
Varappai Uyarthuthal	141	82.94
Ploughing Land after Harvest	115	67.65

An analysis of the data indicates that the awareness of the farmers regarding the songs associated with transplantation and inauguration is less compared to irrigation song. It indicates that they are on the process of exit due to modern practices of ploughing with tractor drawn implements like transplanter. It is important to document them and preserve them for posterity. Training programmes to extension workers on these aspects and production of audio-visual clippings may help in restoring this great tradition which celebrates work as a festivity.

Knowledge on plant nutrients

As revealed by the study (Table 4) regarding the use of plant nutrients indicated that the 20.00 per cent of the respondents said that they use manure, 21.18 per cent of the respondents said they use fertilizer and 58.82 per cent of the respondents said they use both. On an average 2275.12 kg of nutrients are used in their field. In case of green leaf manure only 28.82 per cent of the farmers said they use green leaf manure. On an average 52.95 kg of manure is used. Only 9.41 per cent of the farmers said they have practice of using exclusively organic manure in cultivation of Paddy for personal use. On an average 22.16 kg of organic manure is used for this purpose.

Decline in the use of green leaf manure is a matter of concern and by and large farmers use chemical fertilizers for augmenting the fertility of the soil. This may be due to various reasons like reduction in cropping area, non-availability of labourers, easy availability of fertilizers and conviction in the use of modern chemicals. A comprehensive policy for promoting organic farming should be administered to reduce the cost of cultivation and minimize pollution.

Table 9. Knowledge on plant protection practices

Characteristics	Frequency (No of respondents =170)	Percentage
Security for crops during night	60	35.29
Sheds in dry lands	25	14.71
Vedai Naerthi	41	24.12

Knowledge on cropping practices

The knowledge on cropping practices was calculated by using the percentage analysis and the results are shown in the Table 5. The results revealed that growing of thinai, varagu are the minor millets cultivated in Tamil Nadu. They are drought resistant and have less carbohydrate. Workers prefer to have these minor millets as they will take a long time to digest due to their physical and chemical properties. Thinai and varagu are mentioned in the Sangam literature. The popularity of these minor millets are on the increase and many restaurants have been opened with the tasty recipes of these minor millets. Only 29.41 per cent of the respondents said they grow thinai and varagu. Though the response seems to be less, it is quite encouraging as these millets were totally neglected two decades ago. Abovt 34.12 per cent of the respondents said they have prior experience in harvesting at night. Advanced technologies in harvesting and absence of animal intervention may be the reasons for diurnal operations. This was done during Sangam days and references are found. It was to prevent pilferage and damage due to wild animals, whereas, 51.18 per cent of the farmers said they adopt mixed cropping practices. The yields of both the crops are higher than that of pure crop on unit area basis. No fixed ratio was followed.

Table 10. Knowledge on indigenous practices

Characteristics	Frequency (No of respondents =170)	Percentage
Views on Paarambariya Vivasayam	139	81.76
Organic Farming	133	78.24
Wearing slippers	56	32.94
Bamboo Umbrellas	53	31.18
Mann Sarntha Marangal	84	49.41
Pin Saeru Perambadithal	103	60.59

About 32.94 per cent of the farmers said that they know the proverb “Allana Seithaal” highlights the significance of doing good to the people and if someone is unethical his crops may fail. It was found that from the Table 5, 13.53 per cent of the farmers believed that the genetically modified crops are essential, whereas 21.18 per cent of the farmers said that they adopt the practice of relay cropping

of pulses in Paddy field because it will improve the income of the farmer and help in fixing nitrogen in the soil, while 9.41 per cent of the farmers said that they slaughter Goat or Chicken during seeding/ Harvesting. It indicates a good trend though a deviation from traditional belief.

It was observed among the farmers that same kind of offerings as part of the cultivation. Doing Puja during irrigation (32.35 per cent), Offering Goat during Well Digging (28.82 per cent), Offering Pongal on first Harvest (75.29 per cent) were few of those offerings, Majority (94.71 per cent) of the farmers said that they celebrate Pongal and Maatu Pongal. Nearly 75.88 per cent of the farmers said that they knew the proverb “Therodum Alavu Thennaiku”.

Knowledge on water management

The Knowledge on water management regarding the indigenous practices in agriculture are presented in Table 6. From the table it is inferred that 63.53 per cent of the farmers reported that they have seen lifting of water using manual/ animal effort. Declining water table and availability of pump sets have made this practice outdated. i.e., called “Yetram eraithal”. Lifts were used in olden days to irrigate fields. The water table was high to facilitate this exercise. About 55.88 per cent of the farmers reported that they have seen use of Kamalai. The mhote bucket is made of either metal or leather and holds about 40 to 50 gallons of water. The bullocks then back up to lower the mhote in the well and the operation is repeated, while 70.59 per cent of the farmers felt that maintenance of lakes and ponds by Public is good followed by 63.53 per cent of the farmers favoured the reintroduction of Kudimaramathu of Lakes and Ponds. Kudimaramathu' is a practice where farmers have to remove weeds and deepen the lake to ensure proper supply of water for irrigation.

Table 11. Knowledge about native breeds

Characteristics	Frequency (No of respondents =170)	Percentage
Naatu pasukkal	78	45.88
Rearing Naatu pasukkal	149	87.65
Native breeds of Poultry	103	60.59
Preferred meat		
Goat	138	81.18
Chicken	19	11.18
Fish	10	5.88
Others	3	1.76
Aatukidai	113	66.47

Responsibility for increasing water source

Nearly 69.41 per cent of the farmers felt that it is the responsibility of the Government to increase the water source. Few of the respondents (20 per cent) felt that the local bodies are responsible and 10.59 per cent said that it is farmer’s responsibility. It is unfortunate to note the attitude of the farmers which could be attributed to the patriarchal form of governance provided over a period of time. The farmers and local bodies have to maintain minor irrigation tanks, ponds and channels by deploying able bodied men. They should keep a vigil and prevent encroachments. Most of the problems at times of heavy rains are due to encroachments in the lakes by unlawful elements.

Irrigation during afternoon

There is a general belief that irrigation should not be done in the afternoon in the rural areas. Science also advocates it as the evapo-transpiration will be very high. Only 8.24 per cent of the farmers felt that irrigating crops during afternoon is good. It indicates that the vital information has been transmitted orally through generations.

An analysis of this part reveals that the farmers themselves are not fully aware of irrigation through mhotes and their conceptualization on desiltation on voluntary basis is not up to the mark. Empowering the people through self-help is fast vanishing and dependence of the people on government is on the increase. The local administration system should strengthen the traditional systems and make them owners of the community assets.

Use of harvested produce

Majority of the farmers (95.29 per cent) reported that they consumed small Millets. It is evident that five per cent of the farmers themselves have not consumed minor millets. Therefore, the bias towards the consumption of rice is well founded.

From the Table 7, it could be seen that 92.94 per cent of the farmers reported that they have tasted local vegetables. About 86.47 per cent of the respondents reported that they will part with small quantities of the produce at free of cost if someone comes with the request for a petty quantum for tasting the produce. It indicates the magnanimity and generosity of farmers. The age old custom of feeding the poor is still prevalent. In Tamil, the term “Velanmai” referring to agriculture actually means help. In the study, only 35.88 per cent of the farmers stated that they give harvested produce as wages for harvesting. It indicates that the consumption patterns of the farm labourers and their preference have changed.

Knowledge on soil management practices

Implement used for ploughing

About 87.06 per cent of the respondents said they use Implements only for ploughing and 12.94 per cent said they use bulls for ploughing (Table 8). Manpower (82.94 per cent) was predominantly used for weeding; Next farmers said that they use weeders (12.35 per cent). Remaining farmers (4.71 per cent) said that they use other implements for weeding. There is a native belief that raising the bund will reduce weeds. About 82.94 per cent of the farmers reported that increasing height of bunds will reduce weeds.

Ploughing land after harvest

Ploughing the land will help in incorporating the stubbles in the field and improve the soil texture. This has been stated in ancient literature. In the north, they burn the residual crop and it leads to pollution. More than half (67.65 per cent) of the farmers stated that they immediately plough the land after harvest (Table 8).

It could also be observed from the Table that the majority of them are in the habit of ploughing the fields after harvest which exposes the pest to hot sun and render them ineffective. It also helps in circulation of air. The traditional practice of incorporating the stubbles in the field indicates a positive sign.

Knowledge on plant protection practices

Security for crops during night

Night security for crops to prevent the damage by animals and stealing by others was a regular practice as evident from literature. Only 35.29 per cent of the farmers reported that they safeguard the field during night hours. The sheds are constructed to provide shade and supervise the crops. Only 14.71 per cent of the farmers reported that they errect sheds in dry lands. Safeguarding the crops during night time was a traditional practice in Tamil Nadu, few decades ago and now it is just around 35.29 per cent (Table 9)

Vedai naerthi

Seed treatment is essential to ensure the germination of seeds and prevent them being consumed by insects. Only 24.12 per cent of the farmers reported that they use chemicals, neem and fly ash for seed treatment. Seed treatment, an essential practice, is also not practiced by majority of the farmers.

Knowledge on indigenous practices

It could be understood from the Table 10 that 81.76 per cent of the farmers consider Indigenous Practices are better. It shows the awareness created by various groups in popularizing indigenous technology. About 78.24 per cent of the farmers felt that organic farming is the best cultivation method for the country. Similarly, 67.06 per cent still retain the faith of not using of slippers when they enter into the field. Nearly 31.18 per cent of the farmers reported that they use bamboo umbrellas during rainy season. And also 60.59 per cent of the farmers reported that they do puddling and leveling. This is to level the field to make it suitable for cultivation

Table 10 shows that the majority of farmers have expressed their opinion in favour of traditional agriculture and natural farming. It shows that they are fed up with modern practices and costly chemical inputs. However, the respect for farming has declined. Their knowledge on native trees is also less. The farmers are keen to pursue traditional agricultural practices in conjunction with modern methods to maximize returns and to ensure the fertility of soil. It calls for intensive extension methods to capitalize their sentiments, which will be good for the State in the long run. It is essential for the government to provide required inputs at an affordable rate to promote organic farming and traditional agricultural practices. On the whole, the positive response comes to 55.69 per cent and is encouraging.

Knowledge on native breeds

Table 11 indicates that 87.65 per cent of the farmers felt that rearing native breeds of cows is good. Nearly 45.88 per cent rear native breed of cows It indicates the increasing awareness about native breeds, organic manure, etc. About 81.18 per cent of the respondents preferred mutton for meat and remaining 11.18 per cent followed by Chicken. More than half (66.47 per cent) of the farmers reported that they have experienced goat penning. Whereas, more than half (60.59 per cent) of the farmers reported that they are keeping native breed of Poultry. Now, farmers do not prefer broiler varieties.

The overall analysis shows that the farmers (Table 11) have the strong conviction that the native breeds are much better than the exotic breeds. However, they could not afford to maintain them. Pecuniary considerations dominate personal preferences. The government must initiate schemes to promote the native breeds and encourage to get premium price for their products.

Table 12. Knowledge about current status of agriculture

Characteristics	Frequency (No of respondents =170)	Percentage
Pride in Agriculture	147	86.47
Heirs in Agriculture	98	57.65
Future of Agriculture	79	46.47
Sale of Land	75	44.12
Government Attention	43	25.29
Respect for farmers in future	89	52.35
Bright Future for Agriculture	109	64.12
MNREGS Vs Agriculture	136	80.00
Participation in Agriculture	155	91.18
Agriculture helps others	153	90.00
Happy to Feed Population	144	84.71

Knowledge on current status of agriculture

About 86.47 per cent of the farmers reported that they take pride in getting involved in Agriculture. More than half (57.65 per cent) of the farmers reported that they want their heirs to be involved in Agriculture. Nearly 47 per cent of the farmers predicted that the future of Agriculture is not good. Less than half (44.12 per cent) of the farmers reported that they have sold some of their land. Only 25.29 per cent of the farmers felt that government is not giving enough attention to Agriculture. It is a general feel that the respect for farms had come down and the same was reported by 52.35 per cent of the farmers. At the same time 64.12 per cent of the sample respondents felt that

there is bright future for Agriculture. Eighty per cent of the farmers felt that Mahatma Gandhi National Rural Employment Guarantee Schemes (MNREGS) is not helpful to Agriculture sector. About 90.00 per cent of the respondents feel that agriculture is an occupation that helps others.

Still they consider agriculture as a noble profession and more than 57.65 per cent want their wards to practice the profession. At the same time 46.47 per cent feel there is not a good future for agriculture and many of them have sold out a portion of their land. They cannot unanimously vouch for the respect for agriculture in future. It is heartening to note that nearly two third of the respondents expect a bright future for agriculture. Including agricultural operations in MNREGS will make labourers available for farming operations and may provide a fill up to adopt traditional ways of package of practices which requires more labour. The farmers consider agriculture as a women service and nearly 84.71 per cent feel happy that they could feed the hungry.

Conclusion

The survey throws many insights on the attitude of farmers and their practices in adopting indigenous technologies. Their understanding on native proverbs and native literature is also fathomed by this study. The reality and faith are often at loggerheads due to financial constraints and need for survival. The areas to be highlighted have been stressed in the findings under each and every table. Popularizing native literature will instill a pride in the minds of the farmers. No profession could be performed in a full swing unless the person who practices it considers it as a great piece of work. The scope for traditional agriculture and stressing its value through native literature are found to be bright.

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