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Original Research Article

POTENTIAL FOR ITK THROUGH AGRICULTURAL EXTENSION – AN ANALYTICAL STUDY IN SELECTED DISTRICTS OF TAMIL NADU

Abstract

Recapitulating the golden nuggets referring to agriculture in literature will rejuvenate the spirit of farming community and make them involved in their occupation with renewed zeal. The present study was conducted with major objectives to study the awareness of farmers on traditional agricultural practices, popular agricultural references in Tamil literature and their perception of scope for agricultural development and also to elicit information on the awareness of farmers on ITK practices in livestock rearing and their perception on adoption of ITK Practices. The study indicates that majority takes pride in agriculture, but only 57.65 per cent want their wards to practice the profession. Less than 50 per cent feel that there is no future for agriculture. They cannot unanimously vouch for the respect for agriculture in future. When the farmers were asked to list for adoption of ITK practices all the farmers responded that the ITK results in low cost in the livestock management. 95.56 per cent farmers opined that ITK results in the increasing quality of milk, quality of egg and meat. 93.61 per cent of farmers felt that ITK practices are more suitable for organic farming especially for raising the fodder. When the farmers were asked to cite the demerits of the ITK practices, all the farmers responded that the native breeds have high mortality rate.

***Key words**: Indigenous technical knowledge, awareness, perception, adoption*

Introduction

Inclusive Agriculture was the most decisive step towards a better life and it was a milestone in human history. Agricultural revolution propelled human civilization and gave impetus to art, culture and scientific advancements. Hence, culture started with agriculture. The importance given by the society to agriculture has changed over a period of time. Globalization, liberalisation and privatization have churned the economy of India and its impact is unprecedental. It changed the face of all sectors of economy including the primary sector. Opening up of various windows for white-collared jobs resulted in the rural populace rushing to the urban and semi-urban areas seeking employment. There was an exodus of educated youth from villages to cities and agriculture was left to the older generation as 'Hobson's Choice'. Even the unemployed educated youth are not keen to pursue agriculture as a profession. Those who do not have an option practise it as a part time job. The youth

UNDER PEER REVIEW

fully engrossed in agriculture despite their educational qualification have fewer chances for a matching matrimony. Agriculture is losing its primordial position and the pride, which existed earlier, is vanishing fast. As a result, though the land owner is present, farming takes place like cultivation under an absentee landlord.

Agriculture is performed without the professional pride and has become a lackluster occupation. Structural changes are taking place at all levels of cultivation and small landholders are finding it difficult to cope with them. Suicides of farmers have become a regular phenomenon reported frequently in the media. Heavy indebtedness, failure of crops, poor yield and reduced marketing facilities make many farmers to go for forced selling. They are reduced from the pedestal of land owner to the platform of job seeker.

In this context, it is important to inculcate the lost pride among the farmers. It is also the time to exhort the youth to take up agriculture with a difference and invest all their knowledge in farming. They have to be reminded how agriculture was occupying the center stage once upon a time and how literature glorified it. Even now, agriculture is the most important profession. No industry in secondary or tertiary sector can prosper without the contribution from agriculture.

According to Pardeep (2013), Indigenous Technical Knowledge (ITK) has immense potential for innovation, especially at the grassroots level. India is a country populated by a number of indigenous communities, most of which have their own set of unique traditional knowledge and technology base. Many of these knowledge and technologies are at par with the modern knowledge and technology system and have been provided the indigenous communities with comfort and self-sufficiency. These traditional knowledge and technologies have played a significant role in the overall socio-economic development of the communities. The problems that surface today could be addressed effectively and they need not be the reasons for foregoing a great profession.

Afifa (2017) stated that there is now a growing recognition that indigenous technical knowledge could somehow respond to the greatest threat of climate change.ITK is cumulative body of knowledge and practices maintained and developed by people with expanded histories of interaction with the natural environment. ITK, traditional ecological knowledge or indigenous or local knowledge - unique to a particular culture or society. Therefore, recapitulating the golden nuggets referring to agriculture in literature will

UNDER PEER REVIEW

rejuvenate the spirit of farming community and make them involved in their occupation with renewed zeal.

Methodology

Sample size consisted of 170 farmers who were selected purposively for the study. Thus, Villupuram, Namakkal, Tiruppur, Tiruchirapalli, Thiruvannamalai, Erode, Salem, Virudhunagar and Coimbatore were chosen for the study. The farmers were administered a questionnaire comprising the traditional and ITK practices in livestock rearing and their responses were analyzed. The last part elicited their opinion on the merits in adoption of ITK and the demerits as they perceive in adopting them.

Findings and Discussion

Farmers' knowledge on the current status of agriculture

The knowledge of the respondents about the current status of agriculture is given in Table. 1

Table. 1 Knowledge of the farmers about current status in agriculture (n = 170)

Characteristics	Frequency (No. of Respondents)	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
Participation in agriculture	155	91.18
Agriculture to help others	153	90.00
Happy to feed population	144	84.71

The study indicates that majority takes pride in agriculture, but only 57.65 per cent want their wards to practice the profession. Less than 50 percent feel that there is no future for agriculture. They cannot unanimously vouch for the respect for agriculture in future.

Farmers' perception and ranking on the merits in the adoption of the ITKs

UNDER PEER REVIEW

Further, the respondents were requested to rank the ITKs based on their merit they experienced through adoption. The findings are given in Table. 2

Table. 2 Ranking the ITKs based on their merits in adoption

Sl.No.	Particulars	Percentage	Rank
1	Increasing the quality of milk in ITK	95.56	II
2	Increasing the quantity of milk in ITK	87.22	V
3	Availability of organic manure in ITK	82.78	VII
4	Improving the soil fertility in ITK	80.00	VIII
5	Increasing the Quality of Egg and meat in ITK	95.56	II
6	Increasing the cost of Egg and meat in ITK	91.11	IV
7	ITK is more suitable for organic farming	93.61	III
8	ITK is low cost technology compared to modern methods	100.00	I
9	Increasing the lifespan	84.44	VI
10	Controlling the spreading of disease in ITK	48.89	X
11	Increasing the Income of ITK farmer	33.89	XI
12	Increasing the security/protection of country animals	21.11	XII
13	Reduce the toxicity in ITK products	76.67	IX

When the farmers were asked to list for adoption of ITK practices all the farmers responded that the ITK results in low cost in the livestock management. 95.56 per cent farmers opined that ITK results in the increasing quality of milk, quality of egg and meat. 93.61 per cent of farmers felt that ITK practices are more suitable for organic farming especially for raising the fodder. The other advantageous cited by the farmers are higher selling price, increase in quantity of milk, increase in the lifespan of animals, availability of organic manure, improvement in the soil fertility and less toxicity in ITK products. Small number of farmers felt that ITK results helpful in increasing the income, increase in the security of country animals and controlling the spreading of diseases.

Farmers' perception and ranking on the demerit of the ITKs

UNDER PEER REVIEW

The respondents also expressed their opinion on the demerits of the ITKs and also ranked them, which is given Table. 3

Table. 3 Demerits as perceived and ranked by the respondents in the adoption of the ITKs

Sl. No.	Particulars	Percentage	Rank
1	Delay in recuperation in ITK	84.44	IV
2	Some diseases are not curable in ITK	98.89	II
3	Decrease the milk production	82.78	V
4	Maintaining the livestock in large scale is difficult	48.89	VIII
5	Increase in the labour cost	55.00	VII
6	Lack of availability of feed	92.78	III
7	Create Pollution	67.50	VI
8	Increase in the animal mortality rate	100.00	I
9	Diseases spread to humans from animals easily	43.33	IX
10	In rainy season difficult to maintain the animals	34.17	X

When the farmers were asked to cite the demerits of the ITK practices, all the farmers responded that the native breeds have high mortality rate. The important demerits cited are inability of ITK to cure some diseases, non-availability of animal feed, delay in curing diseases, and reduction in milk production. Small number of farmers believed that due to ITK practices the diseases spread from animals to humans easily, and in rainy seasons it is difficult to maintain animals.

Steps to strengthen ITK and restore pride Via Extension

Scot Jeffrey, a business coach and writer, has identified four stages of learning. The first one is the stage of unconscious incompetence; the second one is conscious incompetence; the third one is conscious competence; and the fourth one is unconscious competence. Extension education passes through the four stages. Any activity, however significant it may be, requires proper extension methods to reach the common man. Learning process becomes effective when move from the known to the unknown. Quotations, sayings and adages are helpful in reinforcing a point and they improve the gullibility of a particular practice. Therefore, quoting apt literary reference will repose confidence in the farmers and make them motivated. It is the time for reconstructing the lost pride of the farmers and

UNDER PEER REVIEW

certainly literature can play a vital role. The two studies conducted in the field (viz) practice of ITK in agriculture and ITK in bovine health management throw light on the various aspects that require sufficient strengthening in extension education for popularizing native breeds, indigenous varieties and scientifically sound traditional practices.

Ethno agricultural practices should be properly documented by a committee constituted for doing research on literature that deals with agriculture and should be brought out as publications to be distributed to farmers' clubs and panchayat libraries. Agricultural quizzes on literature, indigenous practices, proverbs, folk songs, etc. should be conducted at district level to popularize the traditional wisdom and indigenous knowledge. Special debates should be organized on the eve of Pongal with topics related to agriculture in various literary works. Like the Project Tiger that envisaged the protection of tigers which were on the verge of extinction, projects on native breeds of cows, buffalos, sheep, goat and dogs should be initiated and they should be preserved. Folklore that were sung during transplantation, water lifting and harvesting, etc. should be documented. They should be set to music by eminent musicians. Such songs should be compulsorily played before government functions. Similar to *Tamil Thai Vazhthu*, *Velan Vazhthu* should be sung in all important occasions. This could be composed from *Thirukkural* or *Yer Yezhupathu* and eminent musicians can give a catchy tone. Sooner or later, it will be on the lips of every teenager. This will become a great motivating factor for the farmers. Reviving the *kudimaramathu* system which was in existence right from the ancient days should be done by organizing seminar on such practices and their references in literature. Quoting the classical literature how able bodied young men guarded the water bodies during heavy rains will help in motivating the youth in the rural areas and make them feel the ownership of the water bodies in the village. It will help in renovating the lakes and ponds apart from preventing encroachments. Extension education should aim at the preservation of all water bodies as they constitute the lifeline of agriculture.

Experts in IKT who have done significant work in field should be recognized by the government. Awards like Krishi Ratna, Krishi Vibushan, etc. should be given like Padma Awards to instill pride in the farmers. Painting exhibitions with the theme Agriculture in Literature should be conducted. Competitions should be conducted for school children on this theme. Any competition involving the students will sensitize the parents and it will have tremendous impact on the society. Agriculture department of the government should bring a monthly journal on 'Native Agriculture' (*Thayaga Velanmai*). The journal should have publications related to native literature, IKT, successful organic farmers, articles on native

UNDER PEER REVIEW

breeds and information on availability of breeds and seeds. Separate markets for selling organic products both inputs and outputs should be organized by the government and middlemen should be completely eliminated. This will be advantageous to both the consumers and producers. It can become a venue for encouraging local varieties of vegetables, minor millets, oil extracted from expellers and other indigenous products. All the farmers unanimously vouch for the advantage for the traditional practices. They have problems regarding uncertainties associated with the practices. Extension department can play a crucial role by removing skepticism and make those practices user friendly. Special awards should be instituted for honouring the companies which fulfill social responsibilities especially in the field of agriculture and they should be honoured on *Pongal* festival or *Tamizhar Thirunal* by the government.

Conclusion

Tamil Nadu is experiencing the revival of traditional and indigenous practices in agriculture and allied activities. Native breeds are getting popularized and age-old practices are again surfacing due to socially active groups that strongly advocate local varieties, natural farming, organic manure, country oil expellers, etc. Hence, it is the right time to strongly disseminate good agricultural practices and livestock rearing methodologies that are rich in ancient wisdom. Tracing our rich agricultural heritage from literature, extension can focus on improving the moral of the farmers by which more youth could be attracted to agricultural arena and their vast knowledge in modern communication tools can make the profession more productive and remunerative.

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