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Research Paper

Impact Assessment of SCAD KVK at Tuticorin District of Tamilnadu

Agriculture

KEYWORDS : KVK, extension education, On-farm testing, inland fishing, sustainability.

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ABSTRACT

Indian Agriculture is facing several hurdles due to the lack of technological back up among the farming community and non-adoption of sustainable agricultural practices. Krishi Vigyan Kendra (KVK) is an unique extension institute of Indian Council of Agricultural Research aimed at delivering technologies at the doorsteps of farmers in the District for which the KVK meant for. The impact of interventions in the form of trainings and demonstrations conducted by KVK of Tuticorin Disrict, Tamilnadu has been studied and concluded that KVK is the key institute for the holistic development of village community by adopting proper agricultural and allied practices towards sustainability. The innovation adopted in transfer of technology by KVK, Tuticorin by the way of village level volunteers can be followed by the KVKs across the country. Further, it is recommended that the KVKs serving in the dry tracts may adopt inland fish rearing in seasonal ponds to improve the farm income and also to harvest the rain water effectively.

Introduction

Agriculture is the heart of social development of our country. It is quite vital because it provides livelihood for majority of our population and is highly contributing to our national income and to gainful employment. So it is indispensable to concentrate more on agricultural sector. Agriculture has been the backbone of the Indian economy. Its share in providing employment and livelihood to the population is around 51.10% and is accounting for around 17.39% of GDP as of 2012. However the Gross domestic product (GDP) has registered a declining trend from 1951 onwards. There are several factors affecting the low productivity in India like illiteracy, general socio-economic backwardness, slow progress in implementing land reforms and inadequate and inefficient finance and marketing services for farm produce. But the most important factor affecting the low productivity is inadequate use of modern technology and information system. Strategic planning is therefore required to motivate farmers to undertake farming by timely transfer of technologies through various ways and means. Krishi Vigyan Kendra – an unique extension institute in India provides solutions for these problems.

Krishi Vigyan Kendra (KVK)

Krishi Vigyan Kendras (Farm Science Centre), an innovative science based institutions established mainly to impart vocational training to the farmers and field level extension workers. The concept of vocational training in agriculture through KVK grew substantially due to greater demand for improved agricultural technology by the farmers. They not only required knowledge and understanding of the intricacy of technologies, but also progressively more and more skills in various complex agricultural operations for adoption on their farms. The effectiveness of the KVK was further enhanced by adding the activities related to on-farm testing and Front-Line Demonstration on major agricultural technologies in order to make the training of farmers location specific, need based and resource-oriented.

KVKs provide training not only in agriculture and allied vocations but also in other income-generating activities that may supplement the income of farm families. The methods employed in training could be formal and non-formal or a combination of both, depending upon the needs but emphasis remains to be on work-experience. Kumar et al.(1994), Murthy and Veerabhadraiah (1999) reported that the on-campus trainees have more knowledge about the KVK training programme than the off-campus trainees.

The mandates of KVKs

- Conducting "On-Farm Testing" for identifying technologies in terms of location specific sustainable land use systems.
- Organising training to update the extension personnel with emerging advances in agricultural research on regular basis.
- Organising short and long term training courses in agriculture and allied vocations for the farmers and rural youths with emphasis on "Learning by doing" for higher production on farms and generating self-employment.
- Organising Front Line Demonstrations (FLDs) on various crops to generate production data and feedback information.
- Production and supply of quality inputs to farmers and to act as technological pool to serve the District

Impact of SCAD KVK, Tuticorin District of Tamilnadu

Tuticorin district of Tamilnadu is situated in the extreme South-Eastern corner of Tamil Nadu with the total area of 4621 km^2. It has a dry, hot tropical climate. The district is in the rain shadow region created by the western ghats to the west. The average annual rainfall is 661.6 mm. The main rainy season for the district is from October to December. Paddy, Banana, Coconut and vegetables are the major crops under irrigated condition and pulses, Maize, Cotton, Pearl millet are the few crops to quote as rainfed crops. The farmers are downtrodden in their economic status and technological back up.

To serve the farmers of Tuticorin District, KVK was started during 1995 with the 100 per cent financial assistance of Indian Council of Agricultural Research, New Delhi., and it is being is hosted by Social Change and Development (SCAD), Tirunelveli – a leading NGO working in 576 villages covering 5 lakh people by its various activities.

Training achievements by KVK, Tuticorin for the period 2008-09 to 2012-13

Type of Participant	Type of training	Out put			
		No. of Courses	No.of participants		
			Male	Female	Total
Practicing Farmers	On campus	366	3526	5080	8437
	Off campus	869	6824	13799	20463
	Total	1235	10350	18879	28900
Rural Youth	On campus	103	207	1802	1746

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Type of Participant	Type of training	Out put			
		No. of Courses	No.of participants		
			Male	Female	Total
	Off campus	14	157	133	290
	Total	117	364	1935	2036
Extension Functionaries	On campus	91	542	3361	3903
	Off campus	16	164	353	517
	Total	107	706	3714	4420
Grand Total		1459	11420	24528	35356

Innovations introduced in Extension Education Programme

SCAD-KVK disseminated all the recent Agricultural and allied technologies through an innovative methodology in order to reach the farming communities.

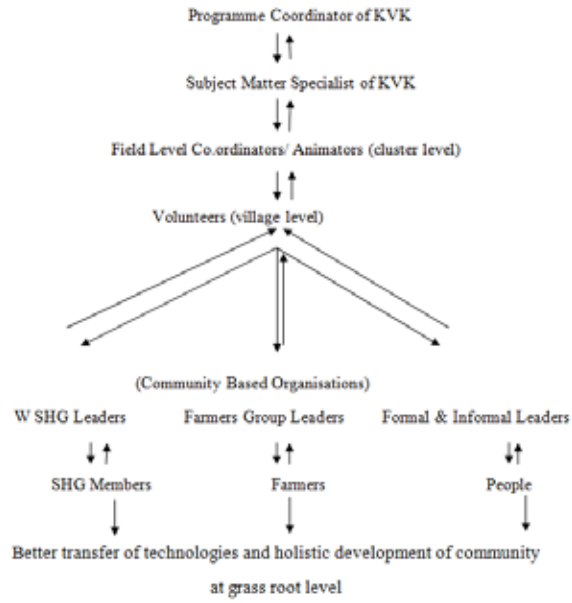
Area spread through this Innovative Methodology Introduced through Volunteers system:

S.No	Block Name	No of Villages	No of volunteers	No of Animators
1.	Thoothukudi	102	96	8
2.	Ottapidaram	163	112	10
3.	Vilathikulam	180	154	12
4.	Tiruchendoor	52	52	6
	Total	497	414	36

SCAD-KVK intensively worked in four blocks namely Thoothukudi, Ottapidaram, Vilathikulam and Tiruchendoor block of Tuticorin district for the past five years. SCAD-KVK able to reach 414 villages of four blocks with the help of village volunteers. The volunteers are identified with the help of community leaders, school teachers, panchayat leaders etc. They were mostly women volunteers. In every block there were about 100 to 150 volunteers to disseminate our recent technologies.

After identifying the volunteers we motivated them to go for house visit and organize Self Help Groups (SHG) in their village itself along with the support of field level co-ordinators. SCAD-KVK trains these volunteers in need based technologies which are suitable to their locality. We train them frequently and also conduct review meetings in order to share their success and challenges faced in their own villages. These volunteers in turn have good rapport with the SHG leaders, and members of their own village. They also gave good contact with the farmers group members, School teachers, formal & informal leaders within their village. These volunteers were trained to identify their own village problems and in turn they share all their village problems in monthly meetings. These volunteers were monitored by field level co-coordinators.

Flow Chart depicting the involvement of all stake holders and two way communications



Impact of SCAD KVK intervention- an example

Promotion of Inland Fish culture in Village seasonal ponds

Aquaculture has been globally recognized as the fastest growing food production sector. Aquaculture also ensures nutritional security, employment opportunity and improves the economic status of the country. The average rain fall of Thoothukudi district in southern Tamilnadu is 655.7 mm which is mainly collected during the north east monsoon period (October to December -410.1 mm).The district has 4152 hectare of seasonal tanks which are mainly used for domestic and live stock animals rearing purpose. If these water resources are utilized for composite fish culture by using extensive or semi intensive or appropriate resource bases through water committee, increased fish production and economic status of village can be expected. During the time of village level field visit and discussion with the village peoples, we had indentified the following problems with respect to maintenance of village ponds and fish cultivation 1.Un-utilization of potential common property water bodies for fish culture 2. Lack of awareness in fish culture technology. 3. Non availability of quality fish seeds in correct time 4. Inadequate financial support.

Materials and methods

Front line demonstration (FLD) was conducted in seasonal village ponds in the district of Thoothukudi in southern Tamilnadu by Social Change and Development-Krishi Vigyan Kendra (SCAD-KVK) with the support of village water committee members.

Intervention of SCAD-Krishi vigyan kendra

- Formation of water committee in fish culture demonstration villages
- Dissemination of knowledge on composite fish culture technology
- Supply of seeds (advanced fry-3.5 to 6 cm/fingerling-7.5 to 10 cm)
- Monitoring and follow up

Procedures followed

The local community people were motivated to form water committee consisting 10-12 members representing different

sections of the village including women, youth and men. They were given with awareness training on fish cultivation, group formation and financial management. Ponds retain sufficient water for 7-8 months were selected for fish culture activity. The size of selected ponds ranged from 0.5 to 5.0 ha. with 2-3 meter depth (1.5 meter minimum depth). P^H of selected ponds ranged between 7.5 and 8.5. At least 15-20 days waiting period was observed to reduce the water turbidity. The goats (500-1000 numbers/day) were allowed normally into ponds for drinking purpose two times daily. The excreta deposited in the pond which helps to increase the primary productivity in the pond. The fish seeds were stocked at the rate of 7500 numbers per hectare. Occasionally villagers used to fed with unconventional feed stuff such as paddy husk, broken black gram and green gram in irregular feeding schedule. Harvest was done before the water level falls below the critical level in seasonal ponds. Local community people were organized on the fish harvest field day after 6-8 months and the fishes are harvested partially or fully by using gill net/drag net/ scoop net. Primarily the harvested fishes were sold to local community people at low prices and surplus amount of fishes were sold in the local market at its local market prices.

Result and Discussion

The composite fish culturing in village common pond demonstration was started from 2008-09 in seven village ponds and produced 815 kg of fishes in 5.2 hectare of effective water spread area. During 2009-10 period the demonstration was conducted in sixteen village ponds and produced 7125 kg of fishes in 7.26 hectare of effective water spread area and in 2010-11period we conducted demonstration in fifteen village ponds and produced 7400 kg of fishes in 4.26 hectare of area. During 2011-12 period, demonstration was conducted in 56 villages and produced 23677 kg of fishes in 22.4 ha and in 2012 -13 period in 32 villages produced 12633.6 kg of fishes in 12.8 ha. of effective water spread area. Based on the observation in the demonstration, fish productivity were 156.7 kg/ ha, 981.4 kg/ha, and 1745.2 kg/ha, 1057 kg/ha., 987 kg./ha during 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13 respectively. The fishes thus harvested fetched a market price of Rs.80 to 110 and gave good return from each pond.

Impact of the Demonstration

This inland fish culture demonstration programme has played significant role in improving the economic status of villages and ensures protein supplement to village community people at low cost. Now the inland fish culture has slowly spreading to the other villages as an entrepreneurial activity and success achieved by the villagers through water committee has conveyed the message to the neighboring villages. Based on the experience gained, demonstration is being conducted in 56 village ponds during 2012-13 periods and we came to know that due to hot weather in Tuticorin district water retention are very less in common ponds. In order to overcome this problem, making baby fish ponds in each pond ensures retain water for longer period, promotes proper growth to achieve marketable size and makes harvest of fish easy. Hence, due to the intervention of KVK in Tuticorin district, the water being stored during rainy season ie., the seasonal ponds are well utilized for rearing of fishes besides its regular use as drinking water and water for other purposes. The water committees formed in this programme strengthened the unity among the villagers as the whole villagers are getting an additional income by fish rearing. The awareness created by this demonstration motivates the farmers to go for formation of farm ponds for fish rearing and it also helps in water harvesting and growing of other crops.

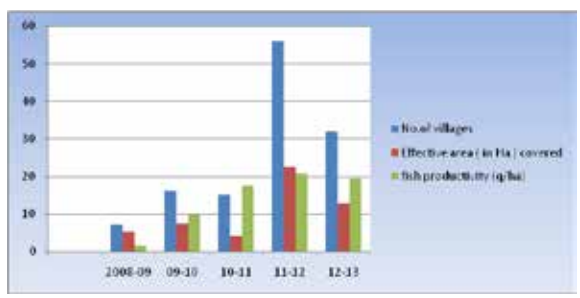


Fig.1. Spread of the composite fish culture over the last 5 years in Tuticorin District

Conclusion and Recommendations

The KVKs, thus are the down-to-earth institutions committed to vocational training, transfer of latest technologies, on farm research and thus, serving as the light house for overall rural development in the district. The activities of the KVK include technology assessment, refinement and transfer, aiming to bridge the gap between the technology developed at the research institutions and its adoption at the field level by the farmers through demonstration. With the above discussion it is well evidenced that the intervention of SCAD KVK, Tuticorin improved the village economy besides ensuring nutritional security. Hence, it is recommended that the KVKs that are serving in the vicinity of dry tracts could adopt inland fish rearing to improve the farm income and also to harvest the rain water effectively.

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