

# Secondary Extension Activities for Fisheries Technology Dissemination by Krishi Vigyan Kendra, South Tripura: An Exploratory Study on Performance

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## Abstract

An exploratory study was conducted to review the secondary extension activities conducted by fisheries discipline under Krishi Vigyan Kendra (KVK), South Tripura. Primary objective of a Krishi Vigyan Kendra is to frontline extension through assessment or refinement of technology (On Farm Trials, OFTs), Frontline Demonstrations (FLDs) and conducting training programmes for farmers, rural youths, and extension personnel. Conducting other extension activities which include a wide range of extension events is another mandated activity of KVK. This paper attempted to review the performance conducted in terms of other extension activities than OFT, FLD and Training in fisheries by KVK South Tripura from 2007-08 to 2019-20. The Study identified three categories of extension activities viz., individual, group and mass communication-based events and made the trend analysis of a number of extension activities carried out under each category. It was observed that the number of most of the activities were gradually increased over the years from 2007-08 to 2019-20. Time series pattern didn't show a similar trend for different types of extension activities over the last 13 years. Few activities were conducted in substantial numbers, whereas a number of activities for few extension events required to be explored for possibilities. There is a lot of scope and potential usefulness for conducting such events under other extension activities on fisheries at KVK, South Tripura.

## 1. Introduction

The Government of India through the Indian Council for Agricultural Research (ICAR) has established a wide network of Krishi Vigyan Kendra's (KVKs) in all the rural districts of the country. These Krishi Vigyan Kendras (KVKs) also known as Farm science centers in India, are one of the key extension systems and an integral part of the National Agricultural Research System (NARS) in the country. Agricultural innovations and diffusion of new technologies are key drivers to attain food security in the country besides providing farmers a competitive edge over traditional farming, thus facilitating better standards of living. To realize their true potential, farmers must have access to the state-of-the-art technologies, necessary inputs and related information in all the segments, be it crop, livestock, forestry, or fisheries. KVK does a wonderful job in this direction. Being one of its kind in the world, it aims at the assessment of location specific technology modules in agriculture and allied enterprises through assessment and demonstrations with relevant training to farmers.

The Krishi Vigyan Kendras (KVK) is of national importance

which would help in accelerating agricultural production and also in improving the socio-economic conditions of the farming community (Behera *et al.*, 2014). There is a large section of the farming community that is still unaware of technological developments in the field of Agriculture, Horticulture and Animal Husbandry. Educating farmers through a training programme is a crucial input for the rapid transfer and adoption of agricultural technology. Agricultural production can be increased if the product development programmes focusing more and on transferring the new technologies from research institutes to the farmers' fields and make them more result-oriented. The Krishi Vigyan Kendras (KVKs) is of national importance which would help in accelerating agricultural production and also in improving the socio-economic conditions of the farming community. Behera *et al.* (2014) explained KVK as an innovative institution providing effective linkage among researchers, farmers and extension workers, a practical approach to training through "Learning by doing" and flexible syllabi based on a survey and needs of farmers and location-specific requirements. Considering such approaches KVKs reach rural areas and farmers with the technical inputs

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from lab to land in promoting scientific cultivation practices. They serve the farmers with mandated activities like- (a) On-farm testing, (b) front line demonstrations, (c) training of farmers, farm women and extension personnel, and (d) act as knowledge and resource center of agricultural technologies.

Conducting different extension activities to promote the basic frontline extension approaches of KVK is also an important mandate of KVKs. These “Other Extension Activities” play an important role in communicating and making a bridge between KVK and Farmers to conduct core activities like OFTs, FLDs and Capacity building programmes. We could find a substantial number of literature on the core activities of KVKs and also the impact of different activities conducted by KVKs. The impact studies conducted on KVKs are specific to location, crop or technology and mandated activity (Aditya, 2019; Hansraj *et al.*, 2019; Kumar *et al.*, 2019; Sumita *et al.*, 2018; Savita and Lalita, 2017; Anuj *et al.*, 2014; Mishra *et al.*, 2009; Dubey and Srivastava, 2007). Most of the impact studies conducted are based on smaller samples (Sabyasachi *et al.*, 2019; Bacchu *et al.*, 2018; Singh *et al.*, 2018; Dixit *et al.*, 2017; Khedkar *et al.*, 2017), and sometimes limited in findings. But we could find a very less number of studies and literature on extension activities conducted by KVK. Availability of such information would justify the huge financial expenditure on KVK’s and could be helpful at times when the policy on agriculture extension are at crossroads. With this background, the present paper aimed at analyzing the “Other Extension Activities” conducted by fisheries discipline of KVK, south Tripura during April, 2007 to March, 2020.

## 2. Materials and Methods

The study was based on the primary data on extension activities conducted by the fisheries discipline of KVK, south Tripura located in the southern most district of Tripura State. Besides, a few significant information and findings of relevant research articles were also incorporated while carrying out the analysis. Both cross-section and time-series data and information were used for the study.

Tabulation, percentage analysis and trend analysis were carried out to bring out salient features of data. Tabulation is the most systematic way of presenting numerical data in an easily understandable form. Tabulation in descriptive analysis has a clear expression of the implication and easy and convenient to compare related numeric data. Percentage form was used while discussing the parameters of the study to make the document more convenient for the reader. Graphical representation of data was made to highlight outstanding features of data and make a comparison of trends and related cases.

## 3. Results and Discussion

KVK bridges the gap between the technologies developed at the research institutions and their adoption at the field level

by the farmers through various approaches (Nagaraj *et al.*, 2017). Several extension activities are being carried out by KVKs as per the requirement and situation of the farmers in its respective district and extension approaches followed for that are also different.

Numbers of events under fisheries extension were carried out by KVK, South Tripura. These events or extension activities were categorized based upon the method of communication used for extension (Ray, 2008). Three types of communication approach *viz.* individual method, group method and mass method of communication (Ray, 2008) in frontline extension were observed to be followed by KVK, South Tripura. Table 1 provided the categories and the types of extension activities under each category which was conducted by KVK, South Tripura under fisheries discipline during 2007-08 to 2019-20. A Reader could observe a lag in the activities during 2010-11 due to the absence of fisheries specialists from October 2009 to March 2011.

### 3.1 Individual Communication in Frontline Extension Activities

It was observed that the fisheries discipline of KVK, South Tripura conducted five types of programmes under the individual methods of communication. Here, the individual methods of communication indicated that the fisheries extension specialist communicated with the farmers individually (Ray, 2008). Advisory services on fisheries, a diagnostic visit to the individual farmer’s farm to identify and solve the technical problems related to fish farming, a scientific visit to farmers field to investigate the progress of other planned programmes like OFTs, FLDs, Face to face farmer’s scientist interaction to answer the queries of farmers related to fisheries, Farmer’s visit to KVK for fisheries-related queries were important approaches followed by fisheries discipline of KVK, South Tripura under the individual methods of extension. Figure 1 showed the time series data on a number of programmes conducted under each category of extension activities following individual communication methods. Visual observation in the figure depicted that the number of activities under each category improved over the time from 2007-08 to 2019-20. A total of 906 activities covering 4326 numbers of farmers, farm women, rural youths and extension functionaries were covered under the individual communication approach of fisheries extension during 2007-08 to 2019-20, of which nearly 45% of the activities were reported as farmer’s visit to KVK.

### 3.2 Group Communication in Frontline Extension Activities

Six types of group communication approach in fisheries extension activities were reported by KVK south during the period under study. Here, the group communication method was adopted as it was necessary to communicate with a number of people simultaneously (Ray, 2008). Among the six types of activities, number of programmes under group discussion or group dynamics programmes, method

demonstrations, lecture delivered as a resource person in different capacity building programmes conducted by other institution or organization and film shows on a package of practices on fish farming were substantially more during the period under study as depicted in Figure 2 and Table 2. The number of programmes in the form of Participatory Rural Appraisal (PRA) and ex-trainees ‘sammelon’ (conference) were less as compared to other group communication approach of extension. An irregular pattern was observed in conducting exposure visits of farmers (10 programmes were conducted in the last 13 years). A total of 314 activities covering 5798 numbers of farmers, farm women, rural youths and extension functionaries were covered under the individual communication approach of fisheries extension during 2007-08 to 2019-20.

3.3 Mass Communication in Frontline Extension Activities

In the mass communication method extension agents communicate with a vast and heterogeneous mass of people, without taking into consideration their individual or group identity (Ray, 2008). Radio talk, preparation and distribution of extension literature, awareness campaigns, exhibition, ‘kishan mela’ (farmer’ fair) mobile advisory services are among the mass communication approaches followed by fisheries section of KVK, South Tripura as depicted in Figure 3. Thirty numbers of radio talk which includes live telephonic ‘kishan vani’ programmes was a significant and substantial achievement in mass communication approach. Mobile advisory services were introduced for fisheries section at KVK, South Tripura during 2013. The continuity in conducting exhibition was also another significant achievement of KVK during the period under report. 139 numbers of mass communication-based fisheries extension programmes were conducted during the same period.

3.4 Other Extension Events

Other than the above-mentioned extension activities, different extension programmes related to fisheries were conducted by KVK, south Tripura from 2007 to 2020. Celebration of fish farmer’s day on 10<sup>th</sup> July, International Fisheries Day on 21<sup>st</sup> November, fisheries input distribution programme, fish seed grower selection programme, fish seed distribution programme, Farmer’s Club formation and inauguration programmes and Fishery based Self Help Groups (SHGs) formation and meetings, etc. were some of the activities which

had not been discussed in an earlier section of this article.

3.5 Composition of Beneficiaries

Table 3 presented the details of the type of beneficiaries who received different extension services in the form of individual, and group approaches, excluding the beneficiaries under the mass communication approach due to the difficulty of measurement. Times series detailed was avoided to make the presentation simplified. Overall, male beneficiaries were 8387 and female beneficiaries were 1747, out of which SC, ST, OBC and Other categories were 1004, 1522, 1418 and 6190 respectively during 2007-08 to 2019-20.

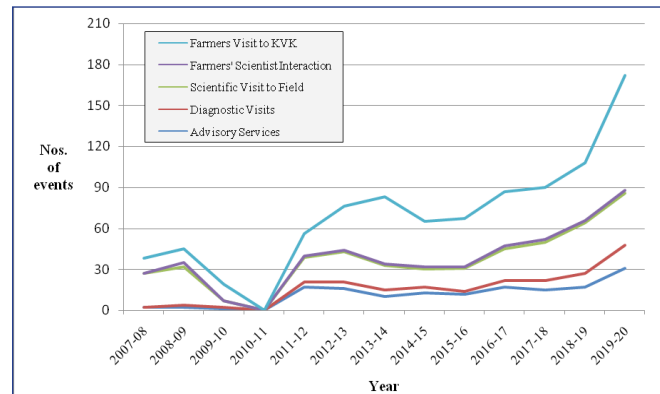


Figure 1: Trend in events under individual communication approach of fisheries extension conducted by KVK, South Tripura from 2007-08 to 2019-20

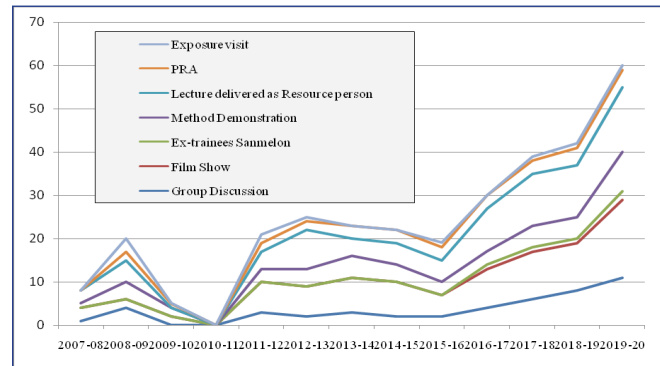


Figure 2: Trend in events under group communication approach of fisheries extension conducted by KVK, South Tripura from 2007-08 to 2019-20

Table 1: Number of beneficiaries under individual communication approach of fisheries extension conducted by KVK, South Tripura during 2007-08 to 2019-20

Year	Number of events and beneficiaries under each extension activities				
	Advisory Ser- vices	Diagnostic Visits	Scientific Visit to Field	Farmers' Scientist Inter- action	Farmers Visit to KVK
2007-08	2(4)	0(0)	25(38)	0(0)	11(34)
2008-09	2(13)	2(3)	28(56)	3(87)	10(77)
2009-10	1(3)	1(1)	5(30)	0(0)	12(116)

Table Continue...

Year	Number of events and beneficiaries under each extension activities				
	Advisory Services	Diagnostic Visits	Scientific Visit to Field	Farmers' Scientist Interaction	Farmers Visit to KVK
2010-11	0(0)	0(0)	0(0)	0(0)	0(0)
2011-12	17(85)	4(4)	18(71)	1(26)	16(149)
2012-13	16(27)	5(9)	22(54)	1(35)	32(123)
2013-14	10(20)	5(5)	18(71)	1(10)	49(165)
2014-15	13(17)	4(43)	13(32)	2(107)	33(230)
2015-16	12(12)	2(6)	17(41)	1(52)	35(108)
2016-17	17(32)	5(7)	23(57)	2(135)	40(189)
2017-18	15(44)	7(35)	28(88)	2(86)	38(216)
2018-19	17(54)	10(50)	37(107)	2(152)	42(226)
2019-20	31(126)	17(85)	38(191)	2(107)	84(385)
Total	153(437)	62(248)	272(836)	17(787)	402(2018)

Table 2: Number of beneficiaries under group communication approach of fisheries extension conducted by KVK, South Tripura from 2007-08 to 2019-20

Year	Number of events and beneficiaries under each extension activities						
	Group Discussion	Film Show	Ex-trainees Sanmelon	Method Demonstration	Lecture delivered as Resource person	PRA	Exposure visit
2007-08	1(16)	3(68)	0(0)	1(12)	3(88)	0(0)	0(0)
2008-09	4(48)	2(46)	0(0)	4(62)	5(176)	2(32)	3(87)
2009-10	0(0)	2(36)	0(0)	2(26)	0(0)	1(22)	0(0)
2010-11	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
2011-12	3(42)	7(128)	0(0)	3(25)	4(110)	2(34)	2(30)
2012-13	2(23)	7(150)	0(0)	4(62)	9(160)	2(28)	1(18)
2013-14	3(37)	8(152)	0(0)	5(47)	4(167)	3(36)	0(0)
2014-15	2(37)	8(139)	0(0)	4(108)	5(102)	3(32)	0(0)
2015-16	2(31)	5(133)	0(0)	3(53)	5(155)	3(42)	1(12)
2016-17	4(68)	9(179)	1(29)	3(36)	10(236)	3(40)	0(0)
2017-18	6(78)	11(212)	1(31)	5(86)	12(266)	3(33)	1(15)
2018-19	8(89)	11(212)	1(45)	5(86)	12(266)	4(50)	1(15)
2019-20	11(119)	18(210)	2(57)	9(96)	15(366)	4(48)	1(18)
Total	46(588)	91(1665)	5(162)	48(699)	84(2092)	30(397)	10(195)

#### 4. Conclusion

The paper discussed the fisheries-related extension activities other than On-farm Trials (OFTs), Frontline Demonstrations (FLDs) and Capacity building programmes conducted by KVK, South Tripura during 2007-08 to 2019-20. It was categorized based on communication approaches followed for an extension. The time series pattern didn't show a similar trend for different types of extension activities over the last 13 years. Few activities were conducted in substantial numbers, whereas a number of activities for few extension events

required to be explored for possibilities. There is a lot of scope and potential usefulness for conducting such activities in KVK, besides conducting OFTs, FLDs and training. Such extension activities had facilitated to resolve many issues related to fisheries among the beneficiaries. Potential scope exists to incorporate more number of events as well as beneficiaries for such extension events.

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