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Agri-information Networking for Farmer Centered Agriculture Resource Management in Hill and Mountain Agri-climatic Zone

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1. Introduction

Indian agriculture made remarkable progress during green revolution phase of its growth. But scientist feels that an additional 58 million hectares will be needed for meeting agricultural demand of next decade. However, nearly six million hectares of agricultural land will likely to be diverted for housing, road, and industrial purposes. In addition to this, the lack of knowledge for production technologies, also play a major role in limiting agricultural productivity . Scientist's facilitation to the farmers can improve this situation a lot (Enters & Hagmann, 1966). But the problem begins with whether a few scientists can cover the large number of farmers who are even not organized so far. Thus, responsibility gets shifted from one to another (Marilyn Hoskins, 1999) by keeping the state of affairs to be no ones responsibility. Whereas, sustainable human development can not be possible without people's participation (Banskota, 1966; and Banuri *et al* 1994).

Few studies have made on community users group networking (Satheesh, 1997; Hildyard *et al* 1998; Oepen, 1998; and Budd Hall, 1999), but most of them studied these issues under limited discussions e.g. networking status, empowerment, documentation, etc. However, the question for delineating appropriate *modus operandi* is still to unravel.

This paper perhaps deal with the experiences of authors, who incidentally came across these communication methods/approaches of networking and further analyzed/evaluated these through different methodologies.

2. Methodology

District Tehri lies in –between 30° 3′ 10″ - 30° 50′ 45″ N latitude and 70° 8′ 95″ - 79° 2′ 4″ E longitude, with a huge 4421 sq. km. area. The altitude of district varies from 600 m to 3000 m above men sea level (MSL). It consists sum of 2015 villages comprising 1959 revenue village , 56 non-revenue villages and rest 14 forest settlements. Administratively, it is divided into three tahsils and nine community development (CD) blocks. Though, the literacy of district is 48.4 per cent but female literacy confines at 26.4 per cent only (Statistical Report of District Tehri, 1995). Since woman is the backbone of hill agriculture, they are far from the reach of institutional awareness programme of Agriculture University. The only agricultural institute of district, GB Pant University of Agriculture and Technology, Hill Campus Ranichauri is nearest to CD block Chamba and farthest form Pratapnagar and Bhilanagana. However, most of the villages of district fall within the distance range of around 3-150 km. Under such condition the modality of agri-information diffusion becomes too hard to execute. With consideration of these facts, GBPAU & T, Hill Campus Ranichuri, lauched an ambitious programme "Farmers Scientist Interaction Programme" (FSIP) in February 1998. Under this project, there was provision to call the farmers as follows :

- One farmer from a village, only.
- Three days interaction/ training programme.

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- Boarding and lodging free.
- Sharing in travel expenditure, up to a limit of Rs. 75 only.
- Certificate of participation of the farmers as 'contact farmers'

Under these FSIP, six networking approaches were tested through twenty-four programme and thus to cover a total 1040 farmers, 40-50 farmers for each programme were contacted. As per choice of performing respondent of different approach (as given below from 1-6), at last 150 farmers (seven farmers per programme) were taken as target to be contacted. In case the percentage of failure was increasing for achieving the fixed target, the backlog target was re-distributed to approach no. 2 and 4 (i.e. NGOs and Personal contact). Information regarding date, venue and programs to all invited farmers were compulsorily given 15 days prior from the actual date of programme. In general the ratio of extension workers and farmers in district Tehri is around 1 : 500 (A mimeograph of Chamba Watershed Sub-Division Tehri, 1993). Hence, it was assumed that if at least one person from a village would available as contact farmer, agri-information may be flown smoothly along remotely located villages Identification of the appropriate farmer was done through following six approach.

- **Government network:** There are different rural development organization running their programme regarding agricultural development e.g. department of soil conservation, directorate of watershed development, dairy development, etc. The heads of concern departments were requested to cooperate in this programme by involving their village level staff.
- **Non government** organisation/ Non-political public representatives : Chief functionaries of different NGOs and non-political representatives, working in the area, were approached for the selection of contract farmers.
- **Ex-soldiers association :** There is one district level and ten CD block level associations in district Tehri. These were approached for the purpose. They are regularly meeting once in a month at there head quarters for pension collection and living in the villages as farmer.
- **Personal contact:** During personal contact different leading people were contacted in different villages for organizing a meeting. During such meetings the progressive farmers/ representative were selected through consensus.
- **Youth club:** Nav yoovak/ nav yoovati mangal dal, Nehru yoova clubs were contacted to identify the energetic and progressive farmer of the area.
- **Cross-referencing from the previous contact farmers:** A total of 24 FISPs were organized. Out of which 23 programme were used to identify the farmers for coming batches through cross-referencing from farmers of present training (reference farmer). A simple oral question was asked to each reference farmer in the training about their acquainted villages and their most progressive farmers. In this way progressive farmer was identified and invited through the reference farmers.

Observations regarding male, female, literacy and distance of their villages from hill campus Ranichauri were taken in consideration. Further the observations were analyzed by calculating mean and percentage.

3. Results and Discussion

A total of 24 FSIPs were conducted with well pre-informed dates and venue during February 1998 – March 2000 in which 1040 different farmers were invited through six contact approaches (as described

in research methodologies). The target for first 16 programme was of 40 farmers, which was later on increased to 50 farmers for following 8 programmes. Thus, altogether 885 different villages and hamlets could be finally contacted by calling 596 male and 289 female farmers. All male farmers were literate where as 93 female farmers were illiterate. This is probably due to low female literate of the district i.e. 26.4 per cent in comparison to 48.8 per cent of male literacy (District statistical report year, 1995). Highest turn up percentage of farmers was observed primarily for villages situated near by distances from the organizing institute. However, the commitment and efforts done by the performing partners of corresponding approach was also valuable for the turn up of the farmers. It was also evident from the individual programme that female turn up was maximum for NGO's contact approach (58.8%) followed by personal contact (18.3%) and cross referencing (13.55%) approaches, respectively. The minimum farmers turn up was encountered from government network (2.6%) followed by ex-soldiers association (3.0%) approaches. The statement of women respondent that main stream radio has no time for micro details (Satheesh, 1997) probably fit here, in governmentt networking approaches as their commitments are reserved for another works, instead of this. Marilyn (1999) also tells under heading "some one else's paradigm" about responsibility shifting, which is probably major cause for ignorant response of government network systems. This also shows an urgent need to improve the working of the said system. Location of organizing institute and its distance from target group played an important role for the participation of women farmers, however, effectiveness of any approach particularly depend upon the degree of commitments of corresponding partners of that approach. But this effectiveness can not alone do much if the distance is too much (Table 2). Villages located at a distance in-between 15-90 km. (approx. 17-29 %) showed maximum women's participation. This is possibly due to being a hill women highly engaged in various types of domestic works and routine liabilities make her to fell

Table 1 Farmers Response for Different Networking Approaches

Contact approach of Farmers	Farmers turn up percentage		
	Male	Female	Total
Government net work	2.5	2.8	2.6
NGO's / non political public representatives	48.8	58.8	52.1
Ex-soldiers associations	4.5	0.0	3.0
Personal contacts	22.0	18.3	20.8
Youth clubs	16.3	6.6	13.5
Cross referencing	5.9	13.5	8.4
Total	100.00	100.00	100.00

Table 2 Distance of Village from Hill Campus Ranichauri and Gender Wise Participation of Farmers.

Distance from hill campus (Km.)	Farmers					
	Male		Female		Total	
	No.	%	No.	%	No.	%
<15	65	11.0	25	8.7	90	10.2
16-30	121	20.3	85	29.4	206	23.3
30-45	34	5.7	40	13.7	74	8.3
46-60	87	14.6	20	6.9	107	12.1
61-75	111	18.6	49	17.0	160	18.1
76-90	126	21.1	50	17.3	176	19.9
91-105	28	4.7	6	2.1	34	3.8
106-120	8	1.3	6	2.1	14	1.6
121-135	9	1.5	6	2.1	15	1.7
136-150	7	1.2	2	0.7	9	1.0
Total	596	100	289	100	885	100

engaged in her domestic affairs, if she remains nearer to home (i.e. less than 15 km.). But if they come from distances

Fig 1 Participation of Farmers Under Different FSIPs

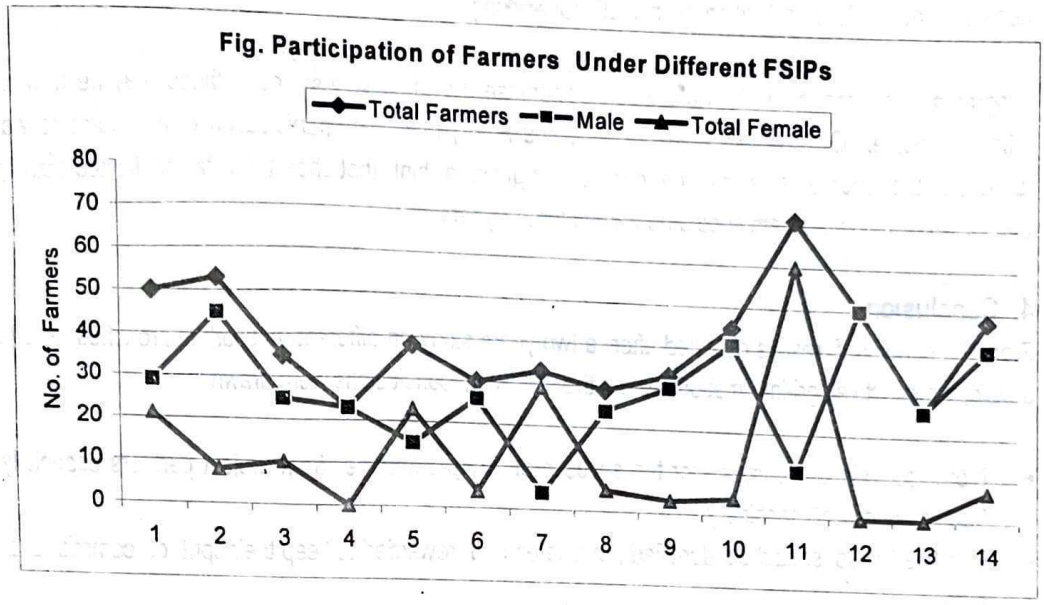

Table 3 Farmers Participation in Reference to Literacy and Gender in Different SFIPs

Prog. no.	Total no. of farmer's	Other information regarding farmers'					
		Male			Female		
		Total	Literate	Illiterate	Total	Literate	Illiterate
1.	24	13	13	--	11	9	2
2.	23	21	21	--	2	2	--
3.	16	13	13	--	3	3	--
4.	34	31	31	--	3	3	--
5	32	07	07	--	25	12	13
6.	40	24	24	--	16	12	4
7	40	27	27	--	13	11	2
8	47	22	22	--	25	3	21
9	13	13	13	--	--	--	--
10	52	35	35	--	17	17	--
11	50	29	29	--	21	19	2
12	53	45	45	--	8	4	4
13	35	25	25	--	10	4	6
14	23	23	23	--	--	--	--
15	38	15	15	--	23	20	3
16	30	26	26	--	4	4	--
17	33	04	04	--	29	9	20
18	29	24	24	--	5	5	--
19	33	30	30	--	3	3	--
20	45	41	41	--	4	4	--
21	71	11	11	--	60	45	15
22	50	50	50	--	--	--	--
23	26	26	26	--	--	--	--
24	48	41	41	--	7	7	--
Total	885	596	596	--	289	196	93

between 15-90 km, they find new-ness by having enjoyment in outings. Similar results were found in case of male farmers also. It gives an indication that any institution can serve communities in better ways by being located at up to 100 km. range, under hill conditions. This may help planners for taking decisions about decentralization of institutional working.

Programme of monotonous nature also decrease the effectiveness, even these may be new for different people. Observation show (Table 3 and Fig 1) that the participation of the farmers was looping all the course of programme duration. It gives a hint that short term target, limited activity, and longer duration program should be framed for 2-3 years.

4. Conclusion

From the perusal of results obtained after a two years study on different network approaches and to develop an effective agri-information system the following conclusions were drawn :

- More commitment is must for the success of any programme from project partners especially from government machinery.
- Effective NGOs should be identified , evaluated and rewarded to keep their sprit of commitment, alive.
- Public service institutions. should opt decentralized mechanism of working to strengthen rural network in hill areas.
- Functional literacy programme should be incorporated in adult literacy programmes, instead of taking it merely a signature learning movement.
- Short-term benefit project duration should not exceed more than 2-3 years.
- Identification of few more contact approaches may be tested for developing strong network.
- Identification of few more contact approaches may be tested for developing strong network.
- Strong networking is needed for smooth flow of agri-information in complex diversified and mountain agricultural systems.

5. References

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