A Study on Knowledge Level of Farmers about Watershed Development

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Abstract : A study was conducted in four villages of Dharwad and Belgaum districts considering marginal farmers, small farmers and big farmers numbering 240, to study the knowledge possessed by them on watershed development. The overall knowledge index of farmers on watershed development was 31.97. Majority of the farmers had moderate knowledge on watershed development (70%). Significant association was observed between farmers' education and their knowledge on watershed development and soil conservation. It was found from the study that still there is a wide knowledge gap among the potential farmers for which, appropriate extension educational activities have to be organised by the project implementing staff.

Introduction

For ages man has been exploiting land to support himself. Even in the future, he has to depend on the land. But, it has certain production capability, beyond which it declines. In the less potential areas i.e. in areas of very low rainfall and rainfed dryland regions, the livelihoods of present and future generations are now under threat because of over exploitation of land, water and vegetation resources. In addition, population explosion and lack of appropriate technology and local resources to restore and manage these eco systems under the new and changing set of conditions are the added problems. Hence, this resource base has to be reconditioned through a technology intervention called "Watershed Development". *A watershed is land area with a specific drainage pattern. Watershed development is establishment of an enabling environment for the integrated use, regulation and treatment of water and land resources of a watershed based ecosystem to accomplish resource conservation and biomass production objectives.* (Jensen, 1995)

Identifying the severity of the situations, Government and donor agencies like Danida, Swiss Development Corporation are attempting to restore and improve land use systems on Watershed Development basis through several programmes and are investing millions of rupees. In the process of implementation, the foremost activity to be carried out by the executing staff is to

identify the knowledge gap and implement different activities by involving the concerned farmers at different stages.

An attempt was made in the study to find out the knowledge level of farmers on watershed development and the factors associated with their knowledge level, before implementation of watershed development activities so as to develop a strategy to increase the knowledge level of farmers and execute the works to achieve better results in the project.

Material and Methods

The study was conducted in three taluks of Dharwad district (Hubli, Dharwad and Shiggaon) and one taluk in Belgaum district (Bailhongal). These taluks were selected purposively as the Danida funded Karnataka Watershed Development Project was in operation. In each taluk, one village was again purposively selected considering two criteria. Firstly, the village should have been selected for watershed development work by the Karnataka Watershed Development Project but, not yet commenced any work in the villages. Secondly, the larger area in the village should have been considered for watershed development works by the project. In each village 20 marginal farmers (MF), 20 small farmers (SF) and 20 big farmers (BF) were selected randomly. Thus, the total sample for the study was 240.

The respondents' personal factors (age, education, size of land holding) and their knowledge level on soil conservation (Scn), horticulture (Hort.) and forestry (Fort.) as pects, and their adoption of land development activities were considered for the study as these were the major components in the watershed development. The information was collected on the above variables through personal interview using a pre-tested schedule. The collected data were analysed using percentages, frequencies, mean and correlation coefficients.

Results and Discussion

A cursory look at the table-1 indicates that the overall knowledge index of farmers on watershed development was 31.97. It could be further seen that the farmers' knowledge on soil conservation and agroforestry was almost similar but, better than horticulture. This trend was observed in all the four villages selected in the study. This may be due to availability of field functionaries in the Departments of Agriculture and Social forestry, who are making constant efforts to educate the farmers since several years on these aspects, whereas, in the Dept. of Horticulture, the deployment of field level funtionaries is not adequate.

Considering the mean knowledge index and stanard deviation, the respondents were categorized into three groups as low, medium and high. A vast majority of the respondents (70%) were in the medium level group. A small percentage of respondents were in higher (13.33%) and lower (16.37) groups. The same trend was seen in all the components of watershed development considered in the study (Table-2).

Table-3 depicts the correlation coefficient values for selected personal factors of farmers and their knowledge on different components of watershed

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Table 1. Mean knowledge index of farmers with respect to watershed development

Components	Villages				
of Watershed	V-1	V-2	V-3	V-4	Overall
Knowledge on Soil conservation	39.03	38.09	35.24	38.60	37.74
Knowledge on Horticulture	29.62	17.72	23.14	10.29	20.19
Knowledge on Agroforestry	41.66	31.07	39.02	30.00	35.44
Overall	36.40	30.63	32.27	28.56	31.97

Table 2. Farmer's knowledge about different watershed components   n=240

Levels	Watershed components							
	Scn.		Hort.		Fort.		Overall	
	No.	%	No.	%	No.	%	No.	%
Low	8	13.33	9	15.00	11	18.33	10	16.67
Medium	42	70.00	41	68.33	42	70.00	42	70.00
High	10	16.67	10	16.67	7	11.67	8	13.33

Table 3. Relationship between the personal factors and knowledge of watershed components   n = 240

Personal factors	Watershed components			
	K-Scn	K-Hort	K-Fort.	Overall
Levels	K-Scn	K-Hort	K-Fort.	Overall
Age	0.0506	0.0034	0.0233	0.0525
Education	0.1805**	0.1911**	-0.0231	0.2164 **
Size of land holding	0.1698**	0.0648	-0.0911	0.1225

** Significant at one per cent level of probability

development. There was a significant relationship between the education level of farmers and their overall knowledge on watershed development. the same trend was seen in the components; soil conservation and horticulture. It is obvious that the educated farmers can grasp the watershed concepts easily than less educated or illiterates. Gowda (1992) has observed significant relationship between education and adoption of watershed development works in Chitravathi watershed.) Hence the extension educational activities must be so organised to make the illiterates or less educated farmers to know about watershed development easily. Size of land holdings had significant association only with knowledge on soil conservation The big farmers might have acquired the knowledge on soil conservation measures either by imitation or continued practices done by their elders. Also, they will have better access to the extension staff and even some of the soil conservation activities might have been executed in their fields previously, in some

of the programmes. There was no significant relationship between size of land holdings and their knowledge on horticulture and forestry which might be due to the lesser importance given by the farmers to those components in view of food grains requirement .

References

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