

A Study on Farmers' Perception About Contour Bunding

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Abstract: The study conducted in Bommasamudra and Shishuvinahal watersheds of Dharwad district to know the perception of farmers about contour bunding. The study indicated that 71.70 per cent of respondents perceived preservation of soil erosion as the main purpose of contour bunds. While majority of big farmers (61.67%) expressed utility of contour bunds as the main purpose, 61.67 per cent of them preferred manual bunds and 56.67 per cent opined that bunds are not useful.

Key word : Watershed, Soil erosion, Contourband, Soil & Water Conservation

Introduction

Agriculture is being practiced in India for thousands of years and consequently the natural protective vegetation has been almost eliminated in many areas leading to disastrous and accelerated soil erosion by wind and water. About 90 per cent of the cultivated land is affected by erosion. Out of which 32 per cent of the land is so highly eroded that crop growing is no more a practical proposition (Anon., 1990). Realizing the gravity of the erosion problem, the government has launched a massive soil conservation programme in cultivated lands. Karnataka watershed development project (KWDP) is one of the such programmes started with the financial assistance of Danish International Development Assistance (DANIDA) in 1991. The programme covers 14 taluks in Dharwad (6), Belgaum (6) and Uttar Kannada (2) districts. The duration of the project is four and a half years with an aim to improve 39636 ha of arable and 9040 ha of non arable land (Anon., 1992).

Soil and water conservation activity is regarded as a major component in this project. The important principles involved in planning devices for soil and water conservation are to increase the time of concentration and thereby allowing more runoff water to be absorbed and held by the soil, for intercepting a long slope into several short ones so as to maintain less than a critical velocity for these runoff water, and protection against damage due to excessive runoff. The above objectives are achieved by putting a series of bunds or level terraces across the slope of land. Hence, contour bunding is considered as the major activity among soil and moisture conservation activities. Contour bunding is the construction of small bunds at short intervals across the slope on contour so that the long slope is intercepted into a series of short ones and each contour bund acts as a barrier to the flow of water and impounds a greater part of it against the bund for increasing soil moisture. Hence, a research study was under taken to know the perception of farmers about the contour bunds and to know the opinion of farmers on excavating the soil in the down stream of the bund to greater depth than excavating soil form upstream and planting trees in the burrows.

Material and Methods

The study was conducted during the year 2002-03 in Bommasamudra and Shishuvinahal watersheds of Dharwad district. There were two watersheds out of four selected for project research activities. The two watersheds were purposively selected as the contour bunding work was more in these two than the other two watersheds. Varur village in Bommasamudra watershed and shishuvinahal village in shishuvinahal watershed were selected randomly. In each watershed, 30 farmers were selected randomly and the break up of beneficiary and non-beneficiary farmers of KWDP is given in table 1. Of the 60 farmers contacted, 87 per cent were beneficiaries of KWDP, while 13 per cent were non-beneficiaries. Majority of the respondents were big farmers. A pre tested schedule was used to obtain required information. To make the respondents understand, the proposed contour diagrams were drawn and explained to each respondent at the time of interview. The data obtained were interpreted using frequency and percentage.

Results and Discussion

The results presented in table 2 indicated that majority of the respondents perceived that preservation of soil erosion (71.10 %) and conservation of moisture (65.00 %) is the main purpose of construction of contour bunds across the slope. The results further indicates that nearly fifty per cent of the respondents perceived that provention of gully formation (48.30%) and provention of water and soil loss (46.70%), followed by save fertility of top soil (21.70 %), demarcation of field boundary (18.30%), growing fodder (16.67%) and planting tress (13.30%). Similar findings were reported by Nandini *et al.* (1996). Where in, as many as 75 per cent of the respondents had used earthen bunds to conserve soil and moisture. From the contents presented in table 3, it shows that majority of the big farmers (61.67%) considered the contour bunds useful, followed by marginal farmers (18.30%) and small farmers (13.30%). Whereas, 6.67 per cent big farmers expressed that it was not useful. Similar results were reported by Nagaraj *et al.* (1996). The data presented in table 4 revealed that large majority of the

Table 1. Selection of respondents

Sl. No.	Category of farmers	(n=60)			
		Beneficiaries of KWDP		Non-beneficiaries of KWDP	
		Number	Per cent	Number	Per cent
1	Marginal farmers	9	15.00	8	3.30
2	Small farmers	6	10.00	8	3.30
3	Big farmers	37	61.67	4	6.67
	Total	52	86.67	8	13.27

farmers (78.30%) preferred physical contour bunds and more one-fourth of farmers preferred graded bunds (37.70%). Though the considerable percentage of farmers also preferred vegetative bunds, they preferred local grasses (43.30%) and khus grass (vetiver) (35.00%) because of poor knowledge regarding khus grass. The data of table 5 clearly indicated that a majority of the respondents (61.67%) preferred manual method of putting physical bunds as it is relatively cheaper when compared to mechanical means such as using a bulldozer (38.33%). A great

Table 2. Purpose of contour bunds as perceived by the farmers

(n=60)			
Sl. No.	Purpose	Number	Per cent
1	Preservation of soil erosion	43	71.70
2	Conservation of moisture	39	65.00
3	Preservation of gully erosion	29	48.30
4	Preservation of water and soil loss	28	46.70
5	Save fertility of top soil	13	21.70
6	Demarcation of field boundary	11	18.30
7	Growing fodder	10	16.67
8	Planting trees	8	13.30

Table 3. Utility of contour bunds as expressed by the farmers

(n=60)					
Sl. No.	Category of farmers	Utility			
		useful		Not useful	
		Number	Per cent	Number	Per cent
1	Marginal farmers	9	15.00	8	3.30
2	Small farmers	6	10.00	8	3.30
3	Big farmers	37	61.67	4	6.67
	Total	52	86.67	8	13.27

Table 4. Type of contour bunds preferred by the farmers

(n=60)			
Sl. No.	Purpose	Number	Per cent
1	Physical		
a.	Graded	13	27.70
b.	Contour	47	78.30
2	Vegetative bunds		
a.	Khus grass	21	35.00
b.	Local grass	26	43.80

Table 6. Opinion of the farmers about top soil loss due to bunding

(n=60)			
Sl. No.	Opinion	Number	Per cent
1	Considerable loss	5	8.30
2	No considerable loss	55	91.67

majority of the farmers (91.67%) opined that the present method of bunding did not cause considerable loss of top soil (Table 6). This could be attributed to the farmer's strong belief that the bunds helps in preventing the top soil. This finding draws support from the results reported by Nandini *et al.* (1996). A significant finding of the present study was that more than half respondents (56.67%) opined the proposed method of bunding

Table 5. Appropriate method of putting physical bunds as expressed by the farmers

(n=60)			
Sl. No.	Method	Number	Per cent
1	Manual	37	61.67
2	Bulldozer	23	38.33

Table 7. Opinion of farmers about proposed method of bunding

(n=60)			
Sl. No.	Opinion	Number	Per cent
1	Useful	10	16.67
2	No idea	16	26.67
3	Not useful	34	56.67

was not useful, while more than one-fifth of the respondents had no idea about its utility (Table 7). The study thus implies a need for research into cheaper methods of soil and water conservation, providing financial assistance at cheaper interest rates and more importantly to educate the farmers and convince them of the benefits of khus grass to be used as a vegetative bund emphasizing its propagation, maintainance, care and utility.

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