



## Farmers' participation and the hare irrigation project

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FROM THE VERY beginning, the expected participation of the farmers was not promoted in the Hare Irrigation Project, a small scale irrigation scheme near Arbaminch under Gamo Gofa region of Ethiopia. After thorough study, it was found that the basic reason for non-participation is the top-down approach followed during investigation, design and construction stages of the project. Due to strong resistance from the local farmers, the tertiary and quaternary canals of the project are yet to be constructed. The above issue and its related aspects have been described in this paper.

### Introduction

During the past three decades African food production has achieved a growth rate of about 2 per cent per year, while the population has risen at the rate of 3 per cent per year (DFID, 1997). Also Africa is the driest continent, with the possible exception of Australia and it suffers from the most unstable rainfall regimes. Countries may have adequate water averaged over the whole year but several seasonal and regional shortages can endanger mainly rainfed agricultural production and cripple rural economies. In addition to the need for food production, there is also the urgent need for poverty alleviation in sub-Saharan Africa. Irrigated agriculture has the potential to alleviate poverty and improve the quality of rural life. However, there is neither the irrigation infrastructure nor the widespread farmers' experience that is necessary to exploit this potential effectively. The estimated food grain production in Ethiopia and population over the last few years are as shown in Table 1.

In the recent past Ethiopia has been projected as a country suffering from the acute shortage of food due to severe droughts and therefore, receiving food aids from donor countries. In spite of this fact, this country is endowed with vast water potential and wide land use system suitable for both rainfed as well as irrigated agriculture. The present irrigated area under medium and large irrigation schemes is assessed to be 97,000 ha and that under small scale irrigation is 64,000 ha. This is only 5 per cent of the assessed irrigation potential of 3 million ha (WAPCOS, 1996).

Hare project is located between 6° 30' N to 6° 38' N latitude and 37° 33' E to 37° 37' E longitude. It is a diversion weir completed by Chinese aid during 1995-96. The project became functional in February, 1996. This diversion weir is supposed to serve 3000 agricultural based families of the area. They were first introduced to a directional diversion structure by an NGO, the Lutheran World Federation in

**Table 1. Food grain production and population of Ethiopia (survey of current economic conditions in Ethiopia, 1994)**

Year	1988-89	1989-90	1990-91	1991-92	1992-93
Food grain ('00 t)	6230	6736	6952	6440	6953
Population (million)	46.7	48.3	49.9	51.6	53.3

1993. However, the farmers of this area are familiar with irrigation for last several years.

There are two farmers' associations active in the project area i.e. *Chano Chelba* and *Chano Mile*. However, the project is not functioning well due to various technical and social problems e.g. poor operation and maintenance, weak farmers' association, inadequate training and visit programme and non-completion of the project itself due to the problem of land acquisition. Agricultural and irrigation extension services are also not adequate (Addisu et. al, 1998).

### Methodology

The overall objective of the scheme is to develop a set of effective measures for establishing improved irrigation management practices through water users' participation. Structured field interview technique was adopted for the present study. For this a questionnaire consisting of twenty seven questions was prepared and about forty farmers, who were willing to answer, were interviewed. At the beginning the farmers were not cooperative about the research team thinking that the team was from the Region's Agricultural Extension Department. Most of the questions were uniformly answered by the farmers with a few deviations, of course.

### Results and discussion

The total population in the command area of Hare project is approximately 4000. 55 per cent of the total population is female and the average number of person per family is six. The main ethnic groups in the study area are Gamo people, but there are immigrants from all the areas of southern nations nationalities, 78 per cent of the population are illiterate, the rest of the population have attended school up

to 9. The farmers, in general, are below 50 years and they have spent about 5 to 45 years in farming activities. About 75 per cent of them are registered in the existing farmers' associations i.e. *Chano Chelba* and *Chano Mile*. The method of irrigation used by the farmers varies. Some farmers use furrow irrigation only, others use wild flooding only and still others use the combination of the two. Those farmers whose houses are nearer to their farming plots, irrigate their lands up to mid-night. But generally speaking, most farmers do not irrigate during night time because of the fear from mosquitoes, snake bites, hyenas and other wild animals. Sometimes as it is expected everywhere, some conflicts arise during irrigation period. Some farmers used to illegally divert the water from the canal for continuous irrigation. Then the other farmers will report this matter to the local 'water committees'. If a person is found guilty of such things, he will be charged up to 50 birrs as per the 'local water law'. All the farmers will pay a revenue to the Government. The revenue ranges from 20-30 birrs/ha, which averages to 25 birr/ha. The variation depends upon the efficiency of farm income by that farmer for that particular year.

The research team made many attempts to win the confidence of the farmers by frequently visiting the command areas. In general the farmers are reluctant to cooperate. Some of the farmers quoted during formal discussion; *"Your job is teaching and we have sent our children to your Institute. Teach them and do not come to us again"*. *"We would not talk to the research team until and unless the team comes with our Woreda and Zonal representatives"*. When the research team tried to contact them together with their Woreda and Zonal representatives, they said, *"We want to dismantle the Chinese weir and total canal system because it does not give us the water in required amount. We want to return to our primitive way of irrigating our fields"*. *"Our land sizes have reduced due to the network of canals and our animals also don't get water for drinking purposes because the canals are too deep. Don't come to us again"*.

The average size of holdings of farmers is 0.8 ha. Out of these holdings 98 per cent is irrigable and the rest 2 per cent do not require irrigation due to significant ground water contribution. The ground water comes as shallow as 0.70 m. The mainly grown crops in the project area are maize, cotton, banana and sweet potato. Apart from this they also carry out animal husbandry. But they face the shortage of proper grazing fields and also their animals are attacked by various diseases from time to time. The average annual household income varies from 500 Ethiopian Birr to 1500 Ethiopian Birr per family. The nearest market in the area is *Chamo-Mile*, *Arbaminch* and *Lante*. The roads are not in good condition and the main means of transport are donkeys, horses and mules.

From the very beginning, the Hare irrigation project engineers did not promote the farmers participation at any stage of the project except making them to know what is being constructed. Hare farmers are facing an acute short-

age of irrigation water i.e. only 24 per cent of the irrigable land is getting water timely and adequately. The farmers have little faith in the system and therefore, a few canals, both from the Chinese weir and Lutheran's directional diversion scheme have been abandoned by the farmers themselves. The regional Government has tried to construct the remaining lower level canals i.e. tertiary and quaternary canals, however, the work was stopped due to very strong resistance from the united farmers in the area.

### Lessons learnt

The following are the important lessons learnt:

- Community has an important role to play in the operation and maintenance of irrigation schemes and it is necessary to examine which factors facilitates or obstruct its involvement.
- Any new farming idea or technique is not accepted at an equally fast rate by all the farmers, by all the group of farmers or by all the villages.
- Community should be involved at all stages of a project from inception to completion.
- The Govt. Engineers and NGOs should work as social lubricants.
- Community participation does not happen by itself but needs to be stimulated. Therefore, the cooperation between the Govt. Engineers and the farmers is, therefore, of much importance.
- Operation and maintenance should have high priority. Skilled staff with good aptitude should be assigned to this activity.
- A good understanding of the existing situation, social relations, irrigation practices was felt necessary before intervening. Constant meetings and discussions between all parties concerned is absolutely necessary for communication, coordination of activities and to ensure lack of misunderstandings. These factors will facilitate a sense of partnership, mutual cooperation and solving of problems.

### Conclusions

The success of any participatory management programme would depend upon attitudes of the site engineers. They have to be sympathetic to the farmers' problems, listen to their complains and be responsive to their needs. Apart from their own vocation, they have to learn to listen to the farmers and practice some social engineering. Few site engineers of proper caliber may be up to this requirement. The farmers acceptance of participatory management and their desire to benefit from the system is of paramount importance. The agricultural extension programme, availability of agricultural inputs and access to the market for the farmers output would determine the success of any programme targeted to the farmers. In the Hare command area, there is a very strong source of apathy towards this project, that farmers refuse to fully comprehend a system basically built for their benefit, making them hesitant to

cooperate for the completion of local canal system and to take over the operation and maintenance of the scheme as a whole. However, the communication has just begun between the farmers and the research team, but they are yet to develop trust and confidence in the research team. What is needed is to continue to do the research patiently and try to sustain it with new means when it will start to take root.

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