

# EFFECT OF LOCAL DEMONSTRATION CENTERS ON RAWAL WATERSHED MANAGEMENT UNDER CHANGING LAND USE IN VILLAGES OF ARUKAS AND GORA GALI

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**ABSTRACT:** *This study was designed to assess the effect of demonstration centers on watershed management. This research has been conducted on 'watershed management project in the villages of Arokas and Ghora Gali,' this development project was executed by the National Agriculture Research Center (NARC). In this study researcher gathered the data to observe the development project's designing, execution and its impact on community. A sample of 117 households has been drawn on the basis of snow ball sampling from purposive sampling. While, whole study was carried out through using mixed qualitative and quantitative approaches. Participant observer has collected the data through socioeconomic census survey forms (SESFs), informal interviews and case studies. Most of the respondents showed that they didn't participate in demonstration centers for the adoption of the watershed management project; neither the NARC (project implementing agency) sensitized the community for the adoption of watershed management project.*

**Key Words:** Demonstration, Demonstration Centers, Watershed Management, Project

## INTRODUCTION

Economic growth is only possible through a successful development project as Rawal watershed management project under changing land use was executed in villages of Arukas and Ghora Gali, by NARC-Pak, it was funded by USAID. Whereas, duration of the project was three years, i.e. 2010-2013. This study was carried out to analyze the effect of local demonstration centers in adoption of watershed management. Because demonstrating building capabilities of countries is also as striking part of work to trigger change; it is also action of exhibiting the existence of something by giving evidence.

Effective demonstration centers in the agriculture domain are the platforms where agriculturists, professionals and trainers demonstrating to local farmers that; how modern agriculture technologies and methods works and how the local community can boost up crop productions with minimum water consumption. Education brings understanding and awareness [1]. Informal demonstration centers also leads the successful project execution, it involves community are supposed be gathered local schools, or on community parks. Whereas, the term watershed management is the process in which rain water passes down/flow through small catchments, ridges, terrains, channels, and fall into the main reservoir.

Anthropological activities on land have a direct impact on water and other natural resources within a watershed. Water channels, removing vegetation along watercourses, paving areas, filling in wetlands and overwhelming groundwater at highest rate. Watershed management approach is liaison between local people with the aim of adapting the decisions with socio-economic, political and cultural goals of those affected. The effect of demonstration center carries refinement in the community, therefore through continuous refinement society moves towards social perfection [2].

In the contextualization of international watershed projects, local community's participation is highly recognized for community's desired benefits. But this watershed project has

been implemented for few individuals of community rather than focusing on the whole community. Although the purpose of integrated watershed management project is to bring technological change in community's socio-economic and cultural aspects. This study is done to check the participation of community in successful implementation of watershed projects. In Pakistan, Gov. Officials and stakeholders initially start watershed projects for deprived and vulnerable communities, but Gov. Officials never heard the cries of susceptible communities. Capitalists exploit the rights of proletariat, while proletariat worked and generate the wealth for bourgeoisie [3]. The participant of the watershed management project adopted new technologies and grown fruits and vegetable efficiently, but it sold and profited to capitalists. Participant doesn't gain from this added value.

In such projects, where participatory approach has not been practiced, eventually community faces social complexes. Land is dividing line between *zamindar* and *kammis*, interest of both focused on the land [4]. Respondents of rural area Arukas and Ghora Gali expressed that NARC – team has not adopted local available water resources neither adopted participatory approach professionally. As it is obligatory for the ownership of the project, then it can benefit to the economy as endeavor in the direction is to identify plants capable of yielding foodstuffs of economic value [5]. Trained human resource is always fruitful in the development of society. Social change can occur in society in the form of refinement and improvement [2, 6].

## MATERIALS AND METHODS

This research was conducted in two villages of Muree, Arokas and Ghora gali. Total survey population of both rural areas was 2,980 with total households 300. According to the nature of the study, sample size of 117 households has been drawn through snowball sampling technique from purposive sampling. This sample selection shows that, researcher had to collect the data from nearest population of watershed

project. Thus, researcher gathered the data from 81 households in Arukas. While in Ghora gali observer collected the data from 36 households. However, majorly

| Participants and non- participant community | Frequency | Percent |
|---|-----------|---------|
| Participants in project                     | 41        | 35.0    |
| Non participants                            | 76        | 65.0    |
| Total                                       | 117       | 100.0   |

observer collected the data from 16-25 age brackets. Although, this is all done through application of qualitative and quantitative research tools including; rapport building, SESFs, Interview guide, informal interviews and case studies. All the gathered data was analyzed on SPSS 17.

## RESULTS

**Table.1: Ratio of Nearest Population to the Rawal Watershed Management Project'**

| Category   | No. of households selected for survey in Arokas and Ghora Gali |            |
|------------|--|------------|
| Location   | Frequency  | Percentage |
| Arukas     | 81   | 69.2       |
| Ghora Gali | 36   | 30.8       |
| Total      | 117  | 100.0      |

Table.1: shows that, researcher collected the data from 69.2% household respondents in Arukas. Hence, 30.2% household respondents were interviewed in Ghora Gali. All these measures a total of 117 households. This is the nearest population from watershed project.

**Table.2: Adoption of Project and Distribution of Respondents by Profession. Respondents by their Professions**

| Category                | Frequency | Percentage |
|-------------------------|-----------|------------|
| Wage labor              | 33        | 28.2       |
| Gov. Employee           | 13        | 11.1       |
| Business                | 15        | 12.8       |
| Abroad                  | 9         | 7.7        |
| Agriculturist           | 13        | 11.1       |
| Peasant                 | 1         | 9          |
| Drivers                 | 14        | 12.0       |
| Double Source of income | 6         | 5.1        |
| Others                  | 13        | 11.1       |
| Total                   | 117       | 100        |

In table.2: Data analyzed that 28.2% respondents were wage labor, 11.1% earned as Gov. employee including clerk, drivers, lab attendant and security guard, however 12.8% had business, whereas, 7.7% living in abroad, 11.1% was purely agriculturists, they adopted watershed management project & technological innovations for more production of crops, few of them were active agriculturist for example *Zetun bibi*, & Ghulam 9% peasant, 12% of the respondents were drivers, 5.1% was having double source of income 11.1% respondents were involved in other occupations as rented out their shops, cars, land & houses etc. all these facts revealed that there was a large number of community living without adoption of watershed project. In the response of

researcher's questions community members said that for the adoption of this project they require resources as land, water, modern technology of agriculture.

### Table.3: Community Participation in Adoption of Watershed Management

Table.3: indicates that, 35% said that, they effectively participated in this watershed management project. Whereas, 76 percent told that, they didn't participate in this community watershed management project, they had no benefit from this project

### Theoretical Framework

Adoption of new technologies, ideas and behavior doesn't happen abruptly in social system. Whereas, it is a structure where some people adopt are more willing to adopt innovations than others. By marking these adopters fewer than five established categories of adopters [7].

When development project team has initiated watershed project & demonstrated the new agricultural techniques to the targeted community. These innovations has readily adopted by some of the community members thus they are labeled as early adopters. While, some of the community members required proof for innovation's effectiveness, success stories, they waited to adopt new agriculture techniques. These members can be announced as early majority. Besides, few of the local community members were bound by norms, values, traditions and conservativeness; and they skeptical for adoption of innovation. This was the hardest group and faced fear of other adopters group. This group can be labeled as laggards. A whole process through which community adopts new innovation and diffusion is achieved, is to be called community's effective mobilization, awareness and sensitization.

Various institutions of society function to prolong the survival of the society holistically to sustenance of society [8]. Researcher observed that project initiated and focused on few influential members rather than on whole community.

Caste is the major significant class distinction generically; it is defined according to social laws of society [9]. Abbasis were the dominant caste in this society, according to perception of local people it is higher cast, therefore most of the adopters belonged from Abasi caste. Furthermore it is argued that ecology is only understandable in the light of evolution. There is need of understanding ecological niche for efficient water management [10].

## DISCUSSION

This research aimed that community based extensive demonstration centers leads to enhance number of participants in watershed project. It is also observed that impact of the project is to be grounds of social change in community with the adoption of the project. Because integrated watershed approach brings improvement in social administrative of the society. As this watershed project was cause of social change among 35% of community members. On the other hand 65% respondents said they were unaware from this project. Because ownership of the community

based projects is only possible through community mobilization by using various effective demonstration techniques. Sustainable development may be equated with human development, ultimately well aware human resources are required for efficient watershed management [11].

Respondents also viewed that, the geography of Arokas and Ghora gali was quite hard so that, NARC-project team faced difficulties in visiting every household of targeted areas. In response of question 65% respondents of Arukas said that, due to this hard area, project-team couldn't visit us, neither asked our water related issues. Ultimately, those community members were uninformed. A successful watershed project involves multiple agencies frequently from locals, national and federal levels of governmental and community representative from non-governmental levels. Supportive participation and cooperation of all groups can possible successful watershed project execution. It is significant to be considering that participation of the general public and farmers in project planning decision at local levels through local coordinating committees. While participation on local levels is only possible through effective sensitization, education and awareness regarding project. For this purpose, formulations of local demonstration centers are significant for integrated watershed approach.

During this study it has been observed that NARC started demonstration in the first year of the project for 2-3 times on quarterly basis in a year. But afterwards they didn't visit the community and the project site. While, NARC- team had only 1 informal demonstration center in Ghora gali, this was actively involved for community mobilization, whereas there was no formal/informal demonstration center in Arokas. NARC conducted little training by gathering local people in open field area. In the outcome of watershed trainings 65% were female adopters, while 34.2% were male adopters.

Majority of the respondents weren't familiar with NARC – team because project team didn't adopted participatory approach for watershed management project execution. They only approached few of the community members; whereas, community mobilization was the foremost constraint in adoption of watershed management project. As a culture takes time in acceptance of new innovations and technologies, in term of development in politics, technology & economics. That specific timeframe/time span in adoption of innovations is called cultural lag [12].

The zeal of the study was to explore watershed project impact on community. In this study researcher collected the data from local respondents living in the project areas. NARC-team gathered few of the community members briefed to the community. They dig the catchments in the area; moved the water from lower stream (*Kas*) to upwards through canals. For community's development project local participation is significant. While, effective local demonstration was ignored in this project.

In Global scenario local demonstration centers leads the success of watershed projects. As this watershed project disseminated resources for development including; fertilizer, dug well, check dams, plastic water tanks, vegetable seeds, fishes for fish farming. NARC stakeholders have done this

watershed project with the expression of community's collective benefits, but realistically it was for their own stakes. NARC- project team in the documents claimed that, they are giving demonstration to the community, but unfortunately they have conducted informal trainings in field for 2-3 times only. Demonstration shows the significance of scientific applications, new scientific technologies in watersheds is to produce water of desired quantity and quality [13].

NARC- team has not approached community of Arokas and Ghora Gali. Because in response of question 69.2% community members in Arukas informed that formal demonstration centers among community are mandatory to be arranged before initiation of project. But village community has not been sensitized by the NARC-project team, through effective demonstrations. The project team has given the trainings to the few community members regarding tunnel farming modern methods. Observer studied that Gov. Officials can only provide sustenance to their community with country's own economic value. Because, reliance on outside aid is characteristic of developing countries. Similarly, in this project they got the benefit from external adding agency; therefore didn't give the project ownership among the community. In anthropological view point water is a social element as it is a shared for all. Water sharing is a social factor among rural community.

## CONCLUSION

In this study many reasons come into the knowledge of the readers. Main flaw for the failure of this development project was the ignorance of baseline survey and pilot project and further, it is come into critical observation that there were no involvement of indigenous knowledge and participation of local community, through effective local demonstration centers While, this is the backbone of the successful community based project.

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