

**PEOPLES' PARTICIPATION IN WATERSHED
DEVELOPMENT PROGRAMME IMPLEMENTED BY
GOVERNMENT AND NON-GOVERNMENT ORGANISATION -
A COMPARATIVE ANALYSIS**

K.V. MADHAVA REDDY



**DEPARTMENT OF AGRICULTURAL EXTENSION
UNIVERSITY OF AGRICULTURAL SCIENCES,
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A COMPARATIVE ANALYSIS**

K.V. MADHAVA REDDY

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CERTIFICATE

This is to certify that the thesis entitled "PEOPLES' PARTICIPTION IN WATERSHED DEVELOPMENT PROGRAMME IMPLEMENTED BY GOVERNMENT AND NON GOVERNMENT ORGANISATION -A COMPARATIVE ANALYSIS" submitted in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE (Agriculture) in Agricultural Extension** to the University of Agricultural Sciences, Bangalore, is a record of research work carried out by **MADHAVAREDDY, K.V.** during the period of his study in this university under my guidance and supervision and the thesis has not previously formed the basis of the award of any other degree, diploma, associateship, fellowship or other similar titles.

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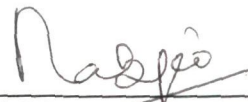

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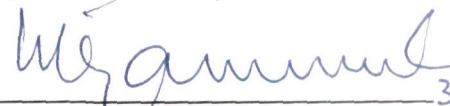
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INTRODUCTION

I. INTRODUCTION

The post – independence research and development in Indian agriculture had the immediate objectives of production maximization. The efforts in this direction achieved a considerable success as evidenced by an increase in country's food grain production from around 50 million tonnes in 1950-51 to about 205 million tonnes by 2000-01. The results of four-fold increase in yield could be attributed the increased productivity achieved by the farm sector during the redoubtable phase of green revolution period. The major factor that contributed for higher productivity during green revolution was increase in area under irrigation and farmers were being persuaded to adopt related technologies like use of high yielding varieties and inorganic fertilizers. However, the technologies advocated during the period have drawn wide spread criticisms from the experts, environmentalists and social workers who had pointed out that continued huge investments on development of irrigation which resulted in regional imbalance. This has further created wide disparities between irrigated and dryland farmers from the point of view of both socio-economic justice and production and ecological sustainability.

The country has a geographical area of 329 million ha. Which include 264 m.ha with some kind of biotic potential of these, about 143 mha area under cultivation and the rest comprises of non-agricultural lands like forests, gomals and other community lands. More than 70 percent of the cultivated area in the country is rainfed and the yield levels are very low and unstable because of the vagaries and vicissitudes of the monsoon. Droughts and floods in different parts of the country have become a common annual feature. The contribution of drylands accounts for 45 percent of the total food grains production in the country. Though the drylands have considerable production potential, they have not yet been fully tapped (Swaminathan, 1996). The dry land farmers in India grow 91 percent of important coarse grains, 91 percent of pulses, 81 percent of oil seeds and 69 percent of commercial crops like cotton, tobacco, chillies along

with other crops (Katy, 1992). Availability of water is the most serious constraint on crop production in the dry farming areas. Hence, the development of rainfed areas gains paramount importance owing to increased demand for food production on one hand and land productivity on the other. In addition, the living conditions of the majority of dryland farmers are far below the minimum standard of living with poor and meagre economic resource base. Realising importance of rainfed agriculture the Central and State Governments have made efforts by way of launching special programmes to improve the productivity and employment generation with the main aim of raising the living standard of people in rainfed areas. During the Fifth Five Year Plan, the Operational Research Project (ORP'S) was implemented. The experience and success gained in these watershed served as springboard for extending on a limited to other parts in the country. A series of integrated watershed development projects were started during the late seventies and eighties.

The National Watershed Development Programme for Rainfed Areas (NWDPA) was introduced in the year 1986, during the seventh five year plan in 99 districts spread over 16 states in the country. The size of each watershed ranged from 2000 to 3000 ha. The main emphasis of watershed approach was to include all the lands in a specific geographical area irrespective of ownership to ensure maximum moisture and soil conservation in order to get maximum returns per unit of land over a cycle of crop season. According to Katarsingh (1991) a watershed is a natural drainage area of river, a tank, a pond or a lake in the watershed approach. A watershed is used as a unit for planning and management of land, water and other resources and all inter-related factors such as physical, biological, technological, economic, socio-cultural, managerial etc., are considered together in a systems frame work. Use of the watershed approach in India is relatively recent origin. Watershed management involves initiating resources management action, so as to achieve the objective of productivity, sustainability, stability and equity. Watershed is a holistic concept addressed to development, utilization as well as conservation of natural

resources. Thus integrated watershed management approach is a scientific management of natural resources such as soil, water, vegetation, human, animal and environment on watershed basis for optimizing the production of food, fodder, fuel, timber, fibre and fruits and giving due consideration to the restoration of ecological equilibrium and promotion of an economically sustainable and productive system. This holistic approach is a boon to dry land farmers of the country . At present, in India over 7500 watershed projects are operating in all over the country (Anonymous,1999)

Watershed Approach in Karnataka

Karnataka is one of the pioneer state, which has given high priority for dryland development. The watershed development is unique in terms of its comprehensiveness, unified approach, better co-ordination built in research linkage and allocation of sufficient budget . A World Bank aided pilot watershed project was started in Kabbalanala Kanakapura taluk of Bangalore rural district during the year 1984. The watershed programme made its beginning during 1984-85 in a small way and picked up momentum during the 1985-86. Further, 47 National watersheds spread over in 13 districts each covering an area of 1500-5000 ha. were also started. The Government of Karnataka initiated 175 micro model watersheds in each block around rain gauges spread over varied agro –climatic regions of the state. Apart from this, a number of Non-Governmental organizations(NGOs) were also implementing watershed programme with the financial assistance from the external agencies along with the development departments. In Karnataka, about 45 NGOs are working extensively on watershed programmes with the help of 3953 Self-Help groups (SHG).

Peoples' participation.

Participation of farmers is essential dimension for agriculture and rural development and is one of the crucial components of success in irrigation,

livestock, water and agricultural projects. Farmer's participation in decision making is more likely to lead to substantial increase in food production. peoples' participation in watershed development and management programme is very essential for it's success. Every field /piece of land in a watershed should be treated with appropriate soil and water conservation measures and used according to it's physical capacity. This is possible only if everybody having land in a watershed voluntarily accepts and implements the recommended plan.

According to Overseas Development Institute (ODI:1996) participatory watershed development is a process whereby those with legitimate interests in a project both influence decisions which affects them and receive a proportion of any benefits which may accrue. It is now accepted fact that if the productivity of natural resources is to be enhanced in a sustainable fashion, then those engaged are affected by management of the resources, the communities must participate in plans for its rehabilitation and management. Their participation will generate a stake in the process and enhance the prospects of both institutional and ecological sustainability (Turton *et al.*, 1998).

The Eswaran committee report (1997)also emphasized that the strategy of participation is as much an indicator of the successful implementation of the programme as the increase in production, ground water recharge etc., Toeing on the same line Singh and Singh (1997)viewed that watershed development is essentially a group action programme involving the entire population of the watershed. It could be concluded that the development programmes in general and watershed development programme in particular could be implemented successfully only with the involvement of people. Hence it is imperative to enlist peoples' participation in all phases of programme both in planning and implementation stages.

Statement of the problem

A number of developmental programmes have been implemented by both Central and State Governments from time to time to improve the socio-economic conditions of rainfed farmers. Among them watershed development programme is one which aims at establishing crop productivity, accelerating income and employment generation with the ultimate goal of improving the living conditions of people in the rainfed areas. Watershed is being used as a rational unit for planning and management of soil, water and other natural resources. These programmes necessarily involve individual, group and community action. While participatory approach is indispensable for successful management of watershed project. The programmes were not found effective and not realized expected results in most of the cases. As quoted by the World Conference on Agrarian Reform and Rural Development (WCARRD) convened by the United Nations in 1979, the main reason for failure of rural development programme was lack of peoples' participation in the development programme. One of the short comings of watershed development programme was also lack of peoples' participation (Katarsingh,1991).A few research studies have reported that effective peoples' participation could be brought only by Non-Governmental Organizations as they work closely with the people and knew their pulse. However, the absence of evidences limits the scope for critical discussion on the effectiveness of Government and Non Government Organizations in terms of their success in ensuring peoples' participation in planning and implementation stages of the watershed development projects and ways to improve them. Hence, it is towards this direction the present study has been contemplated to evaluate the extent of participation of beneficiaries in the watershed development programme implemented by Government Organization and Non-Governmental Organization in Karnataka state. The present study has been designed with the following specific objectives .

1. To assess the extent of participation of beneficiaries in the watershed development programme implemented by Government and Non-Government Organisation.
2. To study the types of participation of beneficiaries in the watershed development programme implemented by Government Organisation and Non-Government Organisation.
3. To know the personal, socio-economic, communication and psychological characteristics of beneficiaries.
4. To find out the relationship between extent of participation and socio-economic characteristics of beneficiaries.
5. To identify the problems in participation as perceived by the beneficiaries of watershed development programme.
6. To elicit the suggestions of beneficiaries for effective participation in watershed development programme.

Scope and importance of the study

This study is a pioneer attempt of its kind in two ways. Firstly it aims to study the extent of peoples' participation in watershed development programme. Secondly it aims at doing a comparative analysis between Government and Non-Government Organization with respect to planning and implementation of watershed development programme. It throughs light on various types of participation observed by the farmers participation level. This will be helpful to the planners, policy makers and administrators to undertake suitable modification in the formulations of programme for greater achievement of peoples' participation in the future watershed or any other development programmes of such nature.

The study delineates the socio-economic characteristics of beneficiaries which have influence on the participation in watershed development programme. This would help the implementing agencies and extension workers to concentrate on such areas to pursue the related technologies. In addition, the study focuses on the suggestions by the beneficiaries to overcome the constraints in participation. These could be given due emphasis while implementing the programmes. Further, the outcome of the study will be useful to modify the existing strategies and overcome the barriers involved in planning, implementation and enlisting the higher level of people's participation in any other development programmes.

Limitations of the study

The study was confined to assess the extent of people's participation in watershed development programme implemented by GO and NGO. The study was restricted to only one watershed in each organization. A wider coverage was not possible due to the limitations of time and resources at the disposal of the investigator. However, sufficient care was taken to make this study as objective and systematic as possible. Hence, the findings may be applicable to similar farmers with same socio-economic background and agro-ecological background.

Presentation of the study

The whole process of study, is presented in seven chapters. The introduction chapter includes objectives, scope and limitations of the study are presented in the first chapter. The relevant review of literature is presented in the second chapter i.e., Review of Literature. The third chapter refers to the Methodology used for the study, followed by Results as the fourth and Discussion as fifth chapters. Summary has been dealt in chapter six and references are given in chapter seven, relevant details are presented in Appendix at the end.

REVIEW OF LITERATURE

II. REVIEW OF LITERATURE

A comprehensive review of past studies is very much essential for any research as it provides the empirical evidence to support the findings of the present study. Keeping this in view, an attempt was made to review the available literature on different aspects of the problem under study pertaining to both global and Indian context and are presented under the following subheads :

- 2.1 Concept of watershed and watershed management
- 2.2 Genesis of watershed approach
- 2.3 Origin of participation as a dimension and its importance
- 2.4 Extent of people's participation in watershed programme
- 2.5 Independent variables and their association with dependant variables.
- 2.6 Constraints in participation by beneficiaries.

2.1 Concept of watershed and watershed management

Scientists of International Centre for Crop Research Institute for Semi-Arid Tropics (ICRISAT) defined watershed as the land area from which surface water drains into single outlet. The main objectives of watershed management are to improve utilization of the rainfall received by conserving in the soil profile, to effectively drain the excess water and to use as irrigation during the drought periods (Anonymous, 1984).

Tideman (1996) defined watershed as land area from which water drains to a given point. Watershed is considered to be synonymous with catchment and drainage basin.

Mukherjee *et al.* (1997) defined a watershed as any surface area from which rainfall is collected and drained through a common point.

Singh and Singh (1997) opined that there were various definitions for watersheds, but all these however boil down practically the same thing. In its technical sense, a watershed is a natural hydrological entity. Hydrologically it could be defined as a land surface area from which the run-off drains to a common point in a channel, stream, rivulet, river or lake. A watershed refers in physical terms to the area lying above a given drainage point. Simply defined, a watershed is an area having a common drainage point.

Above literature reviewed on the definition of watershed indicate that it is basically a homogeneous hydrological and scientific unit having area above drainage point. Its area varies and comprises of arable and non-arable as well as drainage lines. It is ideal unit for efficient management and maximum utilization of natural resources like soil, water and vegetation where by it will be possible for adopting improved dryland agricultural technology to maximise the production.

2.1.1 Watershed Management

Sharma and Singh (1988) opined that main objective of watershed management was to demonstrate optimal utilization of natural resources like soil, water and vegetation through improved dryland technology. Watershed programme involves five types of activities viz ; (i) Engineering measures for improvement of water research, (ii) Mechanical and agronomic measures for in situ soil and moisture conservation, (iii) Improving crop husbandry practices for meeting the food and fodder requirements for human beings and live stock. (iv) Alternate land use system for efficient use of lands as per land capability and (v) Providing improved infrastructure for credit and marketing of the produce.

Singh and Prasad (1990) opined that the watershed management programme aimed at adoption of conservation practices, based on farming systems at individual farmer's level.

Ramanna (1991) reported that watershed management is an integrated approach, where in both arable and non-arable lands to be utilized on the basis of their capability to result in better productivity.

Anonymous (1994) stated that watershed management is a holistic approach which aims at optimizing the use of land, water and vegetation in an area, to alleviate drought, moderate floods, prevent soil erosion, improve water availability and increase fuel, fodder and agricultural production on a sustained basis.

Das (1994) stated that watershed management as strategy, approach and methodology for planning and implementation of the watershed programme and has become subject of specialization known as “watershed management”.

Singh and Singh (1997) stated that watershed management refers to an integrated scientific management of land, soil, water, vegetation, animals and humans within a natural physiographic unit for optimizing production of food, fodder, fibre, fuel, timber and raw materials for agro-based industries on sustainable basis to meet the requirements of human and animal production.

From the above reviewed literature, it is clear that watershed management is a holistic approach aimed at efficient and optimum use of natural resources like soil, water and vegetation in an area, to prevent soil erosion moderate floods, improve water availability, increase fuel, fodder, fruits and agricultural production on a sustained basis.

2.2 Genesis of watershed approach

The concept of watershed management was first proposed in India during the Fifth World Forestry Congress in 1954 held at Forest Research Institute Dehradun. The watershed management was first started in India during second Five year Plan (1956-61) to initiate a research programme on the influence of forest cover on climatic conditions at Central Soil and Water Conservation

Research and Training Institute, Dehradun. During early 1970's an All India Co-ordinated Research Project was launched at 23 centres in India on pilot project basis to test, adopt and refine the research findings of an Integrated Watershed Development. Four ORP's on watersheds were initiated during Fifth Five year Plan (1974-79) at Fakot (Tehri – Gurnwal, Uttarapradesh), Nada and Sukumaraji (Haryana) and G.R. Halli (Chitradurga, Karantaka). During Sixth Five year Plan, the Department of Agriculture and Co-operation launched a pilot project for propagation of water conservation / harvesting technologies in rainfed areas in 19 watersheds located in 15 states representing major agro-climatic regions of the country. The Department of Rural Development also adopted this scheme and 23 watersheds were selected in the Drought Prone Area Project (DPAP) areas. Thus, a total number of 42 model watersheds were developed.

On the basis of results and experiences accumulated, the National Watershed Development Programme for Rainfed Areas (NWDPA) was launched during Seventh Five year plan in 99 selected watersheds in the country. The ministry of Rural Development constituted Hanumantharao Committee (1994) to identify the needs for a common set of operational guide lines for watershed development projects integrating the features of all the programmes. These guidelines aimed to promote upgradation, promotion and adoption of low cost local technologies and material and emphasized the importance of people's participation in the programmes and need to improve technical as well as management skills of project staff and the village community.

An overview of the literature revealed that the need for optimum utilization of natural resources like soil and water by farmers to maintain its sustainability and productivity. All the improved and recommended dryland agricultural technology are to be adopted on the basis of watershed approach for realising the maximum production. It is also realised that all the components of dryland agricultural technologies are to be adopted simultaneously in an integrated manner rather than in an isolated way to have synergistic effect.

2.3 Origin of participation as a dimension and its importance :

The origin of the introduction of “participation” into all forms of Government can be traced back in the philosophical sense in “Skeffington Report” in British local government in 1969 in its view on participation in a document called “people and planning”. The report focused on the planning process with local government on environment plans which effects on all people living in an area and also it accepted the responses and views about the plans from the public (Leigh 1977). On the contrary, the dimension of “people’s participation” in development programme was emerged during the second conference on “Communication and Change” at the East-West Centre in Hawaii in 1987 (Samantha, 1991). The development communication scholars become aware that there had been few peasants inputs for which decision- making and that ‘self-determination” had been overlooked. It was their vision that perhaps the birth of new era of participation decision- making could be restored to the peasant, their right to be involved in determining their own destinies.

The frame work as desired by Cohen and Uphoff (1980) delineates three dimensions of participation viz., “What, who and how” participation which could take place in programmes.

Further, they reported the critical ingredients of participation which includes viz.,

- i) Participation in decision-making,
- ii) Participation in implementation including the resources mobilization.
- iii) Participation in benefit sharing and
- iv) Participation in evaluation

2.3.1 Definition and Description of peoples participation

People participation has been the slogan of the day, because it was a missing link in all rural development programmes. Peoples participation and

commitment are the key factors that help to achieve the expected results from any programme. In spite of its importance, the element of people's participation is indistinct and hazy. There is confusion and vagueness regarding the understanding of the concept- Participation, which denotes different meanings. In common parlance, it is used to mean act or fact of part taking or share in or play a role. Participation includes the notions like contributing, influencing, sharing or redistributing power and of control, resources, benefits, knowledge and skills to be gained through beneficiary involvement in decision-making. Participation is a voluntary process by which people influence or control the decisions that affect them. The essence of participation is exercising voice and choice and developing the human organizational and management capacity to solve problems which may arise in order to sustain the improvements.

According to Nair and White (1987) participation is a process of enabling or empowering rural people to manage their own development. Further, they reported that "people must be able to educate themselves through developing thinking, acting and problem solving abilities. Participation will give individuals a sense of power which will increase their control over the environment and enable them to shape their own destiny. Participation in its most developed form is "Self management".

Yadav (1980) defined people's participation as involvement of the people in the development process voluntarily and willingly and such participation cannot be compelled. Further, he stated that people's involvement has to be understood in terms of participation in decision-making, implementation and development programmes, monitoring and evaluation of such programmes and in sharing the benefits of development.

Setty (1985) explained the people's participation in a broader sense, means total involvement with development agencies in deciding the programme and activities, fixing up of priorities, taking initiative and carrying out the projects as partners by the contribution of ideas, interest, material, money, labour and time.

The main objective is to create a sense of awareness, belonging, possession and ownership and to develop self-reliance, self-confidence, competence and managerial capacity.

Jose (1986) defined “participation as a social experience shared by individuals and groups who live in definite economic and social relations to each other in a society”.

Paul (1987) defined participation as in the context of development, community participation, refers to an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits.

According to Reddy (1992) peoples participation in development is an educational process aimed to create a sense of awareness, involvement, belongingness and possession.

Mishra (1993) defined participation as a process in which individuals and families assume responsibility for their own development. Because they better know their own situations and were motivated to solve their common problems.

Jose (1994) defined participation as the process of taking, part having a say or being able to influence the design, implementation or the outcome of a development project.

Tideman (1996) defined peoples participation, as employing a method where the associated communities are motivated to function and contribute as a group to perform pre-determined task.

According to Vidya (1997) participation is a mechanism where people express themselves and act with mutual responsibility to promote a mutual set of interest.

From the above definitions it's clear that peoples participation is an educational and continuous process in which the people voluntarily and willingly involve in planning, implementing, evaluating and sharing the benefits from the programmes. It helps in identification of local resources, needs, sharing ideas and resolving the problems.

2.3.2 Importance of peoples participation

Sundaram (1984) opined that peoples participation leads to realistic plans, better resources mobilization, labour and finance, better implementation with greater co-operation, better chance to develop talent for management and administration, better integration of activities and services from below, better evaluation of the success of the programmes and finally wide distribution of benefits.

The importance of peoples participation gains significance in view of long term effects of the process of modernisation. In a participatory democracy like India, the group or community decisions were extremely important in the proper use and conservation of physical resources like soil, water and forest. There were many evidence of successful cases of community irrigation projects, community forest or soil conservation projects. Thus, it can be observed that all other objectives of Integrated Rural Development Programme revolve around the pivot of peoples participation, which is a crucial factor in the alternative strategy of development (Mishra and Sharma; 1985).

The Gandhian principles lays stress on participation in the planning and implementation of any project or programme. It was a pre-requisite, which can neither be ignored nor side-lined. The need of the hour is to follow in practice his principles and not just keep applauding him (Mohan, 1988).

Mishra (1994) stated that people's participation was a pre-requisite for success of any programme. People's involvement enriches the planning process in a number of ways: i) to check the reliability of the data, ii) to ensure

commitment of the people to the project formulation and iii) to restrict the negative attitudes of the technical and bureaucratic agencies. It also make it possible to discover new ways of decision making in economic and social policies and the fulfillment of planned objectives.

Saxena (1998) firmly believed that peoples participation contribute to the achievement of four main objectives. ie., four “E”s viz. effectiveness, efficiency, empowerment and equity. In any programme mere information sharing or consultation is not enough, what’s more important is the active involvement of the people in decision-making and their initiative towards action. Their participation generally, leads to learning, empowerment and a vibrant organisation.

Tyagi (1998) indicated that people’s participation in development programme can provide valuable socio-cultural, ecological. economic and technical indigenous knowledge. It provides mobilization of local resources and ensure consistency between development objectives and community values and preferences.

From the above reviews, people’s participation is recognized as a pivotal element in the rural development process. It enriches the programme in many ways and creates a sense of awareness, belonging and commitment among participants towards the programme.

2.3.3 Typology of participation

Warner (1965) stated that participation of beneficiaries can take place in many forms like affiliation, attendance at the meetings, taking part in the programmes and activities of the meetings, performing special jobs or assignments for the group, contributing financially, exercising leadership responsibilities and working on projects.

Johnson (1983) identified six levels of responsibility in peoples participation viz., i) participation in response to an order or to force, ii) voluntary participation prompted by awareness, iii) voluntary participation stimulated by reward, iv) participation by giving suggestions and making decision aimed at the improvement of an activity, v) participation by taking initiative and vi) participating by creativity.

According to Benninger (1991) participation of people may be described as taking part in the events taking place in a community or a larger area. Participation can take both active and passive forms such as i) being present as an observer, ii) taking part in discussion and contributing information as well as asking questions, iii) sharing knowledge and skills, iv) assisting in the work, v) contributing financially and vi) contributing assets such as land, water, bullock and other things.

Jose (1994) stated the typology of people's participation as :i) participation as contribution, ii) participation as partnership and iii) participation as empowerment.

Ramanna (1999) reported that majority of the farmers were found to be participated in information giving, consultation, functional and passive type of participation in watershed development programme implemented by NGO, where as in GO implemented watershed majority of the farmers were found to posses participated in material incentive, passive, and non-participation type.

2.3.4 Importance of Peoples participation in watershed development programme.

Hegde and Pandurangaiah (1989) conducted that successful achievement of results in Mittermari ORP watershed was due to close involvement of watershed people through establishing "Village Resource Management Society". The beneficiaries were involved in various educational activities and meetings.

Singh *et al* (1989) in their Study on Bunga ORP watershed in Haryana observed that involvement of people in watershed programme was one of the reasons for successful achievement of watershed objectives through establishment of “Hill Resource Management Society” in watershed villages.

Ganeriwala (1994) stated that a key success of implementation of watershed management was due to appropriate planning and involvement of people in the programme. The activities required to be undertaken need an integrated approach to watershed development.

Krishnappa *et al.* (1994) reported that the Kabbalanala Watershed Project emphasized on the participatory management and added that the involvement of beneficiaries right from planning helped in smooth and effective implementation of the programme.

Deshapande and Rajashekar (1995) quoted that for a successful watershed development programme, it was essential that the beneficiaries contribute either in terms of labour or share the expenses of the treatments. Such participation can be accomplished by initiating “Watershed Panchayat” which was similar to or a part of the village panchayat.

Gupta (1995) concluded that an approach to participative watershed development implies attention to intersectoral linkages, which manifest in the form of interactions among enterprises and social classes over time and space. Participation in people’s plans requires giving due respect to their knowledge and experimental ethic.

Keshavan (1995) viewed that the whole project of watershed development would be implemented on priority basis with people’s participation. Such programmes would be planned and developed by local people through watershed associations and watershed committees.

Maitra (1995) viewed that community participation in watershed management in the present context as generating and supporting a process, where the associated communities were motivated to function and contribute as a group to perform a series of tasks to derive equitable benefits for the community through sustainable management of their land, water and other common property resources.

Chopra (1996) indicated that new guidelines designed to associate the watershed approach provide an umbrella for treatment, management and development of watershed through pro-active people's participation and lead to a holistic development. This necessitates the fullest participation of people and the community in planning, voluntary organizations / agencies, user groups and self-help groups will be playing a key role in watershed development programmes.

Anonymous (1997) stated that one of the key factors in the success of the watershed development programme was farmer's involvement. People were involved right from resource inventory through planning and implementation to management of developed assets. Village resource committees, Youth clubs, Mahilamandal, Milk producer co- operatives, Custom hire centre, Input supply centre and Local implement fabrication unit were formed for ensuring active community participation in the programme.

Eswarappa *et al.* (1998) indicated that participatory process can be broken in to five phases depending upon the situation, they are entry phase, preparatory phase, planning phase, implementation phase and follow up phase for effective participation of people in watershed development programme. To encourage people's participation, initiate watershed association, credit management groups, watershed development committees, watershed promoters, farmers co-operatives and farmers instructors.

Nandakumari (1998) reported that the success of the watershed programme implemented by Samuha (NGO) and Government of Karnataka in Kushtagi taluk was due to collective participation of villages in the programme. Each village has “Grama Samithi” and “Jana Samuha” organized themselves in to a watershed implementation committee for effective implementation of the programme.

Anonymous (1999) reported that the success of watershed programme was due to active participation of people right from the resources inventory through planning and implementation to management of developed assets. Watershed development association, users group and self-help groups are formed to ensure the active peoples participation.

Ramanna (1999) reported that, there is a significant variation in extent of participation in the beneficiaries were observed among the groups of watershed. Nearly three-fourth farmers had medium level of participation compared to about half of them had low participation.

Abha Sharma (2001) reported that the success of the watershed development implemented by an NGO Tarun Bharat Sangha (TBS), based at Kishori village of Alwar district in Rajasthan was due to effective participation of beneficiaries in the programme. The NGO was formed a Jal Biradari (water work force), the Biradari has people from rural as well as urban areas work together to make community participation in watershed development programme.

Muniswamy (2001) reported that the watershed development programme implemented by Dry Land Development Board (DLDB) of Government of Karnataka in Kallambella watershed was success due to the collective participation of beneficiaries.

From the above reviews it is clear that peoples participation in the watershed programme is key factor for it success. Formation of Self-help

Groups. Watershed association, Watershed committees and Credit Management Groups in village helps in effective planning and implementation of the programme and to achieve the objective and gives more benefits.

2.3.5 Role of NGO's in watershed and allied activities

Bandu and Parker (1994) reported that local NGOs can play a pivotal role in rural development as a supplement to the effort of the government. Voluntary Work Camps Association of Ghana had effectively contributed to rural development by mobilizing youth to provide free services during their leisure time.

The Aghakhan Rural Support Programme – an NGO working with participatory approach to promote watershed management in Gujarat, the approaches were based on the formation of village institutions and development of indigenous extension system (Shah-1994).

Singh (1991) reported from study conducted in four water sheds in India that NGOs were better oriented to enlist people's participation and have necessary skills and patience to work with people, to organize, motivate and train them and there by empower them to identify and resolve problems.

Singh (1994) opined that the programme handled by an NGO such as the Agakhan Rural Support Programme (India) operating in Gujarath state were considered to be highly successful as they have been able to execute the programmes for the people, by the people on a basis of cost-effectiveness, equity and sustainability using local resources by deploying extension volunteers.

Suresh et al. (1995) reported that a majority of tribal farmers of Mysore district in Karnataka, did not fully participate either in planning or follow up activities of soil and conservation programme, but majority had fully participated in execution stage, they know that majority of them partially participated in all three stages of horticulture programme.

Chander (1996) opined that NGOs were better placed than the Government institutions in enlisting people's participation in rural development programmes in Himalayan region of Uttara Pradesh. The NGO had made good efforts in involving beneficiaries in planning and implementation of programmes.

Chander (1997) concluded that it was largely agreed that national and international levels, the NGOs were better placed vis-à-vis governmental institutions in enlisting the people's participation in rural development programmes. The case studies conducted in Himalayan region in Uttarapradesh, he concluded that NGO had made good efforts towards ensuring peoples' participation in the planning and implementation stages of rural development.

Saralakumari *et al.* (1998) conducted a study on tank rehabilitation programme taken up by three NGOs viz., Institute of Youth and Development, Nelamangala taluk, Bangalore rural district, Gram Vikas Mulbagal taluk and Prayog, Malur taluq of Kolar district and one by government organization. The results revealed that NGO's participatory approach was found more effective compared to GO's physical approach. The participatory approach by the NGOs included the local water management co-operatives which was based on the principle of 'working with people as against working for the people'.

Anonymous (1999) reported that NGOs were better oriented to enlist peoples participation and have necessary technical skill to organize, motivate and empower them.

Basavaraddi (1999) reported that majority of the participants had medium (60%) in planning and implementation phases of Community Wood Gasifier technology. This was followed by low (30%) participation category and only 10 percent had high participation in Bio- Energy technologies of ASTRA implemented in Tumkur and Dharwad districts.

It can be inferred from the preceeding literature that NGOs have high potential in promoting the agricultural innovations than the public organizations. They work with farmers in informal and friendly manner give due recognition to peoples contribution, ensure participation from planning to evaluation stage and utilise the locally available resources for effective planning and implementation of the programme.

2.4 Extent of peoples' participation in watershed programmes

Suresh (1990) conducted a study in Kerala, the results revealed that only 32 per cent of beneficiaries had satisfactory level of participation, whereas 68 per cent of the beneficiaries had low level of participation in development programmes by an N.G.O.

Thenmozhi (1990) reported that 58.33 percent of the farm women had medium level of participation in farm activities followed by 22.50 per cent and 19.17 per cent having low and high levels of participation respectively.

The study conducted by Kusumanjali (1996) in Vishkapatnam district of Andra pradesh revealed that majority of tribal women showed low level of participation in planning, supervision and monitoring and evaluation phases of the two programmes viz, Soil conservation and Major irrigation. However, majority of the respondents showed high level of participation in the implementation stage of programmes.

Padmaiah (1995) reported that peoples participation in different stage of watershed development programme such as bench mark survey, planning, execution and monitoring and evaluation stages were very poor.

Shivasharanappa (1995) conducted a study on watershed in Bijapur district of Karnataka. The results revealed that in the negligible percentage of localities, rural leaders and village institutions have participated in the activities

of the watershed project planning process such as (i) creation of awareness, ii) problem identification and iii) formation of local management committees.

Veluswamy (1996) conducted a study in Anna district of Tamilnadu. He reported that above two fifths (42.50 per cent) of respondents had low level of participation followed by high level (30.83 per cent) and medium level (26.67 per cent) of participation in women development programme implemented by an N.G.O

Veluswamy and Manoharan (1998) found that the extent of participation of women in development programme implemented by a N.G.O. was more in situation survey, followed by selecting problem for action and analysing the situation, problem assessment, and prioritizing problem were ranked fourth and fifth place. In other five activities namely finding solution to problems, review of progressive, formulation of objectives, future programme formulation and preparation of plan of work where medium level of participation of farm women were found.

Shashikumar (1998) reported that, peoples participation was found to be significant in different programme planning steps viz., implementation, execution and evaluation stages implemented by NGOs. in Karnataka.

An overview of the above studies revealed that majority of the beneficiaries have been found either in low or medium levels of participation.

2.5 Independent variables and their association with dependent variable

There were no research studies available pertaining to participation as dependent variable in watershed development programme. However, related studies on participation in other agricultural programme and its association with independent variables were reviewed and such of the results were in the following paragraphs.

Prakashchand and Ranveersingh (1983) reported that land resources was the basic input which determined the peoples participation in social forestry programme in Himachal Pradesh.

Jose (1986) concluded that participation of people in IRDP programme in Kerala was due to high literacy level of the respondents.

Sen *et al.* (1986) while studying the extent of peoples participation in forestry programme in West Bengal observed that participation was better in two plantations, where people were involved through intensive educational activities to realize their responsibilities and benefits from the programme.

Nagaraj (1987) reported that education, social participation and personal benefits obtained were found to be significant with the participation level of beneficiaries of an NGO Sri Kshetra Dharmasthala Rural Development Programme (SKRDP) of Dakshina Kannada district Karnataka state.

Nandakumar (1988) reported that majority of respondents expressed that lack of knowledge on dairy management, lack of irrigation facilities followed by inadequate, untimely supply of fertilizers and plant protection chemicals. The other problems responsible for abstaining the tribal respondents from adoption of recommended practices of paddy cultivation, lack of extension education activities on improved agricultural practices, lack of credit facilities, uneconomic nature of dairy enterprise and lack of marketing facilities for milk.

Siddeswargouda (1988) reported that, awareness was found to be significantly associated with the level of participation of beneficiaries in National Oil Seed Development Project implemented in Bellary district.

Ganesan and Muthaiah (1992) in their study in Madurai district of Tamilnadu found that socio-economic status, extension agency contact, mass media exposure acted as crucial factors and carried a significant relationship with the participation of farm leaders in Social Forestry Programme.

Anil kumar *et al.* (1994) stated that effective involvement of farmers in any innovative programme related to certain motives. Among the six motives, economic motive ranked first followed by affiliation motive, self esteem motive recognition motive, safety motive and self actualization motive in the Social Forestry Programme in Kerala state

Channamma (1994), reported that landholding and annual income of the participants were was found to be significant with participation level of beneficiaries of Integrated Child Development Scheme (ICDS) implemented in Dharwad district of Karnataka .

Mary *et al.* (1995) reported that education, social participation, socio – economic status, mass media exposure and attitude towards agriculture programme did not show significant relationship with the involvement of farm youth in agriculture programme.

Reddy and Reddy (1995) reported that age and education of respondent had significant relationship with their level of participation whereas, experience did not exhibited any relationship.

Veluswmay (1996) reported that extension agency contact and social participation showed a positive and significant relationship with extent of participation. Where as extent of farm showed significant relationship with negative trend. Further, educational status, mass media exposure, socio economic status, economic motivation, innovativeness and attitude towards NGO showed non significant relationship with the extent of participation.

Anwar *et al.* (1997) reported that education had positive significant relationship, whereas age, socio-economic status, family income and attitude towards technology exhibited non significant relationship with participation of youth in household activities.

Ajore and Singh (1997) in their study in Uttarapradesh revealed that educational status of the farmers, farm size, social participation, extension agency contact, mass media exposure, risk orientation and economic motivation had showed significant relationship with participation in soil reclamation programme.

Mahipal (1997) stated that literacy had given a sound base for participation planning and participation which was successfully been operationalised in Kalliasseri panchayat in Kannur district of Kerala state.

Premavathi (1997) reported that age, educational status, farming experience, farm status, social participation status, mass media exposure, innovativeness, socio-economic status and scientific orientation of rural women did not show any significant relationship with their involvement in farm activities.

Shashikumar (1998) reported that education, extension contact and mass media participation were found to be significant relation with the participation level of beneficiaries of NGO.

Basavaraddi (1999) reported that risk-orientation, mass media participation and social participation were found to be significant relation with level of participation among the beneficiaries of Bio- Energy Technologies of ASTRA programme implemented in Tumkur and Dharwad districts of Karnataka state.

Ramanna (1999) reported that family size, mass media participation, age and education were found to be significant related with the participation level.

Abhasharma (2001) reported that, increase in income, living condition, increase in productivity of the crops over the previous year was due to the effective participation of beneficiaries in watershed development programme

implemented by an NGO- Tarun Bharat Sangh based at Kishori village of Alwar district in Rajasthan state.

2.6 Constraints in participation by beneficiaries

According to Singh (1983) the main reasons for non participation of youth club members in development projects in Iraq, were lack of motivation and training to members.

Setty (1985) opined that group rivalry, cliques, conflicts within the community, vested interests, conflicts in values, opposition to the programmes, resistance to change and poor local leadership were factors as to why people fail to participate in the programme.

Jindal *et al.* (1989) reported that majority (52.79 per cent) did not participated in Integrated Child Development Services in Ludhiana due to lack of their community participation followed by lack of interest (33.33 per cent) and locational disadvantage (19.44 per cent).

Mahajan (1990) revealed that (i) non-availability of ICDS benefits (75 per cent) ii) peoples economic issues (71per cent) iii) non-availability of voluntary agencies in planning and implementation of ICDS activity (63 per cent) and in effectiveness of co-ordination committees (60 per cent) were the major reasons for community non participation in the Integrated Child Development Programme.

Parthasaradhi (1992) quoted three main reasons for non participation of the people in development programmes viz., i) people were not aware about the programme ii) the bureaucracy at village level and iii) rural poor have to spend their time in earning their livelihood.

Poudyal and Weber (1993) conducted a study in Thailand to know the intensities of participation in forestry, education, health, drinking water and irrigation sectors primarily related to distinct features of work and stages of

planning process. The factors which affecting participation were expected benefits, scope and capacity of participation.

Rannorey (1994) indicated different constraints that come in the way of mass participation which includes. i)Social constraints ii)Economic and political constraints iii) Ignorance of the people about the benefits iv)Lack of information among people v)Lack of initiative and ability to execute vi) Hindrence by vested interest and vii)Erroneous impression about the programme

Dhillon and Hansara (1995) indicated the constraints in way of securing peoples participation viz,

- i) Lack of awareness
- ii) Non -involvement of community and local leader,
- iii) Village fractionalism, rural power structure and vested interest of people
- iv) Apathy of the bureaucracy at lower levels
- v) Illiteracy and poverty of local people and
- vi) Lack of initiation and motivation

Ramanna (1999) reported the constraints faced by majority of the beneficiaries in Watershed Development Programme implemented by GO and NGO. They were lack of knowledge, lack of interest, unfavourable attitude of extension personnel, lack of time and groupism and politics.

From the above studies, it could be generalized that lack of awareness about the programme, initiation and encouragement by the implementing agency and village leaders, other social and cultural factors of participants are some of the factors hindered the participation of the people in the programme.

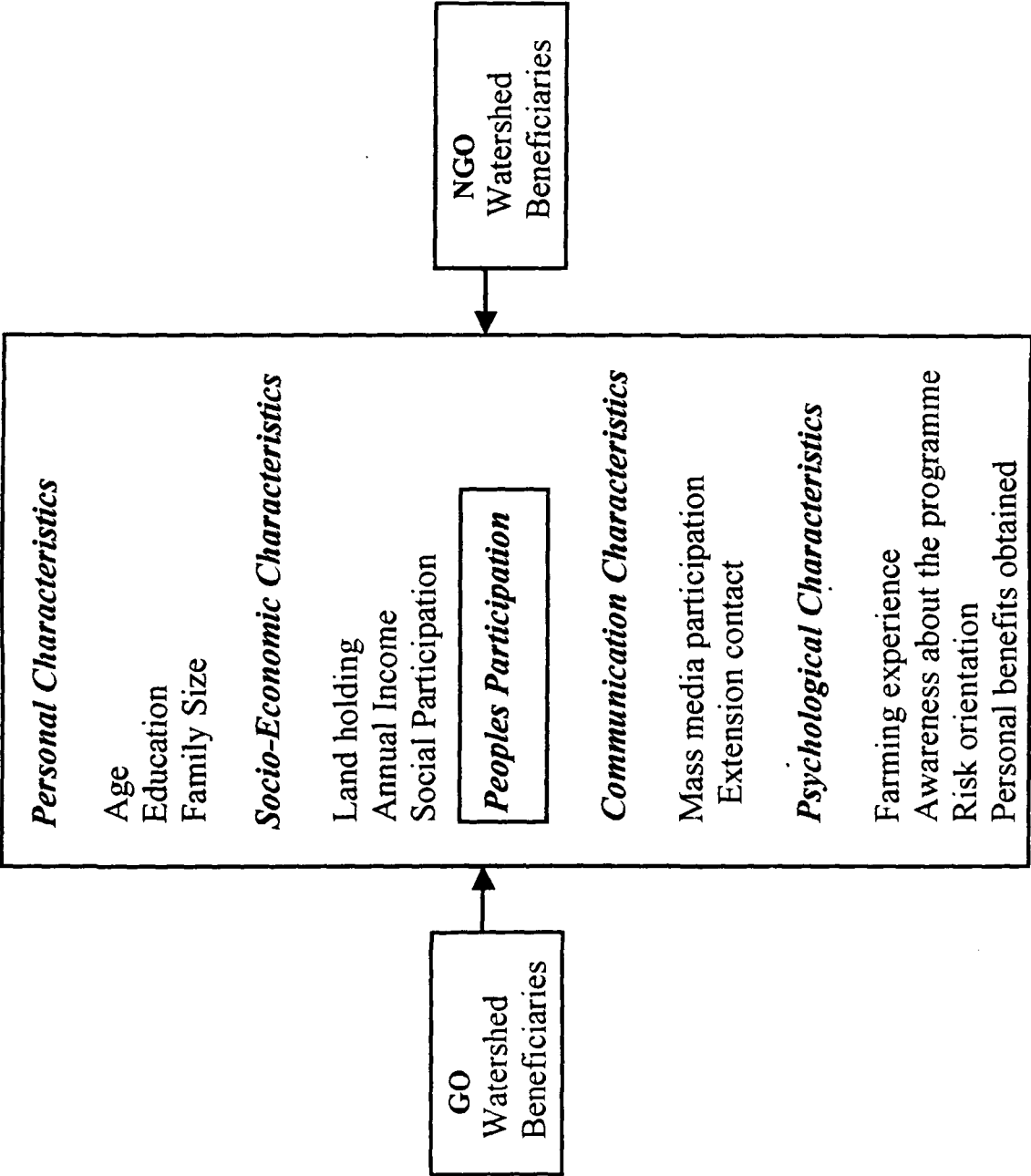


Fig1 - Conceptual Model

MATERIAL AND METHODS

III. MATERIAL AND METHODS

The details of methods and procedure used for conduct of the study are presented under the following headings :

- 3.1 Locale of the study
- 3.2 Selection of watersheds
- 3.3 Selection of micro-watersheds
- 3.4 Selection of respondents
- 3.5 Identification of variables
- 3.6 Operationalisation and measurement of dependent variable
- 3.7 Operationalisation and measurement of independent variables
- 3.8 Development of interview schedule and data collection
- 3.9 Statistical tools used

3.1 Locale of the study

The study was focused on the comparative analysis of the peoples' participation in watershed development programme implemented by Government and Non-Government organization. It was preferred to conduct the study in one of the Agro-climatic zones of the Karnataka State. Out of 10 agro-climatic zones in Karnataka, Eastern Dry zone (Zone-V) was purposively selected for the study. This comprises of four districts namely Bangalore urban, Bangalore rural, Kolar and parts of Tumkur. The soil in this zone varies from red sandy loam, laterite to medium black soils. The annual rainfall ranges from 453.5 mm to 888.9 mm. The rainfall received in two peaks, one in May and the other in September-October. However, more than 50 per cent of annual precipitation was received in South-West Monsoon. ie., from May to August. The maximum temperature was 36°C in April to May and the minimum was 14° to 16°C in December to January. The main crops grown under rainfed area were ragi, jowar, bajra, groundnut, sunflower and pulses. Paddy is grown under canal

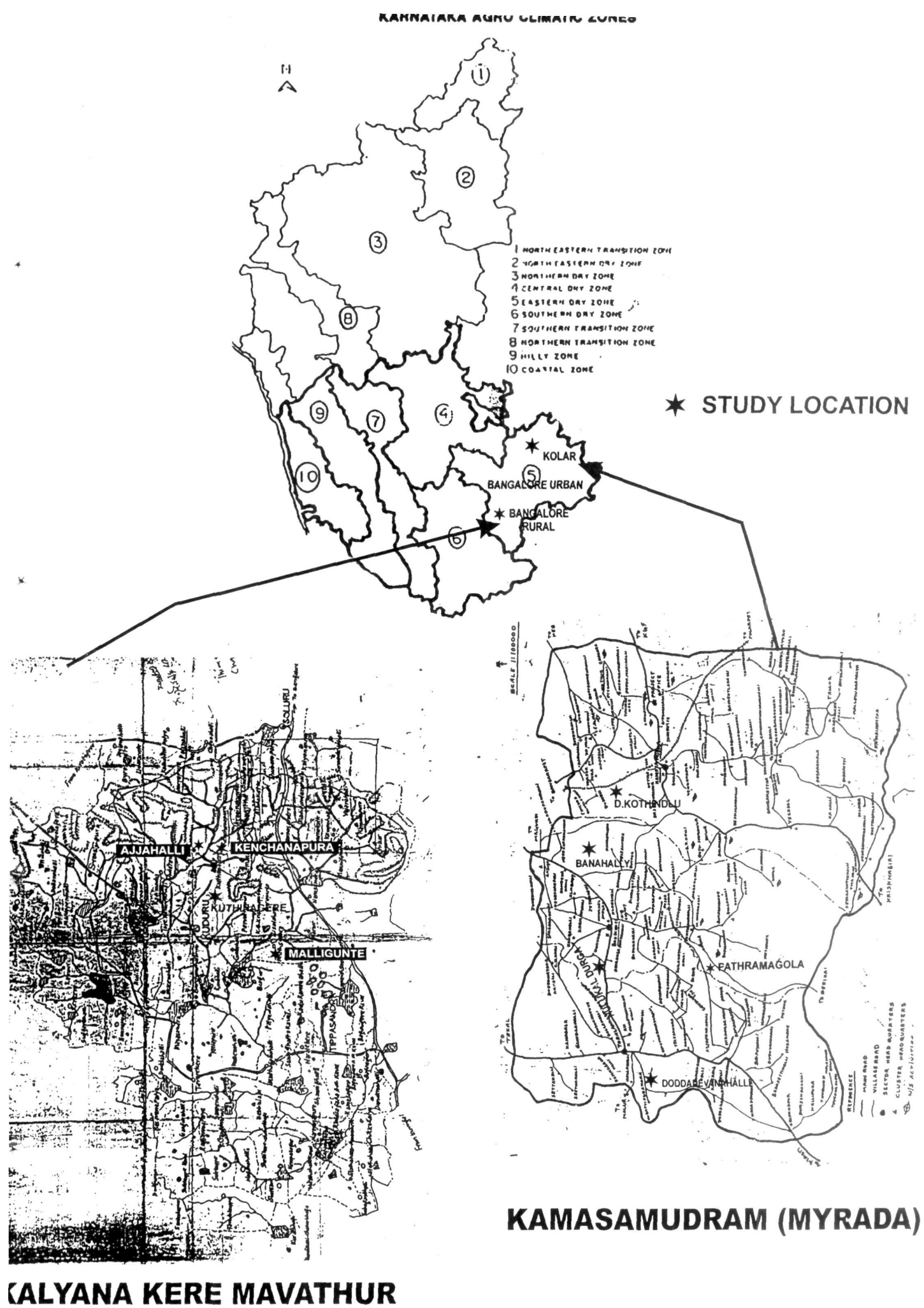


Fig. 2 - Study Location

irrigation. The crops like vegetables, commercial and plantation crops like mulberry and coconut, others were also grown by using ground water sources.

Many Governmental and Non-Governmental Organizations are working in this Zone with rainfed farmers to increase the production and productivity of rainfed crops under the Integrated Watershed Development Programme approach. There were major watershed programmes implemented by Developmental State Departments and by NGOs in this zone.

3.2 Selection of watersheds

Based on the review of literature, as well as discussion with the experts in watershed programmes and personnel who actually involved in the implementation of the programmes, two watersheds one implemented by the Government organization and another implemented by the Non-Governmental Organization were purposively selected for the study. The details are given in Table 1 and succeeding paragraphs (Table 1).

Table 1 : Details of watersheds selected for the study

Sl. No.	Name of the watershed	Implementing agency	Districts covered	Number of taluks covered
1	Government organizations Watershed			
	Kalyanakere – Mavathur	Dept. of Agriculture, Directorate of watershed and Operational Research Project, UAS, Bangalore	Bangalore Urban	2
			Bangalore Rural	2
			Tumkur	4
2.	Non-government Organizations Watershed			
	Kamasamudram	MYRADA	Kolar	2

3.2.1 Governmental organisation watershed : Kalyanakere Mavathur

Kalyanakere Mavathur Watershed area comprises of the parts of Magadi and Nelamangala Taluks of Bangalore rural district and parts of Kunigal and Tumkur taluks of Tumkur District. It is situated about 50 km away from Bangalore towards Western side. Agriculture is the main stay of the population

of watershed. Most of the soils of cultivated area of watershed is red soils. The surface area is moderately undulated with slope ranging from 2 to 8 per cent prone to high soil erosion.

The climate is typically tropical with high incidence of soil radiation along with high temperature and unpredictable rainfall. The average annual rainfall is 730 mm of bi-modal nature. The total geographical area is about 22,355 ha, out of which 70 percent is under cultivation (14484.2 ha). The non-arable area was undulating with gullis and nalas. In upper ridges of the non-arable land exposures of rocky boulders which is common feature. Under the drylands crops like ragi, redgram and groundnut were major principal crops. In the irrigated patches paddy was extensively cultivated. Under assured irrigated area arecanut and coconut were cultivated. It has three subwatersheds and 70 micro-watersheds covering 90 villages.

3.2.2 Non-Governmental Organisation watershed (MYRADA) Kamasamudram project

MYRADA-(Mysore Resettlement and Development Agency) is an NGO started in 1968. During the period from 1968 to 1978, it was involved with the Government of Karnataka in resettling activities for 15,000 Tibetan refugees. From 1978 onwards, MYRADA has been totally involved with programmes in rural areas with the rural poor. Presently, it is working in the backward districts of Karnataka, Andhra Pradesh and Tamil Nadu. It was also providing regular training and exposure visits as a part in participating methodologies as well as strategies in arid zone development, forestry and watershed management to government and private institutions in various parts of India and abroad. MYRADA'S main focus was on the building of appropriate "People's Institutions" rather than on the delivery of goods.

The participative Integrated Rural Development Project, Kamasamudram of Kolar district was one of the 20 projects operated by MYRADA funded by EZE (German funding agency). Currently the project covers 415 villages of

Bangarpet and Malur taluks of Kolar District. The total area of the project is around 350 sq. km. The project area includes 156 villages and 13 grama panchayaths. There were about 11,7000 families in the project area and total population was around 78,800, of these 8,960 families comes under the target group. The project comprising 44 microwatersheds and 16 watershed associations. Most of the farmers land holding was small ranging from 0.50 acres to 3.0 acres. The annual average rainfall was low around 760 mm which was scanty and erratic, on account of this, the area is very often subjected to drought condition. The mean maximum temperature was in December month 25°C. Soil vary from gray clay to deep redish brown and sandy loams due to the geologic and topographic conditions.

The major crops grown were ragi and groundnut mixed crop with pulses and a few other cereals under rainfed condition. Paddy was grown under tank irrigation, mulberry and vegetable crops were also grown by using limited ground water as a irrigation source. Majority of the families in the project area solely depends on agricultural activities for their livelihood, whereas animal husbandry as the subsidiary occupation.

3.3 Selection of micro-watersheds

The macro-watershed is divided into sub-watersheds depending on the topography of land. It is further sub-divided into micro-watersheds of 100 to 500 ha in which both arable and non-arable treatments can be tackled at a time. Area under the micro-watershed may be in one village or two to four villages. For selection of samples for the study, the micro-watershed is formed as a basis of unit. From the selected Government and Non-government watersheds all micro-watersheds were listed. Among them four micro-watersheds were randomly selected on random basis of each watershed. The details are given in Table-2

Table 2 : Details of micro-watersheds in the study area

Sl. No.	Name of the watershed	Total No. of micro-watersheds	Selected micro-watersheds
1.	Kalyanakere-Mavathur	70	Ajjanahalli Kuttinagere Kenchapur Malligunte
2.	Kamasamudram	44	Doddadyavanahalli D. Kothindlu Banahalli Hulakaldurga
	Total	114	

3.4 Selection of respondents

The respondents of the present study hereafter called as beneficiaries. Since a comparative analysis is the objective of the study, the eight micro-watersheds were selected by taking into consideration of the inception of IWDP activities i.e., from 1992 onwards. From the selected micro-watersheds, the list of beneficiaries who had been benefited by the Integrated Watershed Development Programme (IWDP) from both Government Organization and Non-Government Organization were obtained from the records maintained at the office of the concerned implementing agencies. This constituted the population for the study. From each implementing agency 60 beneficiaries were selected by using proportionate random sampling method. The distribution of the beneficiaries in each agency is indicated in the Table 3.

Table 3 : Distribution of respondents selected for the study.

Sl. No.	Name of the watershed	Name of the micro-watershed	Beneficiaries	Sample size
1.	Government organization Kalyanakere – Mavathur	Ajjanahalli	75	15
		Kuttinagere	79	15
		Kenchanapura	115	15
		Malligunte	120	15
	TOTAL		389	60
2.	Non-governmental organization Kamasamudram(MYRADA)	Doddadyavanahalli	30	13
		D. Kothindlu	25	11
		Banahalli – A	30	13
		Banahalli – B	25	11
		Hulakaldurga	30	12
		Total	140	60
	GRAND TOTAL		529	120

3.5 Identification of variables

Keeping the objectives in view, the extent of participation of beneficiaries in different stages of planning and implementation of IWDP was considered as dependent variable. The variables like age, education, land holding, annual income, social participation, extension agency contact, mass media participation, risk orientation, farming experience, personal benefits obtained, awareness about the programme were identified as independent variables. Each independent variable was measured individually and used to know their influence on the dependent variable. The variables selected and their measurement are enumerated below :

Variables		Measurement
Dependent Variable		
1.	Extent of participation	Ramanna(1999)
Independent variables		
1.	Age	Channegowda (1977)
2.	Education	Trivedi (1963)
3.	Land holding	Schedule developed for the study
4.	Annual income	Narasimhamurthy (1981)
5.	Family size	Hosamani (1993)
6.	Extension contact	Ravikumar (1979)
7.	Mass-media participation	Trivedi (1963)
8.	Social participation	Trivedi (1963)
9.	Farming experience	Schedule developed for the study
10.	Risk orientation	Supe(1969)
11.	Personal benefits obtained	Schedule developed for the study
12.	Awareness about the watershed Programme.	Schedule developed for the study

3.6 Operationalisation and measurement of dependent variable

After a critical analysis of over 20 models available in the literature and keeping in the view of the situations and suggestions from the social scientists a planning model developed by Peason (1966) was selected for the study purpose, to identify the peoples' participation in different stages of programme development of IWDP. It consists of two phases viz., planning and execution, wherein each phase consisted of four stages. The details are as follows.

Planning phase

1. Collection of facts
2. Analysing the situation
3. Identifying the problem
4. Decide on objectives

Execution phase

5. Developing plan of work
6. Execution of plan
7. Determine the progress
8. Reconsideration with evaluation

Ramanna (1999) has identified eight items of peoples' participation in IWDP in each programme planning step. These items were modified based on the review of literature, as well as discussion with experts in watershed, scientists working at the Operational Research Projects and Dryland Agricultural Projects. The final statements were ranged from 3 to 32 items in different planning steps. These items were mainly related with the people's participation in different activities of IWDP starting from planning step to reconsideration step.

3.6.1 Extent of participation

Extent of participation was operationalised as the degree to which the beneficiary has actually involved in different activities of IWDP. In all 32 items were identified and included in the eight programme planning steps to find out the extent of participation of beneficiaries in IWDP. The responses were collected on three point continuum viz., fully participated, partially participated and not participated in the activity and the responses were given score of 2, 1, 0 respectively to each of the response. The extent of participation of beneficiaries in each step was computed by multiplying total scores obtained by the

respondents with the corresponding weightage. Accordingly, the total scores obtained from all the steps constituted the total extent of participation of a respondent in Integrated watershed development programme.

3.6.2 Types of participation

Participation by its nature varies in degrees, mode and kinds. According to Mukherjee (1994) the process of participation tends to be unique on every occasion and the kind and degree of participation also tend to differ from time to time and from location to location. In the present study an attempt was made to identify the types of participation by beneficiaries in integrated watershed development programme.

Typology of participation

According to Adnan *et al.* (1992) there were seven types of participation. They are presented below :

- a) Passive participation
- b) Participation by information giving
- c) Participation by consultation
- d) Participation for material incentives
- e) Functional participation
- f) Interactive participation and
- g) Self – mobilization

3.6.3 Operationalisation of typology of participation

Passive participation

People participate in watershed activities where they have been told what is going to happen or has already happened. It was an announcement by an administrator or project management without listening to people's responses.

Participation in information giving

People participate by answering question's posed by researcher/ implementing agency. People do not have an opportunity to influence the proceedings of programme.

Participation by consultation

People participate by being consulted and external agents listen to their views. This does not concede any share in decision making and professional were under no obligations to take people's view in project management.

Participation for material incentives

People participate by providing resources, for example labour, in return for food, cash or other materials as incentives in watershed activities.

Functional participation

People participate by forming groups to meet pre-determined objectives related to Integrated Watershed Development Programme (IWDP). These groups tend to depend on external initiations or facilitations.

Interactive participation

People participate in joint analysis, which leads to action plans and the formation of new local institutions or strengthening of existing ones. These groups take control over local decision's and so people have a stake in maintaining structures and practices in watershed area.

Self-mobilization

People participate by taking initiative independent of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources were used.

Non-participation

In the present study it is operationalised as where people did not participate in any activities of Integrated Watershed Development Programme(IWDP).

The type of participation by the beneficiaries in the Integrated Watershed Development Programme (IWDP) was of much importance to implement the programme more effectively. Also the type of participation at appropriate step of planning was necessary to know the extent of involvement of beneficiaries in the programme. Hence, the appropriate type of participation has been identified at different steps.

In the present study, the type of participation was quantified by adopting the scale developed by Ramanna (1999). The scoring was given for each item as indicated below :

Item	Scoring
Non participation	0
Passive participation	1
Participation by information giving	2
Participation by consultation	3
Participation for material incentives	4
Functional participation	5
Inferactive participation	6
Self-mobilisation	7

The present study has more than one participation items in each step. For this purpose average scores for each type of participation in each step was worked out and it was expressed in percentage.

3.6.4 Operationalisation and measurement of independent variables

Age

The age of the farmer was operationalised as the number of completed years of age of respondents at the time of enquiry. The respondents were classified into three categories based on the procedure suggested by Channegowda (1977) with slight modifications which is as follows :

Category	Age(In Year)
Young	Upto 35
Middle	36 to 50
Old	Above 50

Education

It refers to number of years of formal schooling of an individual. The respondents were categorized based on the classification followed by Trivedi (1965).

Category	Score
Illiterate	0
Know to read and write	1
Primary school	2
Middle school	3
High school	4
PUC/ Diploma	5
Collegiate	6

Land holding

It refers to the total land cultivated by the respondents family. The land holdings of the respondents were of different kinds namely wet, dry and garden they were converted into a common numerical. According to Karnataka Land Reform Act 38 of 1966, one acre of irrigated or garden land was equated to three acres of dryland. The same conversion procedure was followed in the present

study. The Department of Economics and Statistics, Government of Karnataka 1992-93 has prescribed norms for the categorization of land holding and that was made use as follows :

Categories	Size of the land	Score
Marginal farmers	Upto 1 ha	1
Small farmers	1.1 to 2 ha	2
Medium farmers	2.1 to 4 ha	3
Large farmers	Above 4.1 ha	4

Annual income

It refers to the total net income in rupees of the respondent and his family obtained from both primary and secondary occupation. The score procedure adopted by Narasimhamurthy (1981) for different levels of income which are as follows.

Categories	Income(In Rs)	Scoring pattern
Low income	Up to Rs. 11,500	(1 score for each of Rs1000)
High income	Above Rs. 11,500	

Family size

This refers to a group of closely related persons living together under a single roof. Information was obtained from the respondents about the total number of members living in the family. The families were classified into small, medium and large based on the following criteria followed by Hosamani(1993)

Size	Members	Score
Small	1 – 4	1
Medium	5 – 8	2
Large	9 and above	3

Extension contact

This referred to the degree to which a farmer maintained contact with different extension agencies and their participation in various extension activities for acquiring information on watershed programme. The quantification of this variable was done based on the frequency of contact with the extension agents and their regularity of participation in various extension activities. The scoring procedure as used by Ravi Kumar (1979) was used with slight modifications.

Frequency of contact	Score	Degree of participation	score
Once in a week	3	Regularly	2
Once in a month	2	Occasionally	1
Occasionally	1	Never	0
Never	0		

The scores on these two dimensions were summed up to obtain the total extension contact score of a respondent.

The respondents were categorized into three categories based on the mean and standard deviation.

Categories

Low	$(X - \frac{1}{2} SD)$
Medium	$(X \pm \frac{1}{2} SD)$
High	$(X + \frac{1}{2} SD)$

Mass media participation

The degree to which an individual used mass media communication channels was referred to as mass media participation. This was measured on five dimensions like reading news paper, reading farm magazines, radio listening, viewing television and reading other farm publications. The following scoring

pattern was adopted to measure the degree of participation on the above dimensions.

Sl. No.	Communication channels/ Frequency of participation	Score
1.	<u>News papers reading habit</u> a) Never b) Occasionally c) Regularly	0 1 2
2.	<u>Radio listening</u> a) Never b) Occasionally c) Regularly	0 1 2
3.	<u>Reading farm magazine</u> a) Never b) Occasionally c) Regularly	0 1 2
4.	<u>Watching agricultural programmes in TV</u> a) Never b) Occasionally c) Regularly	0 1 2
5.	<u>Reading other farm publications</u> a) Never b) Occasionally c) Regularly	0 1 2

The scores obtained on individual dimensions were summed up to arrive at the total mass media participation score of an individual. The respondents were grouped into three categories based on the mean and standard deviation.

Social participation

This refers to the degree of participation or involvement of respondent in formal social organizations either as member or as office bearer, including their degree of participation in organizational activities. Based on the scoring procedure outlined by Trivedi (1963) the following scoring system was followed for the study.

Category	Score
Non membership	0
Membership in one organization	1
Membership in more than one organization	2
Office bearer in one organization	3
Office bearer in more than one organization	4
Degree of participation	Score
Regularly	2
Occasionally	1
Never	0

The composite score was arrived at by summing up the score obtained by respondent in each item listed. Highest score reveals high social participation. Respondents were classified into three categories based on mean and standard deviation.

Categories

Low	$(X - \frac{1}{2} SD)$
Medium	$(X \pm \frac{1}{2} SD)$
High	$(X + \frac{1}{2} SD)$

Farming experience

It refers to total number of years of experience in cultivating the land by the respondents at the time of investigation and each year of experience was given one score. The respondents were grouped into three categories based on the mean and Standard deviation.

Awareness about the watershed programme

Awareness is operationalised as the exposure of the respondent about watershed development programmes in terms of its existence, area of operation, financial allocation and objectives of the programme. One score was given to each correct response. The score obtained on each aspect was added up, to get

the total awareness score of an individual. Based on mean and standard deviation, respondents were categorized into three categories viz: low, medium and high awareness group.

Personal benefits obtained

This referred to the benefits obtained by the respondents consequent to participation in the watershed development programme like improvement in family living condition, increased income over previous year, increase in material possession etc. For each benefit derived as perceived by the respondents one score was given. The scores obtained were added up to get the total score of the respondent on this variable. Respondents were grouped into three categories based on the mean and standard deviation.

Risk orientation

It was operationalised as the degree to which the respondent was oriented towards risk and uncertainty in adopting new ideas or technologies in farming. Risk orientation scale developed by Supe (1969) was used in this study. The scale consists of one positive item and five negative items. The responses for positive items were scored as 2, 1 and 0 for negative items the scores were reversed in the order of magnitude respectively.

The scores obtained for each statement were summed up to get individual respondents risk orientation score. The possible range of score in this scale was from 0 to 12. The respondents were grouped into three categories based on the mean and standard deviation.

3.8 Development of interview schedule and data collection

Taking into consideration of the objectives of the study a draft interview schedule was prepared after perusal of available literature and through consultation with experts in the field of extension education and other related

fields. After incorporating the suggestions of the experts, a well structured interview schedule was finalized. Thus, the final interview schedule was constructed by including the items relating to independent variables and later dependent variables at the end. All the relevant scales, schedule items indices developed for the study for measuring the variables were included in the interview schedule. This was pre-tested with the beneficiaries in a non-sample area to know the relevancy of the contents and forms of the items included in the schedule. The instrument was finalized after making necessary modifications, deletions and additions based on the pre-testing. The final interview schedule used for the study is given in Appendix-I

Data collection

At the first instance, information on watershed relating to statistics and operational procedure was collected from the Directorate of Watershed project, Department of Agriculture, Operational Research Project on Watershed development of University of Agricultural Science, Bangalore and NGOs of study area. After finalizing the research study the respondents were personally interviewed by the researcher with the help of pre-tested interviewed schedule in an informal atmosphere. The farmers were contacted at their residence or at the field.

3.9 Statistical tools and tests used for analysis

The data were scored as per the pre-determined set of standards and tabulated. Keeping in view the objectives of the study and amenability, the data were subjected to different statistical tests. The analysis include mean and standard deviation for classification of respondents into low, medium and high categories. The frequency percentage analysis and chi-square tests were used for comparison of different groups. Statistical tests like Median test was used to know the level of participation in watershed programme.

Zero order correlation co-efficient (r)

This test was used to find out the relationship between dependent and independent variables for different groups as well as overall respondents.

Multiple regression analysis

This analysis was carried out to determine the combined influence of independent variables in explaining the variation in the dependent variable and to identify the variable which contributed significantly towards the variation in the dependent variable.

RESULTS

IV. RESULTS

The results of the study are presented in this chapter under the following headings:

- 4.1 Extent of participation of beneficiaries in the Watershed Development Programme implemented by GO and NGO.
- 4.2 Comparison of Extent of Participation of beneficiaries in Watershed Development Programme.
- 4.3 Participation of beneficiaries in different stages of Watershed Development programme
- 4.4 Typology of participation in different stages of Watershed Development programme .
- 4.5 Profile of the beneficiaries in terms of their personal, socio-economic communication and psychological characteristics.
- 4.6 Relationship between extent of participation and characteristics of farmers.
- 4.7 Perceived problems of beneficiaries in participation in Watershed Development Programme.
- 4.8 Suggestions of beneficiaries to improve participation in Watershed Development Programme.

4.1 Extent of participation of beneficiaries in the watershed development programme implemented by GO and NGO

The extent of participation of beneficiaries in the watershed development programme implemented by GO and NGO is depicted in Table-4 and Fig-1

Table 4 : Distribution of beneficiaries according to their extent of participation in watershed development programme implemented by Go and NGO

Participation level	Government organisation		Non Government organisation		Total		(n=120)
	Number	Per cent	Number	Per cent	Number	Per cent	Chi-square value
Low	21	35.0	16	26.6	37	30.9	
Medium	22	36.7	9	15.0	31	25.8	12.68**
High	17	28.3	35	58.4	52	43.3	
Total	60	100.0	60	100.0	120	100.0	

* Significant at 0.01 level of probability

Table 5 : Extent of participation of beneficiaries in watershed development programme implemented by government organisation and non government organisation

Median level	NGO		GO		Total		(n=120)
	Number	Per cent	Number	Per cent	Number	Per cent	Chi-square value
Above median	51	85	7	11.7	58	48.4	
Below median	9	15	53	88.3	62	51.6	61.7**
Total	60	100	60	100	120	100	

Median value = 55.5

**Significant at 0.01 level of probability

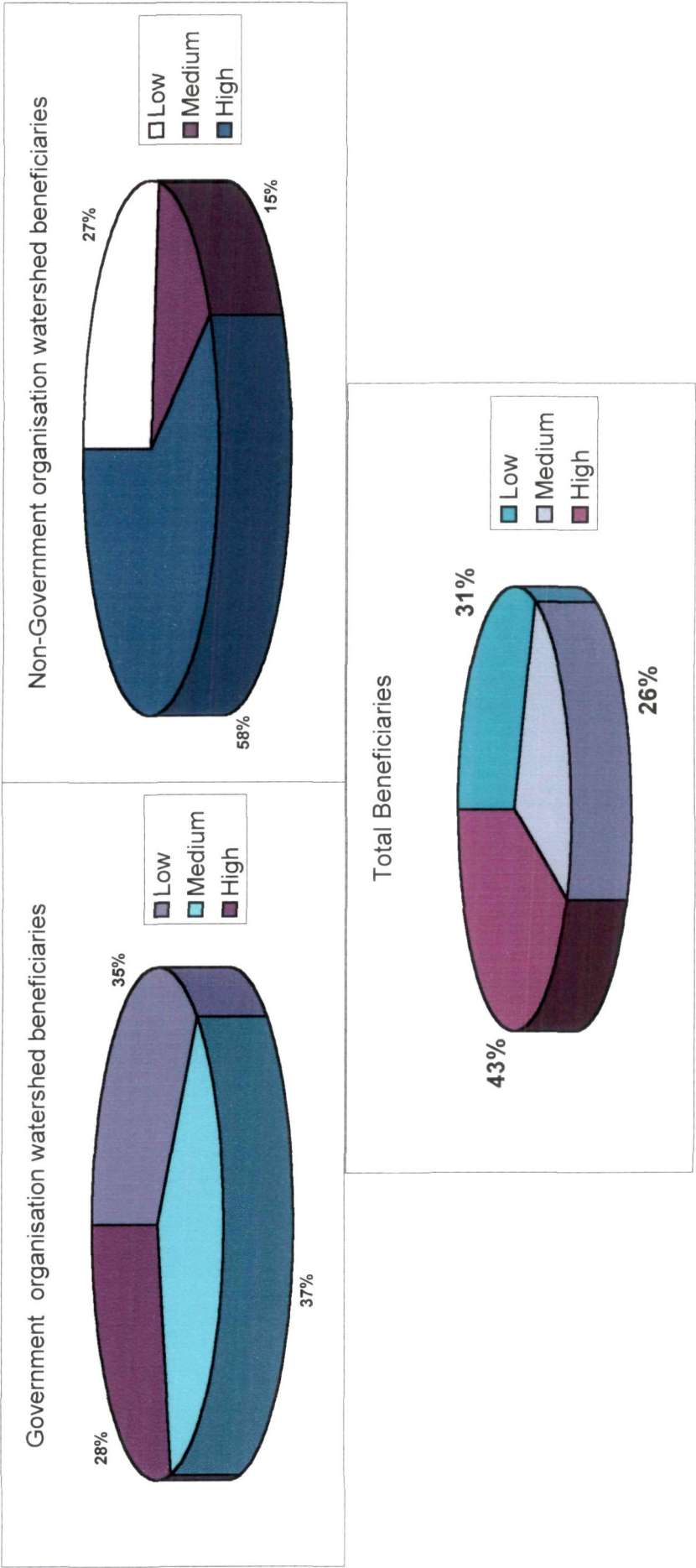


Fig. 3 : Peoples' participation among GO and NGO watershed beneficiaries

It can be observed from the Table that as high as 36.7 per cent of the beneficiaries of watershed programme implemented by Government organization exhibited medium level of participation followed by 35 per cent of the beneficiaries with low level of participation and 28.3 per cent with high level of participation.

On the contrary, majority of the beneficiaries had high level (58.4 per cent) of participation followed by low level (26.6 per cent) and medium level (15 per cent) of participation in Watershed development programme implemented by Non- Government organization.

It is surprising to note that majority of the beneficiaries of Watershed development programme implemented by NGO portrayed medium to high level of participation as against beneficiaries of GO watershed where low to medium level of participation was noticed.

The Chi-square test was applied, to test the participation level among the beneficiaries of two organizations. The test was turned out to be significant at 5 per cent level of significance indicating a significant variation in the extent of participation of the beneficiaries of GO and NGO Watershed.

4.2 Comparison of extent of participation of beneficiaries in Watershed Development Programme

From the Table –5 it could be observed that the median value of extent of participation was maximum in NGO watershed beneficiaries than in GO Watershed. The Median test indicates that, there exists a significant variation in participation between the beneficiaries of two organizations. Among them participation score above the median value was exhibited by more NGO farmers (51) as against 7 in GO Watershed. The Average score for participation of both the organization was found to be 55.5 Median value. The Chi- square analysis was significant at 0.05 level of probability indicating a difference between the two groups.

4.3 Participation of beneficiaries in different stages of Watershed Development programme

The results on extent of participation of GO and NGO beneficiaries in different stages of Watershed Development Programme is provided in Tables 6 to 13. The details are given below.

4.3.1 Collection of facts

It is evident from the Table-6 that nearly two- thirds of the beneficiaries (63.3 per cent) had low level of participation in collection of facts followed by high (20 per cent) and medium (16.7 per cent) levels in Government organization watershed. On the contrary, in NGO implemented watershed, it is seen that more than two-thirds of the beneficiaries (66.7 per cent) had high level of participation in collection of facts followed by medium (25 per cent) and low (8.3 per cent) level of participation.

The Chi- square test revealed that there is a variation in the participation of beneficiaries of GO and NGO in collection of facts stage of watershed development programme.

4.3.2 Analyzing the situation

The data in Table-7 revealed that a majority of the GO beneficiaries (58.4 per cent) portrayed low level of participation in analyzing the situation followed by medium (33.3 per cent) and high level (8.3 per cent) of participation. It was surprising to note that a thumping majority of the NGO beneficiaries (80 per cent) had high level of participation and equal percentage of farmers (10 per cent) had medium and low level of participation.

The Chi- square test was found to be highly significant indicating a significant difference between beneficiaries of GO and NGO with regard to their participation in analyzing the situation .

Table 6 : Participation of beneficiaries in collection of facts

(n=120)							Chisquare value
Category	GO		NGO		Total	Per cent	
	Number	Per cent	Number	Per cent			
Low	38	63.3	5	8.3	43	35.8	
Medium	10	16.7	15	25.0	25	20.8	41.2**
High	12	20.0	40	66.7	52	43.4	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

Table 7 : Participation of beneficiaries in analyzing the situation

(n=120)							Chi-square value
	GO		NGO		Total		
Category	Number	Per cent	Number	Per cent	Number	Per cent	
Low	35	58.4	6	10.0	41	34.16	62.6**
Medium	20	33.3	6	10.0	26	21.66	
High	5	8.3	48	80.0	53	44.20	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

4.3.3 Identifying the Problem

As depicted in Table-8 exactly 50 per cent of the farmers had medium level of participation followed by low (36.6 per cent) and high (13.4 per cent) levels of participation in identifying the problem in GO watershed. In the case of NGO implemented Watershed more than three- fourths (78.3 per cent) of the farmers had high level of participation followed by medium (13.4 per cent) and low (8.3 per cent) level of participation. The Chi –square analysis illuminates a significant variation among the respondents of GO and NGO in identifying the problem.

4.3.4 Deciding on objectives

It could be seen from the Table-9 that majority of the farmers (70 per cent) of GO Watershed exhibited low level of participation followed by high (16.3 per cent) and medium level (13.3 per cent) of participation in deciding the objectives. While in NGO implemented watershed more than two thirds (66.8 per cent) of the beneficiaries had high level of participation followed by equal percentage (16.6 per cent) with medium and low level of participation. The Chi-square test shows variation in deciding the objectives among the beneficiaries.

4.3.5 Developing Plan of work

From the Table-10 it could be observed that more than half of the farmers (53.3 per cent) had low level of participation in developing a plan of work step incase of GO implemented watershed followed by high (26.7 per cent) and medium level (20 per cent) of participation. On the otherhand, majority of the NGO watershed farmers had high level (66.8 per cent) of participation followed by equal percentage (16.6 per cent) with medium and low level of participation. The results of the Chi-square analysis shows a significant variation in extent of participation among the NGO and GO beneficiaries in developing plan of work.

Table 8 : Participation of beneficiaries in identifying the problem

							(n=120)
Category	GO		NGO		Total		Chi-square
	Number	Per cent	Number	Per cent	Number	Per cent	
Low	22	36.6	5	8.3	27	22.50	50.9**
Medium	30	50.0	8	13.4	38	31.60	
High	8	13.4	47	78.3	55	45.80	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

Table 9 : Participation of beneficiaries in deciding on objectives

							(n=120)
Category	GO		NGO		Total		Chi-square
	Number	Per cent	Number	Per cent	Number	Per cent	
Low	42	70.0	10	16.6	52	43.30	37.8**
Medium	8	13.3	10	16.6	18	15.00	
High	10	16.7	40	66.8	50	41.70	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

Table 10 : Participation of beneficiaries in developing a plan of work

							(n=120)
		GO		NGO		Total	
Category	Number	Per cent	Number	Per cent	Number	Per cent	Chi-square value
Low	32	53.3	10	16.6	42	35.00	
Medium	12	20.0	10	16.6	22	18.30	21.8**
High	16	26.7	40	66.8	56	46.70	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

Table 11 : Participation of beneficiaries in execution of plan

							(n=120)
		GO		NGO		Total	
Category	Number	Per cent	Number	Per cent	Number	Per cent	Chi-square value
Low	42	70.0	10	16.6	52	43.30	
Medium	8	13.3	10	16.6	18	15.00	37.8**
High	10	16.7	40	66.8	50	41.70	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

4.3.6 Execution of plan

The Table –11 denotes that as high as 70 per cent of the GO beneficiaries had low level of participation in execution of plan of work. While in the case of NGO implemented watershed majority of the beneficiaries had high level (66.8 per cent) of participation in this stage. Around one- third of the GO (30 per cent) and NGO (33.2 per cent) farmers had medium to high level of participation and low to medium level of participation respectively. The Chi- square analysis indicates a significant variation in extent of participation with respect to this aspect.

4.3.7 Determining the progress

It was astonishing to see from the Table–12 that nearly three –fourth (71.6 per cent) of the farmers had low level of participation followed by medium (20 per cent) and high (8.4 per cent) level of participation in determining the progress in GO implemented watershed. However, in the case of NGO majority of the farmers possessed (63.4 per cent) medium level of participation. The Chi-square test indicates significant variation in extent of participation at this stage .

4.3.8 Reconsideration with Evaluation

It was evident from the results presented in Table–13 that nearly three-fourth of the GO farmers (75 per cent) had low level of participation in reconsideration with evaluation stage followed by medium (16.6 per cent) and high (8.4 per cent) level of participation. With respect to NGO implemented Watershed large majority of the farmers (66.8 per cent) had medium level of participation followed by high (20.0 per cent) and low (13.2 per cent) level of participation. The Chi-square test indicates significant variation in extent of participation in evaluation stage among the beneficiaries of GO and NGO.

Table 12 : Benefeciaries participation in determining the progress

							(n=120)
GO		NGO		Total		Chi-square value	
Category	Number	Per cent	Number	Per cent	Number	Per cent	
Low	43	71.6	4	6.6	47	39.16	
Medium	12	20.0	40	63.4	50	41.60	52.9**
High	5	8.4	18	30.0	23	19.20	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

Table 13 : Participation of benefeciaries in reconsideration with eyaluation stage

							(n=120)
GO		NGO		Total		Chi-square value	
Category	Number	Per cent	Number	Per cent	Number	Per cent	
Low	45	75.0	8	13.2	53	44.16	
Medium	10	16.6	40	66.8	50	41.60	46.6**
High	5	8.4	12	20.0	17	14.24	
Total	60	100.0	60	100.0	120	100.0	

**Significant at 0.01 level of probability

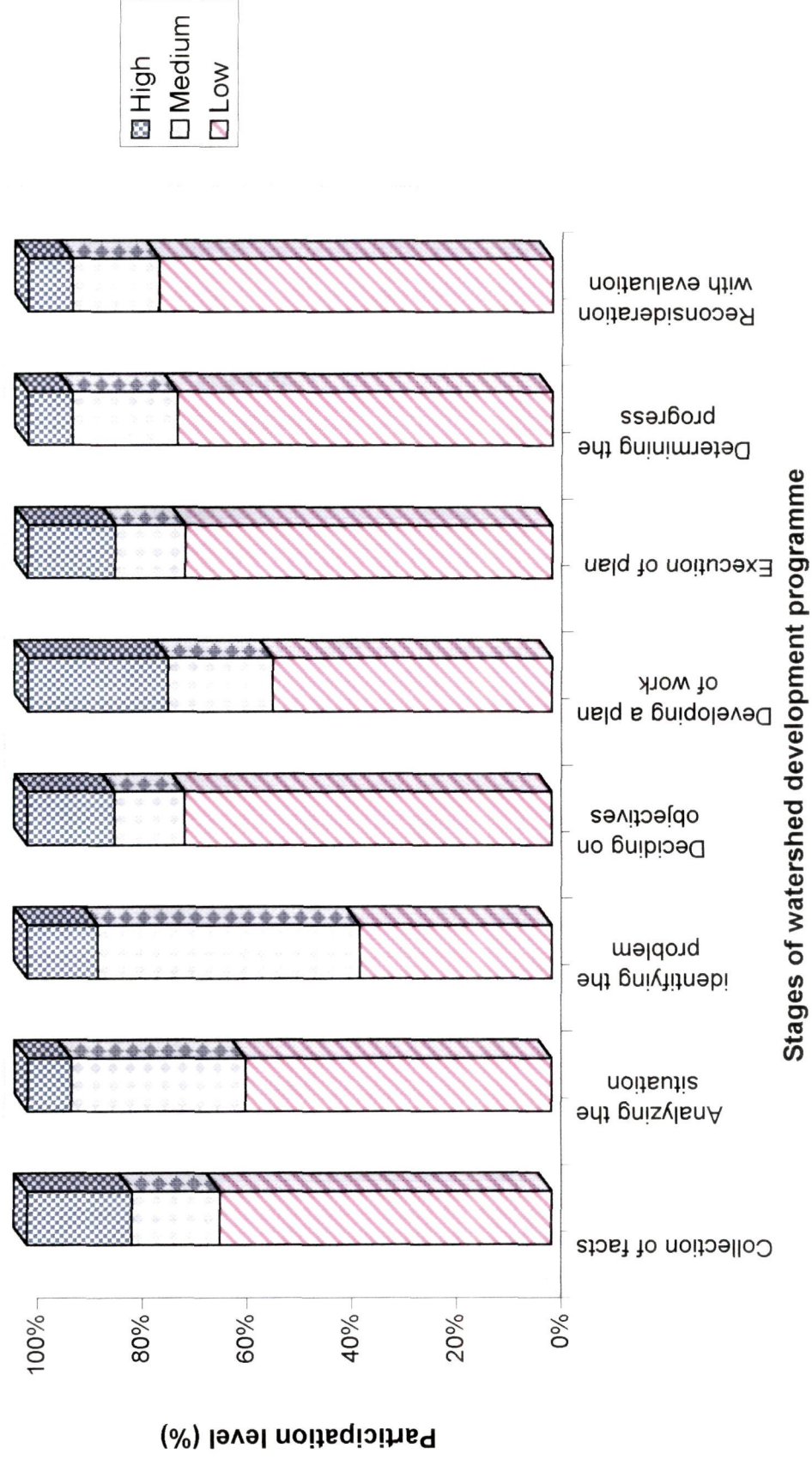


Fig. 4 : Participation of beneficiaries in different stages of Watershed Development programme implemented by Government Organization

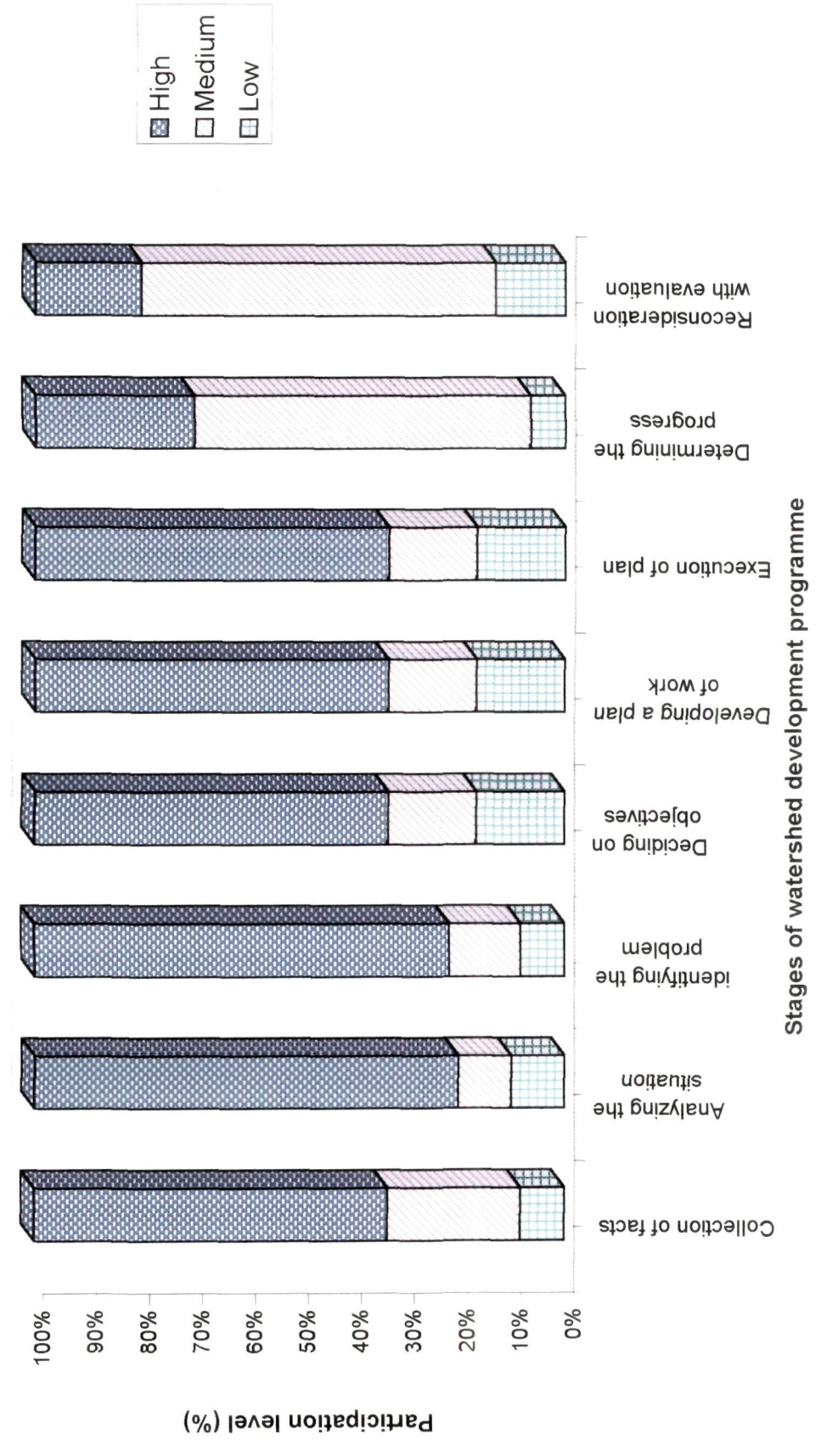


Fig. 5 : Participation of beneficiaries in different stages of Watershed Development programme implemented by Non-Government Organization

4.4 Typology of participation in different stages of Watershed Development Programme.

Social scientists have identified seven distinct types of participation from lowest form of passive participation to highest form of self mobilization type. In the present study an attempt was made to determine the types of participation by the beneficiaries in each steps of watershed development programme. The results are presented in the following paragraphs.

4.4.1 Typology of participation by the beneficiaries of GO watershed

From the Table-14, it could be seen that nearly one- fourth of the farmers involved in activities through participation in Information giving (23.1 per cent) and participation by consultation (18.5 per cent) in collection of facts. Where as 33.3 per cent of beneficiaries were not participated in this step. A negligible percentage was observed in other types of participation in GO implemented watershed.

More than one-thirds of the farmers (40.6 per cent) participated by consultation followed by non-participation (16 per cent) and less than ten per cent of the farmers exhibited other types of participation in analyzing the situation.

In identifying the problem step, one-fourth of the (25 per cent) farmers participated by information giving followed by non-participation (23.1 per cent) consultation (18.5 per cent) and passive participation (11.6 per cent). A negligible percentage was observed in other types.

Around one-third of farmers (33.3 per cent) participated by consultation, whereas ten per cent each participated in information giving and functional participation in deciding the objective stage.

Majority of the farmers (33.3 per cent) were not participated in developing plan, while 22.1 per cent and 16.2 per cent shown functional and

Table 14 : Types of participation by the beneficiaries in different steps of watershed development programme implemented by government organisation

Type of participation	Collection of facts		Analysing situation		Identifying the problem		Deciding on objective		Developing a plan		Execution of plan		Determine the progress		Reconsideration with Evaluation	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Passive	5	8.5	6	10	7	11.6	4	6.7	3	5.0	2	3.2	4	6.7	5	8.3
Information givin	14	23.1	6	10	15	25.0	6	10.0	4	6.7	4	6.7	14	23.1	3	5.0
Consultation	11	18.5	25	40	11	18.5	20	33.3	10	16.2	21	35.3	4	6.7	15	24.3
Material incentive	4	6.7	4	7	5	8.3	4	6.7	3	5.0	12	20.0	3	5.0	4	6.7
Functional	3	5.0	2	3	4	6.7	6	10.0	13	22.1	12	20.0	10	16.2	7	11.6
Interaction	3	5.0	4	7	2	3.2	2	3.2	4	6.7	4	6.7	2	3.2	3	5.0
Self mobilization	0	0.0	4	7	2	3.2	2	3.2	3	5.0	1	1.6	6	0.0	0	0.0
Non participation	20	33.3	10	16	14	23.1	16	27.7	20	33.3	4	6.7	23	39.1	23	39.1
Total	60	100.0	60	100	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0

consultation type of participation respectively. A negligible percentage were observed in other types of participation.

A large majority of beneficiaries (75 per cent) were participated in execution of plan through consultation (35.3 per cent), material incentives (20 per cent), and functional (20.0 per cent) type. More than one- third of the respondents (39.1 per cent) participated in determining the progress stage.

Nearly one-fourth (23.1 per cent) of the farmers participated in information giving followed by in consultation type (16.2 per cent) in determining the progress step.

With respect to evaluation stage, around one- fourth of the respondents (24.3 per cent) participated through consultation. However, more than one- third of the beneficiaries shown non-participation (39.1 per cent)

To sum up majority of the respondents were found in information giving, consultation and functional type of participation. It was noted that more than one-fourth of the farmers were found in non-participation category.

4.4.2 Typology of participation by the beneficiaries of NGO watershed

It could be seen from the Table–15 that 31.7 per cent of beneficiaries were observed in information giving followed by consultation (25 per cent) and material incentive type (13.3 per cent) participation. A negligible percentage was observed in other types of participation in collection of facts.

More than one-third (36.7 per cent) and nearly one-fourth farmers (16.6 per cent) participated in functional and information giving type respectively in analyzing the situation. Equal number of farmers were observed in consultation (13.3 per cent) and passive (13.3 per cent) type.

As high as 38.4 per cent of beneficiaries were found in functional type followed by information giving (16.5 per cent) and consultation (15.0 per cent)

Table 15 : Types of participation by the beneficiaries in different steps of watershed development programme implemented by non government organisation

Types of participation	Collection of facts		Analysing situation		Identifying the problem		Deciding on objective		Developing a plan		Execution of plan		Determine the progress		Reconsideration with Evaluation	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Passive	3	5.0	8	13.3	6	6.7	7	11.6	4	6.7	8	13.5	4	6.7	10	16.6
Information givin	19	31.7	10	16.6	10	16.5	14	23.4	7	11.6	10	16.6	12	20.0	18	30.1
Consultation	15	25.0	8	13.3	9	15.0	8	13.3	10	16.6	23	38.1	5	8.3	19	31.8
Material incentive	8	13.3	4	6.7	4	6.7	5	8.3	7	11.6	4	6.7	2	3.3	8	13.3
Functional	7	11.6	22	36.7	21	38.4	19	31.8	25	41.6	3	5.0	25	41.9	1	1.6
Interaction	4	6.7	4	6.7	4	6.7	2	3.3	3	5.0	4	6.7	4	6.7	2	3.3
Self mobilization	1	1.7	0	0.0	0	0.0	1	1.6	3	5.0	4	6.7	7	11.5	0	0.0
Non participation	3	5.0	4	6.7	6	10.0	4	6.7	1	1.6	4	6.7	1	1.6	2	3.3
Total	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0

type. Equal percentage of farmers were found in passive, material incentive (6.7 per cent) and interactive type and 10 per cent were not participated in identifying the problem.

In deciding on objectives 31.8 per cent of farmers exhibited functional participation followed by information giving, consultation, passive, material incentive, interactive and other types of participation.

While developing a plan 41.6 per cent of farmers participated in functional type followed by 16.6 per cent in consultation type and equal percentage in information giving (11.6 per cent) and material incentive type. A negligible percentage of farmers participation was found in interactive (5 per cent) and Self-mobilization (5per cent) participation type.

With respect to execution of plan 38 per cent of farmers participated in consultation type followed by information giving (16.6 per cent) and passive (13.5 per cent) type. Equal per cent (6.7 per cent) were found in material incentive, interactive and self mobilization type of participation .

In determining the progress majority (41.9 per cent) of the farmers participated in functional type, followed by Information giving (20 per cent),self-mobilisation (11.5 per cent),consultation type (8.3 per cent) and negligible percentage of farmers were participated in material incentive.

With respect to reconsideration with evaluation stage 31.8 per cent of farmers participated in consultation type, information giving and passive type of participation was also seen with 30.1 per cent and 16.6 per cent of farmers. A handful of farmers were found in interactive and functional type. None of them were participated in self- mobilization type.

To summarise, maximum number of farmers were observed in functional, consultation, material incentives and interactive type and very negligible percentage was observed in non- participation category.

4.5 Profile characteristics of the beneficiaries in terms of their Personal, Socio-economic, Communication and Psychological characteristics.

The profile characteristics of beneficiaries of GO and NGO watershed development programme are presented in the Table-16 to Table-19. The characteristics are categorized into personal, socio- economic, communication and psychological variables. The details are provided in the following paragraphs.

4.5.1 Personal characteristics

Age: Table-16 reveals that equal percentage of respondents (38.3 per cent) belonged to the middle age category in both GO and NGO watershed. Highest per cent (38.3 per cent) of farmers of GO watershed belong to young age category compared to 23.3 per cent of farmers who belong to old age group. The reverse trend was true with NGO watershed beneficiaries. The results of Chi- square test found to be non-significant indicating similarity with respect to age among the Government watershed and Non-government watershed beneficiaries.

Education: It is clear from the table that majority of the respondents of GO and NGO watershed belong to medium level of education (35 per cent and 41.6 per cent). Equal percentage (28.4 per cent) of beneficiaries of GO and NGO watershed had high level of education. While a slightly higher percentage of GO watershed farmers (36.6 per cent) had low level of education than NGO beneficiaries (30 per cent). The Chi- square analysis reveals that there is non-significant difference exists among the education-wise distribution of respondents of GO and NGO watershed.

Family size: With respect to family size, more than three- fourth of the respondents of GO watershed possessed medium sized families, while half of the NGO watershed beneficiaries (50.0 per cent) had small families. Large size family norm was observed with almost equal number of beneficiaries in GO

Table 16 : Personal characteristics of beneficiaries

		GO		NGO		Total		(n=120) Chi-square value
Character	Category	Number	per cent	number	Per cent	Number	Per cent	
Age	Young	23	38.3	19	21.7	42.0	35.0	
	Middle	23	38.3	23	38.3	46.0	38.3	0.88 NS
	Old	14	23.4	18	30.0	32.0	26.7	
	Total	60	100.0	60	100.0	120.0	100.0	
Education	Low	22	36.6	18	30.0	40.0	33.3	
	Medium	21	35.0	25	41.6	46.0	38.3	0.74 NS
	High	17	28.4	17	28.4	34.0	28.4	
	Total	60	100.0	60	100.0	120.0	100.0	
Family size	Small	6	10.0	30	50.0	36.0	30.0	
	Medium	45	75.0	20	33.4	65.0	54.1	62.6**
	Large	9	15.0	10	16.6	19.0	15.9	
	Total	60	100.0	60	100.0	120.0	100.0	

**Significant at 0.01 level of probability

NS = Non significant

watershed (15 per cent) and NGO watershed (16.6 per cent). A non-significant difference between the GO and NGO farmers was evident with the results of Chi-square test.

4.5.2 Socio- economic characteristics

Land holding: The data in Table-17 exhibits that majority of the beneficiaries are marginal farmers irrespective of the organization (35 per cent in GO and 40 per cent in NGO)

While least number of respondents were big farmers in GO (16.67 per cent) than in NGO (6.7 per cent). It was interesting to note that a large chunk of beneficiaries of NGO were marginal, small and medium farmers (93.3 per cent). While this percentage was 83 in the case of GO. The Chi-square test shows non-significant difference.

Annual Income: Regarding annual income, it was observed that more than two-thirds of the beneficiaries of GO (76.6 per cent) and NGO (70.01 per cent) had medium level of annual income. Equal number of beneficiaries of both the organization had low level of annual income (18.4 per cent). More number of NGO beneficiaries (11.66 per cent) than GO beneficiaries had high annual income (5.0 per cent). The Chi-square test exhibited a non-significant difference indicating the similar distribution of respondents in all the groups.

Social participation: Exactly half of the governmental organization watershed beneficiaries possessed medium level of social participation as against one-third of the NGO watershed beneficiaries (36.6 per cent). Similar trend was observed with low level of social participation categories in respect of government watershed (36.6 per cent) and NGO watershed (35.6 per cent). However more number of NGO beneficiaries (28.4 per cent) than GO beneficiaries (13.4 per cent) had high social participation. The Chi-square test was found nonsignificant indicating the similar distribution of respondents among all the groups.

Table 17 : Socio-economic charactersitics of beneficiaries

		GO		NGO		Total		(n=120) Chi-square value
Character	Category	Number	Per cent	number	per cent	Numbe	Per cent	
Land holding	Marginal farmers	21	35.0	24	40.0	45	37.5	4.8 NS
	Small farmers	16	26.6	12	20.0	28	23.3	
	Medium farmers	13	21.8	20	33.3	30	27.6	
	Big farmers	10	16.6	4	6.7	14	11.6	
Total		60	100.0	60	100.0	120	100.0	
Annual income	Low	11	18.4	11	18.4	22	18.4	1.78 NS
	Medium	46	76.6	42	70.0	88	73.3	
	High	3	5.0	7	11.66	10	8.3	
Total		60	100.0	60	100.0	120	100.0	
Social participation	Low	22	36.6	21	35.0	43	35.8	4.64 NS
	Medium	30	50.0	22	36.6	52	43.4	
	High	8	13.4	17	28.4	25	20.8	
Total		60	100.0	60	100.0	120	100.0	

NS = Non significant

4.5.3 Communication Characteristics

Extension contact: It is known from the Table-18, that majority of the respondents of Non- Governmental organization watershed had low level of extension contact(55 per cent) followed by high(28.4 per cent) and medium level(16.6 per cent) of extension contact. Where as majority of the government organization watershed beneficiaries had medium level of extension contact (81.7 per cent) followed by high (13.3 per cent) and low level(15.5 per cent) extension contact. The Chi-square test indicated that there exists a significant variation in distribution of farmers with respect to extension contact groups.

Mass media participation: The Table-18 further depicts that most of the beneficiaries of Governmental Organization watershed had high(51.6 per cent) mass media participation followed by low (16.8 per cent) and medium level(31.6 per cent) mass media participation. Large number of Non-governmental organization watershed farmers had medium level of participation (53.4 per cent) followed by high (25 per cent) and low level of (21.6 per cent) of mass media participation level. The Chi- square test indicates non significant variation among the respondents.

4.5.4 Psychological Characteristics:

Farming experience: Table 19 projects almost equal percentage of the NGO watershed beneficiaries had low (35.5 per cent) medium (35.5 per cent) and high (30 per cent) level of farming experience. The percentage of Governmental organization beneficiaries belonging to those categories are 21.6 per cent, 36.6 per cent and 41.8 per cent respectively. The Chi-Square analysis indicated that there is non-significant variation with respect to farming experience in both the organizations.

Awareness about the programme: With respect to awareness level of the beneficiaries, a large majority (55 per cent) of the farmers of GO watershed farmers showed high level of awareness about the watershed programme, as

Table 18 : Communication characteristics of beneficiaries

		GO		NGO		Total		(n=120) Chi-square value
Character	Category	Number	Per cent	Number	Per cent	Number	Per cent	
Extension contact	Low	3	15.0	33	55.0	36	30.0	
	Medium	49	81.7	10	16.6	59	49.2	67.2**
	High	8	13.3	17	28.4	25	20.8	
	Total	60	100.0	60	100.0	120	100.0	
Mass media participation	Low	19	31.6	13	21.6	32	26.6	
	Medium	10	16.8	32	53.4	42	35.0	18.045**
	High	31	51.6	15	25.00	46	38.4	
	Total	60	100.0	60	100.0	120	100.0	

** Significant at 1% level of probability

against 43.3 per cent of NGO watershed farmers. Equal percentage of NGO beneficiaries possessed low and high awareness (43.3 per cent). Similar trend was true with low and medium categories of Governmental Organization beneficiaries. The Chi-square test indicated a significant variation among the groups of beneficiaries with respect to this characteristic.

Risk Orientation: It is interesting note that more than two-thirds of NGO beneficiaries had low (66.7 per cent) risk orientation and the rest belong to high (23.3 per cent) and medium (10 per cent) risk orientation category. Almost equal percentage Governmental organization beneficiaries belong to low (46.6 per cent) and high (43.3 per cent) categories of risk orientation. The Chi-square test indicated that there is non-significant variation with respect to risk-orientation category of farmers of both the organization.

Personal benefits obtained: An over whelming majority of the Non – governmental Organization beneficiaries belong to high (56.6 per cent) followed by medium (33.4 per cent) and low (10.0 per cent) category. In respect of Government Organization beneficiaries, majority of the farmers belong to low category (41.6 per cent) followed by high (33.4 per cent) and medium category (25.0 per cent) of personal benefits obtained. The results of Chi- square test exhibited a highly significant difference between the beneficiaries of both the organizations in respect of personal benefits obtained them.

4.6 Relationship between extent of participation and characteristics of farmers

4.6.1 Zero-order correlation between extent of participation and characteristics of beneficiaries.

An attempt was made to find out the relationship between personal, socio-economic, communication and psychological characteristics of beneficiaries of Government and Non-Government Organization and their extent of participation. The data was tested by computing co-relation co-

Table 19 : Psychological characteristics of beneficiaries

								(n=120)
Character	Category	GO		NGO		Total		Chi-square value
		Number	Per cent	Number	Per cent	Number	Per cent	
Farming experience	Low	13	21.6	21	35.0	34	28.3	3.12 NS
	Medium	22	36.6	21	35.0	43	35.8	
	High	25	41.8	18	30.0	55	45.8	
	Total	60	100.0	60	100.0	120	100.0	
Awareness about the programme	Low	13	21.6	26	43.3	39	32.5	6.72*
	Medium	14	23.4	8	13.4	22	18.3	
	High	33	55.0	26	43.3	59	49.20	
	Total	60	100.0	60	100.0	120	100.0	
Personal benefits obtained	Low	25	41.6	6	10.0	31	25.8	72.2**
	Medium	15	25.0	20	33.4	35	29.2	
	High	20	33.4	34	56.60	74	45.0	
	Total	60	100.0	60	100.0	120	100.0	
Risk orientation	Low	28	46.6	40	66.7	68	56.0	5.7 NS
	Medium	6	10.0	6	10.0	12	10.0	
	High	26	43.4	14	23.3	40	34.0	
	Total	60	100.0	60	100.0	120	100.0	

NS = Non significant

* Significant at 5% level of probability

** Significant at 1% level of probability

Table 20 : Correlation showing relationship between personel, socio-economic communication and psychological characteristics of respondents and their level of participation

Sl No.	Independent variables	G.O. beneficiaries	N.G.O. beneficiaries
		(n =60)	(n = 60)
		r value	r value
1	Age	-0.3416*	0.0897 NS
2	Education	0.7315**	0.6353**
3	Land holding	-0.228 NS	0.0194NS
4	Family size	-0.1968 NS	-0.0293NS
5	Annual income	0.0202 NS	0.2445NS
6	Extension contact	0.2549*	0.3209*
7	Mass media participation	0.4571**	0.3493**
8	Social participation	0.3995**	0.2702**
9	Farming experience	-0.3138*	0.1754 NS
10	Awareness	0.5405**	0.6213**
11	Risk orientation	0.0405 NS	0.1776 NS
12	Personal benefits obtained	0.3122**	0.4991**

* Significant at 0.05 probability level

** Significant at 0.01 probability level

NS = Nonsignificant

efficient and findings are incorporated in Table-20. The Table shows that eight out of 12 variables had significant relationship with the participation level among the GO Watershed Development Programme beneficiaries. They are age, education, extension contact, mass media participation, social participation, farming experience, awareness about the programme and personal benefits obtained. The other variables viz; land holding, family size, annual income and risk orientation had non-significant relationship with the participation. While the variables like age and farming experience had negative and significant relationship at 0.05 level of probability. The other variables had positive and significant relationship at 0.01 level of probability, except extension contact and personal benefits obtained, which has positive and significant relation at 0.05 level of probability with extent of participation.

In respect of beneficiaries of Non-Governmental Organization watershed development programme, five out of twelve variables namely education, mass media participation, social participation, awareness about the programme and personal benefits obtained had significant relationship at 0.01 level of probability, where as extension contact showed significant relationship at 0.05 level of probability. Other variables had non-significant relationship with the dependant variable extent of participation.

4.6.2 Multiple regression analysis of independent variables with the extent of participation.

In order to find as to which of the independent variable explain the variation in the level of participation of beneficiaries and also the extent of contribution made by these variables. Multiple regression analysis were applied the results are included in Table –21 and Table –22

The critical review of results presented in Table- 21 indicate a combined contribution of 68.92 per cent by all the 12 independent variables towards extent of participation of Government organization beneficiaries. The “F” value was

Table 21 : Multiple regression analysis of independent variables with the extent of participation of beneficiaries of GO organized watershed

Sl No.	Independent variables	GO beneficiaries	
		Regression coefficient	t value
1	Age	0.0233	0.0904
2	Education	2.8621	4.1641**
3	Land holding	0.7300	0.5072
4	Family size	0.4965	0.2053
5	Annual income	0.0935	0.2681
6	Extension contact	1.4567	0.4744
7	Mass media participation	0.5041	-0.4002
8	Social participation	0.9461	1.658
9	Farming experience	0.2820	1.2464
10	Awareness	0.7062	0.9043
11	Risk orientation	1.6532	0.7125
12	Personal benefits obtained	1.9132	2.0190*

NS = Non significant

* Significant at 0.05 probability level

** Significant at 0.01 probability level

R^2 = 68.92 per cent

F = 6.81

Table 22 : Multiple regression analysis of independent variables with the extent of participation of beneficiaries of NGO organized watershed

SI No.	Independent variables	NGO beneficiaries	
		Regression coefficient	t value
1	Age	0.0104	-0.1376
2	Education	0.6093	2.5457**
3	Land holding	1.2011	1.8753
4	Family size	0.6536	1.0321
5	Annual income	0.0153	0.4889
6	Extension contact	0.1708	0.8515
7	Mass media participation	-0.4196	-1.2419
8	Social participation	0.0286	0.1762
9	Farming experience	0.0708	0.9907
10	Awareness	0.4106	0.9184
11	Risk orientation	-1.0782	2.3024*
12	Personal benefits obtained	0.9028	2.601**

$R^2 = 66.12\%$

$F = 5.86$

* Significant at 0.05 probability level

** Highly significant at 0.01 probability level

NS = Non significant

found to be significant at 0.01 level. This means that there exists a linear functional relation between dependent variable and Independent variables. Among 12 variables like education and personal benefits obtained had significant contribution. Their individual effect on extent of participation could be explained by an unit increase in education and personal benefits obtained would increase the level of participation by 4.1641 and 2.0190 units respectively. This indicates that farmers with high education and personal benefits had high extent of participation.

With respect to NGO Watershed Development Programme the Table-22 reveal that all the variables together contributed 66.12 per cent ($R = 0.6612$) variation in participation. The “F” test was found to be significant at 0.01 level. Among the independent variables, education and personal benefits obtained have positive and significant contribution, while risk orientation has negative, but significant contribution towards participation. This indicated that keeping all other factors constant an unit increase in education and personal benefits obtained would increase the participation by 2.5457 and 2.6010 units respectively and unit increase in risk orientation would decrease the participation by 2.3024 unit.

4.7 Perceived problems of beneficiaries in participation in Watershed Development Programme

It was evident from the Table -23, that more than two-thirds of the (80per cent) of the GO watershed beneficiaries expressed that lack of knowledge about the programme as their constraint. This was followed by uneven distribution of incentives (68.3per cent) supply of poor quality of materials and inputs (66.6 per cent) and poor quality work (63.3per cent). Groupism and politics (60per cent) were also expressed as major obstacles in participation. More than half of the farmers (55per cent) of the farmers expressed lack of free time to participate in watershed programme. unfavourable attitude of the extension personnel (51.6per cent) followed by lack of resources (46.6per cent),

Table 23 : Percieved problems of beneficiaries in participation of watershed development programme

SI No.	Problems	GO watershed (N= 60)			NGO watershed (N= 60)		
		Number	Per cent	Rank	Number	Per cent	Rank
1	Lack of knowledge	48	80.0	I	36	60.0	I
2	Un even distribution of incentives	41	68.3	II	14	23.3	VI
3	Supply of poor quality materials and inputs	40	66.6	III	16	26.6	IV
4	Poor quality of work	38	63.3	IV	18	30.0	III
5	Groupism and politics	36	60.0	V	15	25.0	V
6	Lack of free time to participate in watershed activities	33	55.0	VI	4	6.6	XIII
7	Unfavourable attitude of extension personnel	31	51.6	VII	10	16.6	IX
8	Lack of resources	28	46.6	VIII	13	21.6	VII
9	Lack of initiative and motivation from the implementing agencies	26	43.3	IX	8	13.3	X
10	Lack of interest	21	35.0	X	12	20.0	VIII
11	Lack of motivation from the village leaders	20	33.3	XI	25	41.6	II
12	Improper locations of soil and water conservation structures	17	28.3	XII	6	10.0	XI
13	Not concerned to local needs	15	25.0	XIII	5	8.3	XII

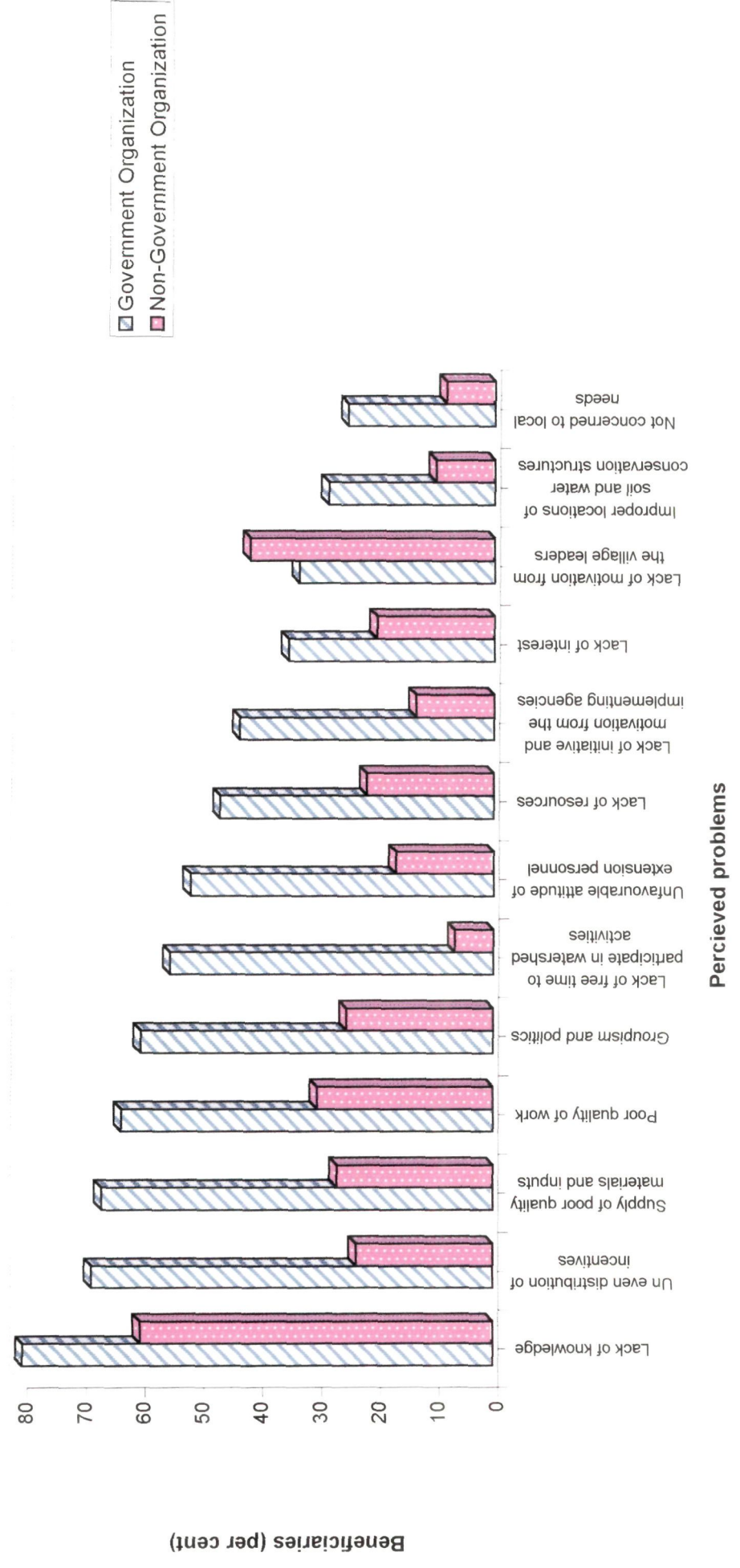


Fig. 6 : Percieved problems of beneficiaries of GO and NGO watershed in participation

lack of initiative and motivation from the implementing agencies (43.3 per cent) as their main constraints. The other constraints responsible for hindering the participation of beneficiaries in Watershed Development programme are lack of interest, lack of motivation from the village leaders, improper locations of soil and water conservation structure and the programmes are not concerned to local needs.

With respect to NGO beneficiaries as high as 60 per cent of the respondents expressed that lack of knowledge about the programme followed by lack of motivation from the village leaders (41.6 per cent). 30 per cent of the beneficiaries expressed poor quality of work as their main constraint in participation in watershed development programme. supply of poor quality materials and inputs, groupism and politics were expressed by 26.6 per cent and 25.0 per cent of beneficiaries expressed as their problems. The other problems expressed by beneficiaries are uneven distribution of incentives (23.3 per cent) lack of resources (21.6 per cent), lack of interest (20 per cent) unfavourable attitude of extension personnel (16.6 per cent) followed by lack of initiative and motivation from the implementing agency improper locations of soil and water conservation structures, programmes are not concerned to local needs and lack of free time to participate in watershed activities are the problems faced by the beneficiaries of NGO implemented watershed programme.

4.8 Suggestions of beneficiaries to improve participation in Watershed Development programme:-

From the Table-24, it could be observed that 83 per cent of the watershed respondents suggested to conduct more educational activities followed by create awareness (80 per cent) and involve the villagers in the planning with the percentage of 75 and 71.6 per cent of respondents suggested equal benefits sharing among the beneficiaries and equal importance to be given to all members (68.3 per cent). On the other hand 66.6 per cent respondents suggested for providing inputs at free of costs, where as 58.3 per cent of beneficiaries

Table 24 : Suggestions of beneficiaries to improve participation in watershed development programme

Sl No.	Suggestions	GO watershed (N= 60)			NGO watershed (N= 60)		
		Number	Per cent	Rank	Number	Per cent	Rank
1	Conduct effective educational activities	50	83.0	I	45	75.0	II
2	Create awareness and interest on the planned programme	48	80.0	II	51	85.0	I
3	Involve the villagers in planning	45	75.0	III	38	63.3	V
4	Equal benefits sharing among the beneficiaries	43	71.6	IV	40	66.6	III
5	Equal importance given to all members	41	68.3	V	35	58.3	VI
6	Provide inputs at free of cost	40	66.6	VI	60	33.3	X
7	Increase the frequency visits of field staff	35	58.3	VII	39	65.0	IV
8	Involve local institutions and organizations in the programme	31	51.6	VIII	32	53.3	VII
9	Entire farm families should be covered at one time	24	40.0	IX	30	50.0	VIII
10	Inclusion of other income generating enterprises	15	25.0	X	20	41.6	IX

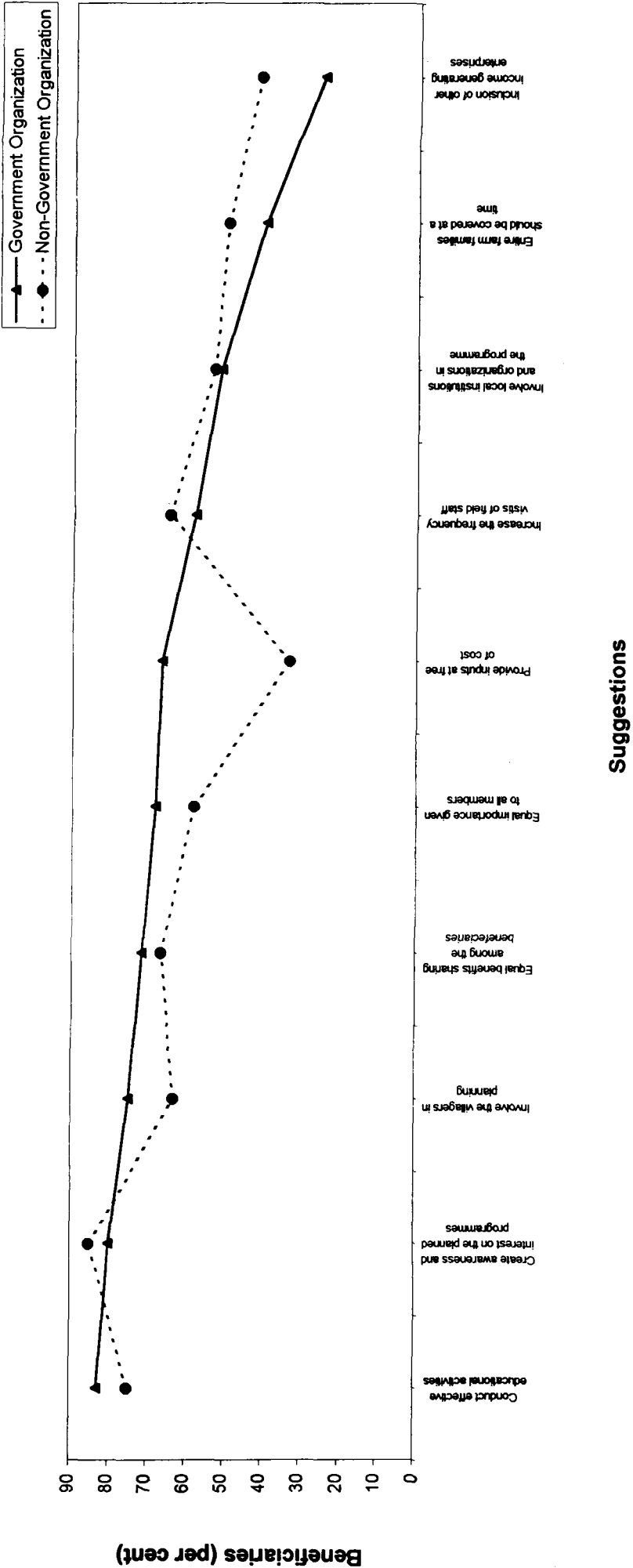


Fig. 7 : Suggestions of beneficiaries of GO and NGO watershed to improve the participation

demanding to increase the frequency of contact and 51.6 per cent given the suggestion of involve local institutions and organizations in the programme. Exactly 40 per cent and 20 per cent of beneficiaries suggested that entire farm families should be covered at on time and inclusion of other income generating enterprises.

More than 85 per cent of respondents of the NGO watershed suggested to create awareness and interest in the programme followed by conduct effective educational activities (75 per cent) and 66.6 per cent of respondents given the suggestion of equal benefits sharing among the beneficiaries. 65 per cent of farmers and 63.3 per cent of respondents suggested to involve the local villagers in the planning and increase the frequency visits of field staff respectively. This was followed by the suggestions like equal importance should be given to all members followed by involve local institutions and organizations in the programme, provide inputs at free of costs, entire farm families should be covered at a time and inclusion of other income generating enterprises. Around one-third (33 per cent) of the farmers offered the suggestion of providing inputs at a free of cost.

DISCUSSION

V DISCUSSION

The results of the study are discussed under the following headings.

- 5.1 Extent of participation of beneficiaries in the watershed Development programme implemented by GO and NGO.
- 5.2 Comparison of Extent of Participation of beneficiaries in Watershed Development programme.
- 5.3 Participation of beneficiaries in different stages of watershed development programme implemented by GO and NGO.
- 5.4 Typology of participation of beneficiaries in different steps of Watershed development Programme.
- 5.5 Profile of the beneficiaries in terms of their Personal, Socio- economic, Communication and Psychological Characteristics.
- 5.6 Relationship between extent of participation and characteristics of farmers.
- 5.7 Perceived problems of beneficiaries in participating in Watershed Development Programme.
- 5.8 Suggestions of beneficiaries to improve participation in Watershed Development Programme.

5.1 Extent of participation of beneficiaries in Watershed Development Programme.

The data in Table-4 reveals that majority of the beneficiaries of NGO Watershed Development Programme had high level of participation (58.4 per cent) followed by low (26.6 per cent) and medium (15 per cent) level of

participation .A reverse trend was observed with respect to G.O Watershed beneficiaries. where majority of them shown low to medium level of participation (71.7 per cent) followed by high level of participation (28.3 per cent).On the whole, majority of the (43.3 per cent)beneficiaries possessed high level of participation followed by low and medium level of participation by 30.9 per cent and 25.8 per cent of the respondents respectively. Further, over all analysis results reveal that more than half of the beneficiaries (56.7 per cent) were found in low to medium level as against 43.3 per cent in high level of participation.

The results of the study are in conformity with the results Suresh (1995), Veluswamy and Manoharan (1998), Ramanna (1999) and Basavaraddi (1999) who reported that half of the farmers had medium level of participation in developmental activities. The Chi- square analysis was found to be significant at 0.01 level of probability indicating significant variation in extent of participation among beneficiaries of GO and NGO Watershed.

The possible reason may be attributed to the fact that, NGO Watershed Development Programme was developed based on farmer's felt needs and they involved farmers in planning and implementing stages and participatory methodology was used by them effectively compared to GO watershed. These findings are in conformity with the findings of Singh (1991), Singh (1994), Chander (1997) and Ramanna (1999) who reported that NGOs were better in ensuring people's participation than GO

5.2 Comparison of Extent of Participation of beneficiaries in Watershed Development Programme.

The Extent of participation of beneficiaries in Watershed Development Programme implemented by GO and NGO revealed from the Table-5 indicated that the beneficiaries participation in NGO Watershed Development was found to

be more with above the median value than GO implemented Watershed. The probable reason might be that NGO had developed the programmes based on felt needs and conducted the educational activities and need based training methods to the beneficiaries, so as to involved them in planning and implementation of the programme. Moreover they conduct participatory technique with beneficiaries compared to other watersheds. These findings are in conformity with the findings of Singh (1994), Chander (1996), Shashikumar (1998) and Ramanna (1999) who reported that NGOs were better in ensuring the peoples' participation in Development programme than Government Organizations.

5.3 Beneficiaries participation in different stages of Watershed Development Programme.

The extent of participation of beneficiaries in different stages of WDP implemented by GO and NGO are given in Table-6 to Table-13

From the results of Table-6 it was evident that more than two -thirds of the NGO beneficiaries (66.7 per cent) had high level of participation in Collection of facts in contrast with nearly two - thirds of GO beneficiaries (63.3 per cent), who had low level of participation. Similar trend was observed with respect to participation of GO and NGO beneficiaries in analysing the situation, where more than half of the GO beneficiaries (58.4 per cent) and more than three-fourth of the NGO beneficiaries (80 per cent) had low and high level of participation respectively.

In identifying the problem, more than three-fourth of the GO beneficiaries (86.6 per cent) exhibited low to medium level of participation as against 91.7 per cent of NGO beneficiaries, who projected medium to high level of participation.

Regarding deciding the objectives a large majority of the GO beneficiaries (70 per cent) possessed low level of participation compared to almost similar number of NGO beneficiaries (66.8 per cent) with high level of participation.

It could be seen from Table-10, that more than half of the GO beneficiaries (53.3 per cent) had low level of participation in developing a plan of work. On the contrary, 66.8 per cent of NGO beneficiaries had high level of participation in this step. In Execution of plan, 70 per cent GO beneficiaries exhibited low level of participation compared to 66.8 per cent of NGO beneficiaries.

Table-12 reveals the fact that majority of GO beneficiaries (71.6 per cent) had low level of participation in determining the progress as against (63.4 per cent) of NGO beneficiaries who possessed medium level of participation in this step.

It was interesting to quote that more than three-fourth of the GO beneficiaries (75 per cent) projected low level of participation in evaluation stage in comparison with the 66.8 per cent of NGO beneficiaries who had medium level of Participation.

It could be inferred from the results provided in Table-6 to Table -13 that on the whole, majority of the NGO beneficiaries had high level of participation in all the steps of Watershed development programme viz, collection of facts, analyzing the situation, identifying the problem, deciding on objective, developing plan of work, execution of plan, determining the progress and reconsideration with evaluation stage, except in determining the progress stage medium level of participation was observed compared to GO beneficiaries who had low level of participation in all the steps. The Chi-square test applied to the data in the above tables reveal significant variation in extent of participation of the beneficiaries between the two organizations. Intensive use of extension teaching methods,

participatory technique, planning based on felt needs, active involvement of beneficiaries, users group, Self-Help-Group and Watershed associations in planning and decision making in Watershed development programme might have influenced the NGO beneficiaries to have higher level of participation in various activities of programme in each step compared to GO watershed farmers. The results seeks support from the findings of Veluswamy and Manoharan (1998), who reported *similar trend of participation in different stages Women Programme* implemented by an NGO and Ramanna (1999), who observed similar trend of participation among the beneficiaries of GO and NGO implemented watershed.

5.4 Typology of participation of beneficiaries in different stages of Watershed Development Programme.

5.4.1 Typology of participation among GO beneficiaries

The different types of participation exhibited by the GO beneficiaries in different stages of WDP was provided in Table-14. It could be noted that in the collection of facts step majority of the farmers exhibited information giving and consultation type of participation. Similar trend was true with respect to the steps like analysing the situation, identifying the problem, and deciding the objectives. On the contrary, majority of the beneficiaries had functional and consultation type of participation with respect to other steps of Watershed development programme like developing the plan, execution of plan, determining the progress and reconsideration with evaluation.

It was surprising to note that around one-third of the beneficiaries did not participate in the different stages of Watershed Development Programme. The reason might be due to bureaucratic nature of the organization. The implementing agency might have not provided detailed information about the programme and not created awareness and motivated the farmers to participate in different

activities of watershed development programme. Further, the implementing agency might have not consulted the farmers or planned programme based on felt needs, either in planning or implementation of programme. For these reasons, farmers were not convinced and did not show any interest in the programme.

5.4.2 Typology of participation among NGO beneficiaries

From Table-15, it could be seen that information giving and consultation type of participation was evident with most of NGO beneficiaries in collection of fact steps. Functional and information giving type of participation was exhibited by most of the farmers in case of analysing the situation, identifying the problem and deciding on the objectives. Functional and consultation type of participation in developing plan, self - mobilization and information giving in evaluation of the programme was the type of participation observed with large number of beneficiaries.

To summarise, maximum percentage of farmers were observed in functional, information giving and consultation participation and very negligible percentage was observed in non-participation. The reason might be that NGO Watershed development established its familiarity, rapport and credibility among the farmers. It might have initiated programmes based on local needs and problems with better solutions, conducted more effective educational programmes and planned and implemented programmes with the beneficiaries which might have influenced towards higher type of participation.

5.4 Profile characteristics of beneficiaries in terms of their Personal, Socio-economic, Communication and Psychological Characteristics

The profile characteristics of beneficiaries of GO and NGO in terms of their personal, socio-economic, communication and psychological characteristics

were discussed in the following paragraphs and results are provided in Tables 16 to 20.

Age: From the results it was observed that equal percentage of beneficiaries (38.3 per cent) belonged to middle age in both GO and NGO Watershed followed young (38.3 per cent and 21.6 per cent), old age (23.4 per cent and 30 per cent) categories respectively. There was no variation between GO and NGO beneficiaries with respect to age. This implied that the organizations have identified and encouraged young and middle age farmers to take benefits of its programme. The present results are toeing inline with the findings reported by Shashikumar (1998) and Ramanna (1999)

Education: Results revealed that majority of the GO and NGO beneficiaries belonged to medium education category (35 percent and 41.6 per cent). Equal percent (28.4 percent) of beneficiaries of GO and NGO had high level of education. Chi- square test revealed non significant difference between GO and NGO beneficiaries with respect to education. This clearly indicated that most of the beneficiaries had high school education and hence their level of knowledge was not so appreciable. The beneficiaries with less schooling was due to the negligence of elders, economic conditions, requirement of men labor in their farm and the realization by the villagers that there is no scope for the graduate people in the present context. However, few beneficiaries had high education, because of the awareness of elders in family.

Family Size: The observed results revealed that more than half of the beneficiaries in general had medium sized families (54.1 per cent) while three-fourth of the GO beneficiaries (75 per cent) and half of the NGO beneficiaries in particular possessed medium and small sized families respectively. The results of the Chi- Square turned out to be significant, indicating variation among the beneficiaries with respect to family size. The probable reason could be that

majority of the beneficiaries possessing medium sized families (5-8 number), if there are more people in the family they can share various responsibilities of the family. So some individual in the family will get time to participate in such activities to know more about the things that they are interested. Most of the target beneficiaries of NGO are small and marginal farmers and hence they might have possessed small and medium family size. The above findings are in conformity with the findings of Shasikumar (1998) and Ramanna (1999).

Land Holding: The data pertaining to land holding in the Table-17 revealed that majority of the beneficiaries of GO are marginal farmers (35percent) followed by small (26 per cent), medium (21.8 per cent) and big (16.6 per cent). Similar trend was observed with NGO beneficiaries with 40 per cent, 20 per cent, 33.3 per cent and 6.7 per cent belonging to the above categories respectively. No difference between the GO and NGO beneficiaries with respect to land holding was evident from the results of Chi- Square test. This clearly indicated that both the organization selected all types target group. The selection of beneficiaries was also such that all four categories ie, small, medium, marginal and big land holdings were given due importance with special emphasis on marginal and small farmers. The results of Channamma (1994) supports the findings of the above study.

Annual Income: Majority of the farmers in general and beneficiaries of GO and NGO had medium level of annual income. The Chi- square analysis reveals that non- significant variation was found among the beneficiaries with respect to annual income. The possible reason that could be attributed was majority of the respondents family had marginal and small holdings, depend mainly on agriculture and also hold dry lands, which might have caused to obtain medium level of annual income. The findings are in line with the results of the Channamma (1994).

Social participation: The data in the same Table revealed that 50 per cent of GO beneficiaries had medium level of social participation followed by 36.6 per cent with low and 13.4 per cent with high level. Similar trend of social participation was true with the NGO beneficiaries with 36.6 per cent, 35 per cent and 28.4 per cent in the above categories respectively. Chi- square analysis projected a non-significant variation among the beneficiaries with respect to social participation. As majority of the beneficiaries are small and marginal farmers having low to medium level of education and annual income, they have neither time nor access to social activities. This might be the possible reason for low to medium level of social participation among the beneficiaries. The findings are in line with the findings of Basavaraddi (1999) and Ramanna(1999).

Extension contact: A Critical look at the Table –18, indicated that more than three-fourth of the GO beneficiaries (81.7 per cent) possessed medium extension contact compared to half of the NGO beneficiaries (55 per cent), who had low extension contact. The results of the Chi- square test turned out to be significant indicating difference between GO and NGO beneficiaries with respect to extension agency contact. The intensive educational activities undertaken by the G O while implementing Watershed Development Programme in the study area in addition to extension activities of other development departments, more frequent contact by extension agents might have influenced GO beneficiaries to participate more in extension activities. On the otherhand, less number of extension staff engaged in implementing Watershed Development Programme in NGO might have contributed for less contacts and sporadic attempts of extension activities organized by the NGO might be the possible reason for less extension participation by beneficiaries of NGO.

Mass media participation: The table further depicted that higher proportion of the GO beneficiaries had high mass media participation (51.6 per cent)

compared to 25 per cent of NGO beneficiaries. On the contrary, 53.4 per cent NGO respondents had medium mass media participation compared to GO respondents 16.8 per cent. There is a significant difference between GO and NGO farmers with regard to mass media exposure. It is quite obvious that majority of the GO beneficiaries having medium to high level of extension contact and participation stimulated the higher participation in mass media like radio, newspaper, television, magazines, etc. On the other hand, less number of contacts by the extension agency with NGO beneficiaries might have contributed for low to medium level of participation. This finding seeks support from results reported by Basavaraddi (1999) and Ramanna (1999).

Farming experience : It is obvious from the results given in Table-19, that 41.8percent of the GO beneficiaries had high experience in farming. While equal percentage of NGO beneficiaries (35 per cent) had low and medium level of farming experience. There was no significant variation between GO and NGO farmers with respect to this variable. Since the farmers were mostly under the age group of middle and old age higher farming experience is natural.

Awareness about the programme: Table-19 revealed that a large proportion of GO beneficiaries belong to high awareness group (55 per cent). Less percentage of NGO beneficiaries (43.3 per cent) belong to this group. There is significant difference between the GO and NGO beneficiaries about this aspect. Having large chunk of field extension workers and facilities and resources to conduct more number of educational activities, the GO was very successful in creating awareness about the Watershed Development Programme among its beneficiaries. Whereas less of this benefits with NGO had lagged behind in creating awareness among the beneficiaries about watershed development programme activities. Results of Siddeswaragouda (1998) supports the above findings of this study.

Risk orientation: It is observed from the same table that as high as 41.6 per cent of GO beneficiaries belong to low risk orientation category followed by high (43.4 per cent) and medium (10 per cent) categories. Same trend with respect to NGO respondents was true with 66.7 per cent, 23.3 per cent, and 10 per cent in each of the above categories. The results of the Chi-square test shown a non-significant difference between the groups. As majority of the beneficiaries belonged to lower rung of the socio-economic status having low education, low farm status, possessed low risk taking ability and thus exhibiting a high level of cautiousness. The results of Basavaraddi (1999) support the above finding.

Personal benefits obtained: A formidable majority of NGO beneficiaries belonged to high category (56.6 per cent) of personal benefits obtained followed by medium (33.4 per cent) and low (10 per cent) category. Surprisingly, a reverse trend was observed with GO beneficiaries indicating 41.6 per cent in low, 25 per cent medium and 33.4 per cent in high category. A highly significant variation between the beneficiaries was revealed by the Chi-Square test analysis. The need based programme, dedicated field staff, participatory approaches followed by the NGO might have resulted in more number of farmers in higher category of personal benefits. The findings are in line with the results of Abhasharma (2001).

5.6 Relationship between extent of participation and characteristics of farmers.

5.6.1 Zero-order correlation between personal, socio-economic, communication and psychological characteristics of beneficiaries and their level of participation

It has been clearly brought out by the results of zero order correlation that the variables education, extension contact, mass media participation, social participation, awareness about the programme and personal benefits obtained had

positive and significant relationship with participation level of GO and NGO beneficiaries. While the variables like age and farming experience exhibited negative and significant relationship with extent of participation. The other variables had no relationship with the dependent variable. In order to achieve brevity only the significant correlations alone are taken for further discussion.

Education: Education was found to have significant relationship with the participation level in watershed development programme. It is an accepted fact that higher the education greater would be the knowledge gained by the farmer. The better educated farmer will have more chances of exposing to different media and has the capacity of critically evaluating the programmes. This causes greater motivation to participate in the watershed development programme, when compared to illiterate farmers. The above findings are in line with the results of Anwar *et al* (1997), Shashikumar (1998) and Ramanna (1999).

Extension Contact: Extension contact of beneficiaries indicated a positive and significant relationship with their participation. Higher the beneficiaries contact with the extension agencies and their participation in different extension activities, more will be their contact with broad spectrum of new information, which create general interest in them and motivate them to participate in Watershed programme. Hence the positive and significant relationship between these two variables. These findings are inconformity with the findings reported by Shashikumar (1998) and Ramanna (1999).

Mass media participation: Mass media participation was found to have significant relationship with the dependant variable. The possible reason could be that, the respondents have access to reading news paper, magazine, listening to farm broadcast and viewing television programmes which might have helped them to acquire more information about the benefits of watershed development programme. The other reason might be that majority of respondents under the

study were substantially educated having higher level of extension contact and social participation, which might have acted as causal factor for this phenomenon. The findings are in agreement with the findings of Ajore and Singh (1997), Shashikumar (1998) and Ramanna (1999).

Social Participation: A significant relationship between social participation and participation level of farmer was observed from the results presented in Table-20. The Participation in social organization would enable the farmers to interact with other members and would lead to increased knowledge. This might have helped the farmers to participate effectively in watershed development programme. This view lends support to the findings of Nagaraj (1987), Suresh et al., (1993), Ajore And Singh (1997) and Ramanna (1999).

Awareness about the programme: It is seen from the Table-21 that the awareness about the programme influenced the farmers to participate in watershed development programme. It is quite natural that the higher the frequency of exposure to developments in farming in general and watershed technology in particular developed them the favorable attitude towards the programme and ultimately influenced them to participate in watershed development programme. The above findings are in confirmity with the findings of Siddeswaragouda (1988).

Personal benefits obtained: It could be noted that personnel benefits obtained as perceived by the respondents had positive and significant relationship with the extent of participation of GO beneficiaries. It is natural that when the expected private benefits from the collective action exceeds the expected private costs of participation and when there is an assurance that the expected benefit would accrue to the participants they will participate effectively. The findings of Abhasharma (2001) supports the above trend.

Age : This variable had significant and negative relationship with the participation level of beneficiaries of GO watershed. This indicated that young farmer exhibited more participation, which decreases significantly with the increase in age of farmers. The reason attributed to this is the very qualities of youth, that they are more enthusiastic and receptive to modern technologies and also due to pressure imposed by family and occupational responsibilities with the advance in age may narrow down the interest as well as the time of the farmers, which in turn reduces their degree of participation.

Farming Experience: It was observed that the variable farming experience had significant and negative relationship with extent of participation. The reason which could be attributed to the fact that most of the respondents belong to low and medium categories of farming experience groups.

5.6.2 Multiple regression analysis of personal, socio- economic, communication and psychological characteristics of farmers with their extent of participation

An inference that could be spontaneously drawn from table-21, that only two variables namely education and personal benefits obtained were found to have significant contribution towards dependant variable extent of participation as observed in Government organization watershed programme. This suggest that generally the farmers with high education and obtained high personal benefits had better participation in watershed development programme. The Co- efficient of multiple determination (R^2) revealed that the contribution of all 12 independent variables together explain the variation of 68.92 per cent in extent of participation.

A conclusion drawn from the Table-22 With respect to beneficiaries of NGO watershed development programme is that education, risk –orientation and personal benefits obtained were found to have significant contribution among the

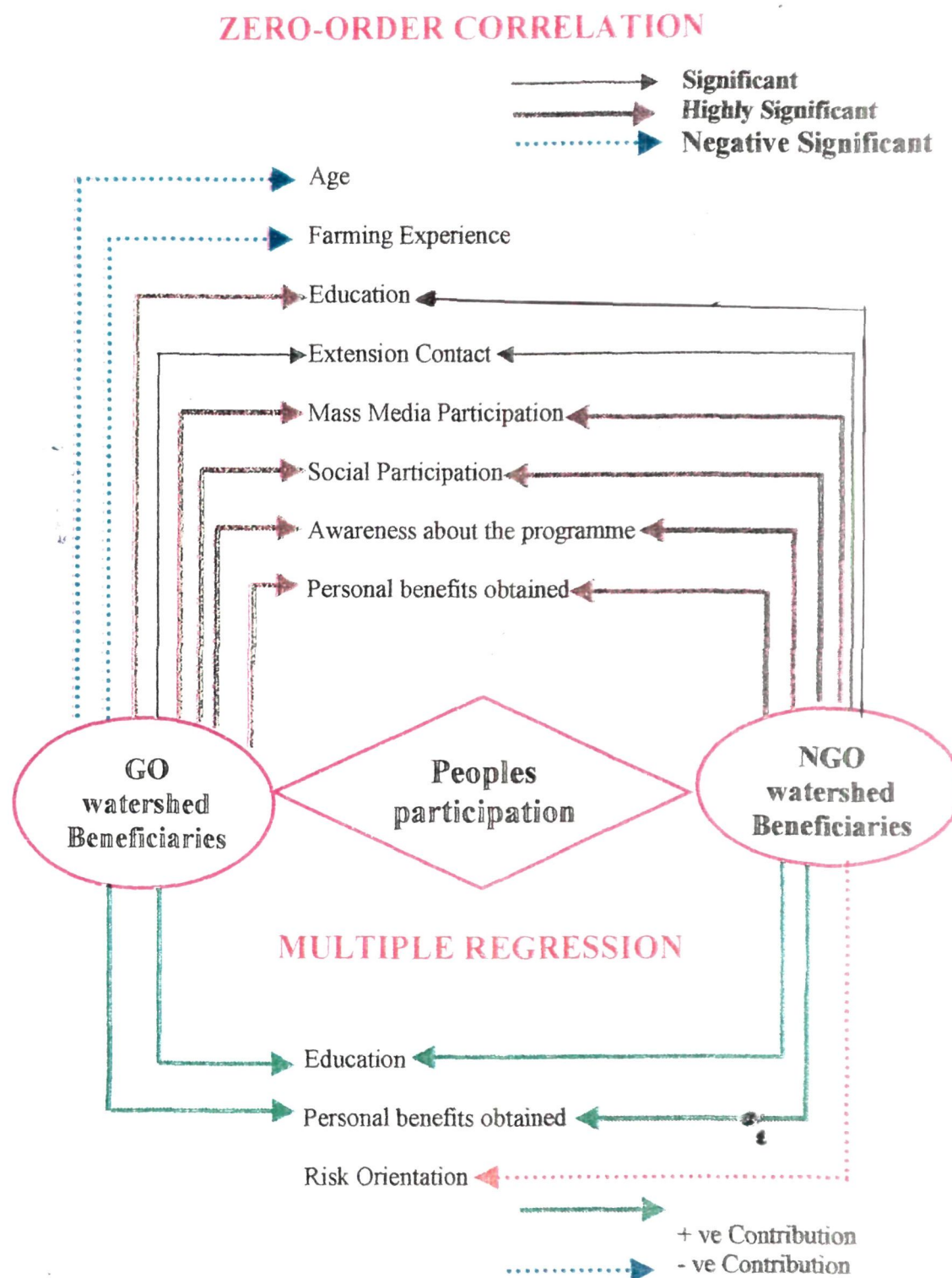


Fig. 8 : Emperical model indicating the relationship between extent of participation with their personal, socio-economic, communication and psychological characteristics.

12 independent variables. The education and personal benefits obtained were found to have positive and significant contribution, while the variable risk orientation was found to have significant but, negative contribution towards the extent of participation. This suggested that generally the farmers with high education and obtained higher personal benefits obtained had better extent of participation compared to others. The co-efficient of multiple determination (R^2) revealed that the combined contribution of all the 12 independent variables put together explained the variation of 66.12 per cent in extent of participation in watershed development programme implemented by NGO.

From the above we conclude that education and personal benefits obtained were the influential factors in predicting the extent of participation in watershed development programme of Government and Non- Government Organization.

5.7 Perceived problems of beneficiaries in participation in Watershed Development programme.

It was evident from the Table-23 that more than two – thirds (80 per cent) of the GO watershed beneficiaries expressed lack of knowledge about the watershed development programme as their constraint followed by un even distribution of incentives, supply of poor quality materials and inputs. More than half of the beneficiaries expressed poor quality of work (63.3 per cent), Groupism and politics (60 per cent), lack of free time to participate in watershed activities (55 per cent) and un favorable attitude of extension personnel (51.6 per cent) as major obstracles in participation. The similar findings were reported by Nandakumar (1988) and Ramanna (1999). The other constraints responsible for abstaining the participation of beneficiaries in Watershed programme are lack of resources, lack of initiative and motivation from the implementing agency, lack of interest, lack of motivation from the village leaders and improper location of soil

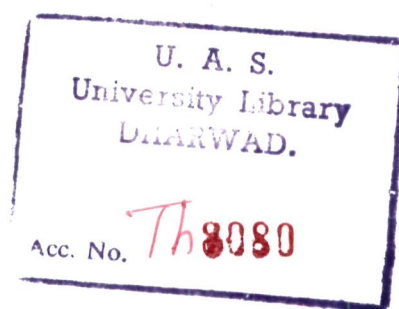
and water conservation structure. The results are reported by Ramanna (1999) support the above finding.

With respect to NGO beneficiaries as high as 60 percent of the respondents perceived that lack of knowledge about the programme as their major problem followed by lack of motivation from the village leaders (41.6 per cent) poor quality of work (30 per cent) and supply of poor quality materials and inputs (26.6 per cent). The beneficiaries also expressed Groupism and politics (25 per cent), uneven distribution of incentives (23.3 per cent), lack of resources (21.6 per cent) as their major problems in hindered their participation. The other problems faced by the beneficiaries are lack of interest, unfavourable attitude of extension personnel, lack of initiative and motivation from the implementing agency. A few number of beneficiaries perceived other constraints like improper locations of soil and water conservation structures and not concerned to local needs. The results of the above findings seeks support from the findings of Ramanna (1999).

5.8 Suggestions from beneficiaries to improve participation in Watershed Development programme

From a close look on table-24. It could be observed that 83 percent of the G.O. beneficiaries suggested to conduct more effective educational activities. More than half of the respondents suggested to create awareness and interest (80 per cent), involve the villagers in the planning (75.0 per cent), equal benefits sharing among the beneficiaries (71.6 per cent) equal importance given to all members (68.3 per cent), providing inputs at free of costs (66.6 per cent), increase the frequency visits of field staff (58.3 per cent) and to involve local institutions and organizations in the programme (51.6 per cent). A few beneficiaries suggested that entire farm families should be covered at a time and inclusion of other income generating enterprises.

From the same table it was observed that a large number of respondents of NGO watershed (85 per cent) suggested to create awareness and interest on the planned programme followed by conduct effective educational activities. More than half of the respondents given the suggestions like equal benefits sharing among the beneficiaries, increase the frequency visits of field staff, involve the villagers in planning, equal importance given to all members and involve local institutions and organizations in the programme. Exactly 50 per cent of respondents suggested that entire farm families should be covered at a time. Inclusion of other income generations enterprises suggested by 41.6 per cent followed by 33.3 per cent respondents suggested providing inputs at free of cost.



SUMMARY

VI. SUMMARY

Participation is a continuous educative process. It has been long argued that people's participation is essential for the success of rural development programmes. Peoples participation should be encouraged owing to that fact that people in the villages know their needs. At the same time, it has been seen that non-involvement of people in the development programme is also great concern and challenge to rural development. No programmes can be success without the involvement of the people. Peoples participation means that the policies and programmes of a plan should enlist not only the support of masses, but also their whole-hearted participation at all stages of programme planning and implementation. More recently, government programmes have also increased the scope for participation in watershed planning and management. In India Integrated Watershed Development Programme has been adopted as a tool for holistic development of rainfed farming. Resource Conservation and development is the main aim of Watershed development. The Watershed development programme is being implemented both by Government and Non-government organizations by incurring lot of expenditure. Money flows to a project implementing agency either Government or Non-government organization, which works closely with a village level body- a watershed committee to design and implement projects. Evidence suggests that there is variation in the peoples' participation level among Government and Non-Government Organizations. In this back drop, realizing the importance of participation of beneficiaries in the watershed development programme, the present study has been designed with the following specific objectives.

OBJECTIVES :

1. To assess the extent of participation of beneficiaries in the watershed development programme implemented by GO and NGO.
2. To study the types of participation of beneficiaries in the watershed development programme implemented by GO and NGO.

3. To know the personal, socio-economic, communication and psychological characteristics of beneficiaries
4. To find out the relationship between extent of participation and socio-economic characteristics of beneficiaries.
5. To identify the problems in participation as perceived by the beneficiaries of watershed development programme and
6. To elicit the suggestions of beneficiaries for effective participation in watershed development programme

The study was conducted in purposively selected Eastern Dry-zone of Karnataka state. For the purpose of comparison two watersheds one implemented by GO-Kalyanakere Mavathure and another implemented by the NGO-Kamasamudram (MYRADA) were purposively selected for the study. Four micro-watershed were selected in each watershed on random basis. proportionate random sampling method was employed to select 60 beneficiaries in each watershed spread over four micro-watershed. Thus the total sample size constituted 120 beneficiaries. The data were collected through personal interview method using pre- tested structured interview schedule. The obtained data were tabulated, analysed and interpreted using appropriate statistical measures. The summary of the salient findings is presented below

The important findings of the study were the following

Findings

1. Majority of the beneficiaries (36.7 per cent) of watershed development programme implemented by GO had medium level of participation as against NGO beneficiaries (15 per cent). On the contrary majority of the beneficiaries (58.4 per cent) of NGO exhibited high level of participation compared to 28.3 per cent of Go beneficiaries.

2. Significant variation in distribution of respondents was observed among the groups of watersheds. The Median test indicated that more number of NGO beneficiaries were found in above median (85 per cent) category compared to GO beneficiaries, who were found in below median category (88.3 per cent).
3. Majority of the NGO beneficiaries had high level of participation in the watershed development programme planning steps viz; collection of facts (66.7 per cent), analyzing the situation (80 per cent), identifying the problem (78.3 per cent), deciding objectives (68.8 per cent), developing a plan of work (66.8 per cent) and execution of plan (66.8 per cent) and medium level of participation was observed in determining the progress (63.4 per cent) and Reconsideration with evaluation (66.8 per cent).
4. A large proportion of GO beneficiaries were found in low category of participation in the steps viz; collection of facts (66.3 per cent), analyzing the situation (58.4 per cent), deciding on objective (70 per cent), developing a plan of work (53.3 per cent), execution of plan (70 per cent), determining the progress (71.6 per cent) and Reconsideration with evaluation (75 per cent) whereas medium category was found in identifying the problem (50 per cent).
5. The Chi-square test applied to the data on the above aspect was found to be highly significant indicating significant variation in the extent of participation of beneficiaries of GO and NGO.
6. With respect to the type of participation by the beneficiaries in different steps of watershed development programme implemented by GO, majority of beneficiaries exhibited information giving type of participation in collection of facts, identifying the problem and developing plan of work. Consultation type of participation was observed with analyzing the situation, deciding on objective, execution of plan of work and Reconsideration with evaluation steps. While functional type of participation was exhibited by a large

majority of the farmers in developing plan of work. Nearly one-fourth of the beneficiaries did not participate in any stage of watershed development programme.

7. Among the NGO beneficiaries, majority of them expressed functional type of participation in the steps viz; analyzing the situation, identifying the problem, deciding the objective, developing plan of work and determining the progress. Consultation type of participation was evident with execution of plan and Reconsideration with evaluation stage. Information giving participation was true with collection of facts stage.
8. The personal characteristics of respondents revealed that majority of the GO respondents belonged to young and middle age group (77.6 per cent), Low to medium (71.6 per cent) level of education and had medium sized families (75 per cent). On the otherhand, most of the NGO beneficiaries were found in middle age (38.3 per cent), medium level of education (41.6 per cent) and small sized families (50 per cent).
9. The socio- economic characteristics of respondents in both the organizations revealed that, majority of the respondents were found in marginal and small holding category, low to medium annual income group and low to medium level of social participation.
10. Majority of the GO respondents belonged to medium extension contact category (81.7 per cent) and high mass media participation (51.6 per cent) compared to 55 per cent of extension contact and 53.4 per cent of mass media participation category group of NGO beneficiaries.
11. With respect to psychological characteristics, it was observed that majority of the GO beneficiaries had high level of farming experience (41.8 per cent), low category of personal benefits obtained (41.6 per cent), high risk-orientation (43.4 per cent) and high awareness group (55 per cent). On the otherhand, majority of NGO beneficiaries belonged to low to medium level

of farming experience (34 and 43 per cent), high personal benefits obtained (56.6 per cent), low risk orientation (66.7 per cent) and low awareness (43.3 per cent) group.

12. There was positive and significant relationship between extent of participation and personal, socio-economic, communication and psychological characteristics of GO beneficiaries with respect to education, extension contact, mass media participation, social participation, awareness about the programme and personal benefits obtained. On the otherhand, age and farming experience had negatively significant relationship with extent of participation.
13. Regarding NGO beneficiaries, the variables like education, extension contact, mass media participation, social participation, awareness about the programme and personal benefits obtained had positive and significant relationship with their extent of participation.
14. The multiple regression analysis indicated that a total of 68.92 per cent variation was accounted by all the 12 independent variables with respect to extent of participation of GO beneficiaries, among them significant contribution was made by education and personal benefits obtained.
15. All the selected independent variables put together explained 66.12 per cent variation in the participation level of NGO beneficiaries. out of which education and personal benefits obtained had positive and significant contribution, while risk- orientation exhibited negative and significant contribution towards extent of participation.
16. Majority of GO and NGO beneficiaries expressed lack of knowledge (80 and 60 per cent) as the major constraint in participation of watershed development programme. The second major problem expressed was uneven distribution of incentives by GO and lack of motivation from the village leaders by NGO beneficiaries. This was followed by supply of poor quality materials and inputs and poor quality of work.

17. Most of the respondents of GO and NGO suggested to conduct effective educational activities (83 per cent and 85 per cent) and create awareness (85 per cent and 75 per cent). The other major suggestions were, involving villagers in planning, equal benefit sharing among the beneficiaries, increasing the frequency of visits of field staff and providing inputs at free of cost.

Implications and recommendations

The following implications and suggestions emerge based on the findings of the study.

1. Peoples' participation has turned out to be a key success in all developmental exercises and holds similar grounds in case of watershed development. It is essential to see that peoples participation should be ensured to highest order in any of the programmes organized by the agencies, be it Government or Non-government. But, clientele participation in the programme should be an integral part of the programme.
2. The investigation covering the comparative analysis of peoples participation reveals the extent of weakness in the Government Organisation ensuring people's participation. There is need to closely monitor and assist this mode of development at gross root level through well coordinated efforts at regional and local levels by taking confidence of people.
3. The findings implied that there is remarkable changes seen in the roles and responsibilities of those involved in watershed development with wide difference in the level of staffing, skills, experience and commitment of implementing agencies their mode of differs in general and more so in Non-governmental organizations. There is, there fore, a need to make better use of relative strengths of Government and Non-Government Organizations with the co-operative efforts of these organizations could see

the better results through supplement and compliment with each other for mutual benefits of technical and physical support.

4. The typology of participation exhibited by the beneficiaries of Government Organization is highly inadequate. This is not surprising given the entrenched bureaucratic ethos existed in the social structure. The bureaucracy especially at the bottom levels has to undergo transformation towards the motivational and attitudinal changes. This can be enable the people wholeheartedly in the task of empowering people by delegating authority.
5. The sustainability of watershed development depends on capacity building through training at various levels. There is need to undertake the tasks like awareness building, development of technical skills and re-orientating motivationals and attitudes of officials and political functionaries at all levels towards the need for empowering the people through decentralisation.
6. The findings of the study have clearly emphasized the importance of education, extension contact, mass media participation, social participation, awareness about the programme and personal benefits obtained by the beneficiaries in ensuring people's participation. This implies that these variables had significant contribution for the participation of beneficiaries in Watershed Development Programme. The Government and Non-Government Organizations need to give more importance to these factors while planning strategies for peoples participation.
7. Lack of knowledge about the programme was perceived as one of the serious constraints by the beneficiaries organizing effective need based educational activities involving the methods like training, discussion, field days and field visits are very essentials for acquiring knowledge on the programme.

8. Education, extension contact and mass media participation have greatly influenced the participation level of beneficiaries. Mass media educates and provide the knowledge of developmental programmes, which eventually make the beneficiaries to take positive steps for adoption of practices. Therefore, it is important that there is a need to provide useful and necessary information through mass media like radio, television, publications etc., can enhance the participation level of farmers in watershed programme towards productive activities.
9. The main stakeholders in the watershed development process include Government agencies, NGOs, private and banking sectors, political institutions and communities. Partnership between the concerned agencies need to be structured with each other for playing an effective role according to its comparative advantages

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APPENDIX

APPENDIX-I

Peoples' Participation in Watershed Development Programme Implemented by Government And Non-Government Organisation—A Comparative AnalysisS

Interview schedule

Part-I

1. General information

1. Name of the farmer :
2. Age :
3. Village :
4. Taluk :
5. Educational level :
Illiterate.....
Formal schooling upto.....

6. Land holding :

Type of land : Area (Acres)

Dry land :

Wet land :

Garden land :

Total :

7. Family size

Men :

Women :

Children :

Total :

8. Family income (Rs)

Source (Rs)

1. Agriculture
2. Business.....
3. Subsidiary occupation
9. Extension contact

Frequency of contact					
Sl No.	Extension personnel	Once in a week	Once in a month	Occasionally	Never
1.	Agricultural Assistant /A.A/A.O				
2.	A.H.O				
3.	A.D.H.				
4.	Sr. A.D.H.				
5.	Extension guide				
6.	Officials of watershed program and NGO				
7.	Any others (specify)				

10. Mass media participation

Sl No.	Media	Frequency of use		
		Regularly	Occasionally	Never
1.	News paper reading			
2.	Radio listening			
3.	Reading farm			
4.	Watching Agril. Prog. in T.V.			
5.	Other Farm publications (specify)			

11. Social participation

Sl No.	Name of the institution	Frequency of participation				
		Member	Officer bearer	Regularly	Occasionally	Never
1.	Grama panchayath					
2.	Milk producers co-op-society					
3.	Vyavasaya seva sahakara sangha					
4.	Youth club					
5.	Mahila mandal					
6.	Land development Bank					
7.	Zilla parishad					
8.	Watershed sangha					
9.	Others (specify)					

12. Farming experience

- a) In Agriculture..... (years)
b) Watershed..... (years)

13. Awareness about the Watershed programme

- a) Name of the Watershed.....
b) Year of start (c) Area :
d) Objective of the Watershed :

1

2

3

- e) Who is approaching :

- f) Financial allocation :

14. Risk Orientation :

Sl No.	Statement	Agree	Disagree	Undecided
1.	A farmer should take more number of Chances to make big profit than to be content with smaller but less risky profit			
2.	A farmer should grow tree crops to avoid greater risk involved to growing food			
3.	A farmers who is willing to take risk than the average usually does better financially			
4.	It is good for a farmer to take risk when he know his chance of success is fairly high			
5.	It is better for a farmer not to try new farming method unless most other farmers have used with it success			
6.	Trying entirely a new method in farming by a farmers involves risk but it is with			

15. Personal benefits obtained :

Items	Yes	No.	Remarks
Increase in family living condition			
Consluted by other farmer for Agril. Purpose			
Increased income over previous year			
Increased number of out side contacts			
Increased organizational participation			
Leisure time of family members was properly utilized			
Material possession increased			
Increased savings			
Became possible to avail govt. subsidy/loan.			

II. Specific information

Indicate your type and extent of participation in the following watershed development activities

A. Collection of facts

- ### B. Analysis the situation

- ### C. Identifying the problems

- ### D. Decide on objectives

- ### E. Develop a plan of work

- | 1. In deciding on different cropping systems for both arable and non arable area | FP | PP | NP |
|--|----|----|----|
|--|----|----|----|

- 2. In determining locations for construction of various soil and moisture conservation structure.
- 3. In constitution of village watershed management committees or sanghas.
- 4. In identification of different types employment generating opportunities

F. Execution of plan.

- 1. In introduction of new crop verities FP PP NP
- 2. Strengthening of existing bunds.
- 3. During the time of opening Decision regarding the availability of main resources
- 4. Selection and planting of forestry species for community land.
- 5. In maintenance, restoration and development of assets in community lands

G. Determine the progress

- 1. In evaluating the effectiveness and impact of different FP components of programme both in terms of qualitatively PP NP
- 2. In assessing the causes of failure or success of programme.
- 3. Dissemination of success to the other farmers
- 4. Participation in field days in other farmers

H. Reconsideration with evaluation in each step FP PP NP

- 1. In identification of deficiencies in planning and implementation of overall programme
- 2. In providing opinion and suggestions about the programme
- 3. Observation in the results of other farmers
- 4. Discussion with officials and Analyse for further success.

I. Problems encountered by beneficiaries

1. Lack of knowledge about watershed activities	Yes/ No
2. Un even distribution of incentives	
3. Supply of poor quality materials and inputs	
4. Poor quality of work	
5. Groupism and politics	
6. Lack of free time to participate in watershed activities	
7. Unfavouravble attitude of extension personnel	
8. Lack of resources	
9. Lack of initiative and motivation from the implementing agencies	
10. Lack of interest	
11. Lack of motivation from the village leaders	
12. Improper locations of soil and water conservation structures	
13. Not concerned to local needs	