

### **Farmer Participation in Agricultural Development in Nepal: A Case Study**

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#### **Abstract**

This study examined the government's aims in promoting farmer participation in Nepal and analyzed the experiences of farmers in an agricultural development program. Findings suggest that government policy stresses close coordination among research, extension and farmers but in practice farmers' needs and priorities were not considered in program design. Extension staff directed farmer participation in the program mainly to generate the data for program reporting, while farmers often participated mainly for the 'incentives' offered. There is a need for strong interaction and coordination between participatory practitioners and farmers on setting the aims and type of participation in agricultural development.

#### **Introduction**

Over the past 25 years, there has been a growing realization in Nepal that advanced technology and large scale development projects in rural areas are not always a panacea for improving welfare. The shift towards a view that the crucial components of success in achieving development goals are decentralization, bottom-up planning and people's participation has led extension agencies to promote various participatory approaches to agricultural development.

The Nepali Government introduced the 'Participatory Bottom-up Planning' approach to agricultural development in 2000. In this approach, there is a collaborative involvement of service receivers and the service delivery agencies in planning and implementing extension programs (DOA, 2000). According to Keeling (2001), a key Nepalese development strategy since the 1990s has been to involve local communities in development programs. Pratt (2001) reported that the Nepali Government is favoring participatory approaches in all written documents, but in practice a bureaucratic working style still exists in many places. In 2000, Vokes contended that Nepali policy makers have remained dominated by conventional approaches to agricultural development and planning and that agricultural production has been unable to keep pace with the rapid growth of population in the country.

Although the concept of participatory development attained high levels of official legitimacy in the international development community, gaps between participatory rhetoric and participatory practice remain (Gonsalves et al., 2005; Nelson & Wright, 1995). Development organizations seek to effectively apply participatory approaches but struggle with the implementation and institutionalization of these approaches into day-to-day practice (Thompson, 1995). To date, research into the effective institutionalization of community participation in rural development has been limited (Buchy et al., 2002). As extension practitioners seek to institute participatory practices, there remains a crucial need for research that identifies factors contributing to successful or unsuccessful implementation of participatory practices (Chambers, 1994).

This study attempted to improve understanding about types and levels of participation in agricultural development in Nepal by exploring official policies, people's views and the experiences of participation, through a case study of Sustainable Soil Management Program (SSMP) in Sanga, Kavre district.

#### **Objectives of the Study**

The overall aim of this study was to understand the perceptions of "participation" held by the policy makers, government and agency staff, and farmers and the way that these perceptions are borne out in practice in the field. The specific objectives of the study were to:

1. Document the stated aims of government agencies (at national, department and program levels), in adopting a policy of participatory agricultural development.
2. Explore the nature and types of farmer participation in an agricultural development program.
3. Describe and analyze how government, agencies and farmers involved in the program (participants) and non-participants, perceived participation.

## Review of Literature

In supply-driven or top-down extension models, farmers do not necessarily share in the design of programs and are expected to adopt technologies promoted by the extension agencies (Webber & Ison, 1995). Criticisms of such 'top down' extension have led to the formulation of alternative models in extension. In the late 1970s, numerous participatory methodologies were developed and practiced. In some of these approaches, such as Rapid Rural Appraisal, the purpose of farmers' participation was limited mainly to providing information to researchers (Black, 2000). Others, such as 'Participatory Action Research' aimed to involve farmers with research and extension in identifying local needs, designing and implementing solutions and evaluating the impacts (Cornwall et al., 1993).

In participatory approaches to extension, beneficiaries influence the direction and execution of development projects (Samual, 1986). Participatory approaches involve people in the process of generating knowledge about their own condition and encourage them to take actions for social and economic change (Chambers, 1997). Authors have proposed typologies to show variation in how participation can occur in development programs. Arnstein's (1969) typology of participation is arranged in a ladder, each level reflecting different aims of the agencies for people's involvement in development. Pretty (1997) claimed that the term participation has been used widely, for such diverse purposes as justifying control by the state to building people's local capacity and self-reliance. The typology of participation developed for this study was adapted from Pretty (1997) and Arnstein (1969) (see Table 1).

Table 1: Typology of Citizen Participation in a Development Program

Agency's aim	Characteristics of participation
Self-management	Farmers take initiatives independently
Partnership	Stakeholders share planning and decision making
Delegated power	Citizens have some decision-making authority
Functional	Groups meet predetermined objectives of projects
Consulting	Citizens give views; no commitment to act on suggestions
Material incentive	People participate for food, cash, credit, etc.
Informing	Flow of information from agency to citizen, no feedback
Manipulative	Participation is simply pretence

(Adapted from Pretty, 1997 and Arnstein, 1969).

Table 1 depicts incremental steps representing the extent of citizen power in a program. At the top of the ladder is *self-mobilization*, where people take initiative largely independent of external situations. The lowest step is *manipulative participation*, where people are told what is to happen and act out predetermined roles. This ladder of participation (Table 1) was used as 'global assessment (GA) scale' (Dart et al., 1998 p.65) to characterise the types of participation expected and experienced in this case study (see Table 3). Dart et al. (1998) described a GA scale used to understand the degree of achievement that a group has obtained in the management of salinity problems in Australia. They stated that GA scales can also be used to monitor the progress of a group against the aim of an agricultural program.

Murray (2000) argued that the environment in which participatory extension programs and evaluation are practiced may include competing requirements (from the range of stakeholders) for outcomes. Chambers (1992) stated that outcomes of participatory approaches should focus on empowerment of the local people. Webber and Ison (1995) suggested inviting participants to reflect outcomes of participatory programs on their own understanding. According to Uphoff (1992), one of the concepts in evaluating participatory programs is 'participatory self-evaluation', where the participants monitor and evaluate their own progress and performance.

In spite of wider acknowledgement of their importance in development, participatory approaches have often been a matter of challenge for agencies favoring participation in development programs. Mayo & Rooke (2008) stated that participatory approaches are often criticized as overly time consuming processes in which discussions forestall speedy decision making and action implementation. The weaknesses of participation are traced to difficulties involved in obtaining consensus from stakeholders with varying backgrounds, skills, and interest levels.

This study was conducted in SSMP in Sanga, jointly implemented by District Agriculture Development Office (DADO), Kavre and SSMP (Lalitpur). The SSMP was a collaborative program between the Government of Nepal and the Government of Switzerland and was implemented in Kavre district in 1999. The guiding principle of SSMP was, “...participation and empowerment of the key actors (the farmers) to ensure ownership of the promoted sustainable soil management practices” (SSMP, Lalitpur, 1998 p.4) . The goal of the program was, “...to improve livelihoods of the people from the rain-fed Bari (up-land) dominated hill farming system” (SSMP, Lalitpur, 2002 p.1), because access to rice-based Khet (low lands) are characterized by a resources richer segment of the populations. In Sanga, SSMP was implemented through a “Sustainable Soil Management Farmer Group”.

## Methods

This research was conducted as a case study using mainly qualitative data. The case study involved data collection in policy offices in Katmandu and in Kavre district, and among a farmer group of the Sustainable Soil Management Program in Sanga (program participants) and also involved other farmers outside the program (non-participants). A total of 47 people were interviewed for this study (see Table 2) using semi-structured interviews (individual and focus groups). Selection of the respondents was purposive and based (1) on the criteria developed during the study, and (2) on the information provided by the extension staff from DADO, Kavre and the farmers from Sanga.

A mixture of methods was used for data collection and analysis. The main data collection techniques were individual interviews with national policy makers, central level government and SSMP (Lalitpur) staff, district agriculture extension staff, and farmers. Focus group discussions and in-depth interviews were held with participating and non-participating farmers in the SSMP. Data were also collected on the stated aims of farmer participation from government policy and program documents. Grounded theory (Glaser & Strauss, 1967) was a guiding concept in data collection and analysis.

The audio taped interviews were transcribed into Nepali script on word processor and then coded manually in English. During the coding process the interview text was analyzed line-by-line, to identify main concepts. These concepts were based on key words and phrases identified in the data. The abstracted concepts were analyzed and constantly compared with previous interviews. Similar concepts were grouped together to develop a core category or theme. A category is a theory that makes sense of what the informant has said (Strauss and Corbin, 1998).

Data from interviews and secondary sources were used to categorize aims of government policies and agency staff in promoting farmer participation, using a global scale of participation. This 'global assessment (GA) scale' (Table 3) was also used to characterise the types of participation experienced by participant farmers in this case study program and the type of participation desired by non-participants.

Table 2: Framework for Sampling among Participants of the Study (n = 47)

Participants	Types of Interviews	
	Focus group	Individual (in-depth)
1. SSMP participant farmers		
Male	6 members	2*
Female	7 members	2*
Mix	7 members	
2. SSMP non-participant farmers		
Male	7 members	2*
Female	6 members	
Mix	6 members	
3. Officials		
National Level		2
Central Level		2
SSMP (Central office, Lalitpur)		2
District Level		2

\*Individual interviews were conducted with farmers selected from focus group members

Table 2 shows that 39 farmers and 8 officials were interviewed for this study. Among the farmers interviewed for the study were 20 SSMP participants and 19 non- participants. Three focus group interviews were conducted with SSMP participants and three with non-participants. A total of fourteen individual interviews were conducted (4 with SSMP participants, 2 with non-participants and 8 with officials at various levels). Each focus group interview was held for about 2 hours and individual interviews for an hour. The average age of farmers was 41 years, ranging from 25 to 68 years. In this study, wherever it is reported as 'majority or many farmers', it represents the views expressed by the SSMP participant farmers in Sanga regarding their experience of participation in SSMP activities (for example, 16 out of 20 SSMP participants).

## Results

Objective 1 - Document the stated aims of government agencies in adopting a policy of participatory agricultural development.

The National policy document, the Tenth Plan (NPC, 2002) stated that the aims of farmer participation are to expand the opportunity for agricultural production for employment generation. The Participatory Bottom-up Planning document of the Department of Agriculture (DOA, 2000) aimed to involve farmers in planning programs for effective program implementation. The annual program document of the DADO, Kavre (2002) stated the aim as raising agricultural production and productivity for independent economic growth. And the goals of the field program (SSMP, Lalitpur, 1998) emphasized the empowerment of the key actors (the farmers) in the ownership of sustainable soil management practices.

Objective 2 - Explore the nature and types of farmer participation in an agricultural development program

The level of citizen participation in national agricultural development was mentioned in the Ninth Plan (1997-2002) which stresses strong co-ordination among research, extension, and farmers (NPC, 1998). The DOA (2000) proposed joint involvement of farmers and extension agents in carrying out agricultural development programs. The DADO, Kavre (2002) stated that farmers are the principal decision-makers in mobilizing resources according to their needs. SSMP (Lalitpur) (2002) defined the role of farmers as to implement sustainable soil management practices and the role of SSMP as to support farmers on their demand ('self-management' on the GA scale, Table 3).

The District Agriculture Development Officer, DADO, Kavre claimed that "...farmers are consulted in planning the program and both farmers and extension staff make joint decision on program design. The Agriculture Extension Officer, DADO, Kavre responsible to implement SSMP in Sanga stated that "...incentives such as, food and drinks, crop seeds, and a monetary allowance drastically raised the number of participants in the program. A senior SSMP (Lalitpur) staff said, "...in practice, extension staff decides where and how to implement the program and who will be the participants, and farmers follow the staff".

A majority of SSMP participants (16 out of 20) did not know details about the SSMP activities, and said, "...we do not know what the programs are, who formulates them, when they will be implemented and why. We participate in the program when extension staff invites us". Farmers participated in SSMP mainly because of a fear of losing their relationship with extension staff and hence future possible benefits. A participant said, "...we can't reject to participate in the program when invited otherwise extension staff may keep us from participating in future programs that can provide good incentives". The types of participation stated in the documents and experienced by the farmers in the field (Sanga, Kavre) are summarized in the GA scale in Table 3.

Table 3: Types of Participation on a GA Scale Derived from this Study

Category	Characteristics of participation	Statements, views or experiences from various sources in this study
8 Self-management	Farmers take initiatives independently	Farmers are the decision makers in resource mobilization and program implementation. <i>-DADO, Kavre (2002) &amp; SSMP, Lalitpur (2002)</i>
7 Partnership	Stakeholders share planning and decision making	Joint involvement of farmers and extension agencies in carrying out agricultural programs. <i>- Ninth Plan (1997) &amp; DOA (2000)</i>
6 Delegated power	Citizens have some decision-making authority	
5 Functional	Groups meet predetermined objectives of projects	
4 Consulting	Citizens give views; no commitment to act on suggestions	Extension staff asked for our views but our requests were seldom considered. <i>- stated by SSMP participants</i>
3 Material incentive	People participate for food, cash, credit, etc.	We participate in the programs with a fear of losing benefits and incentives. <i>- stated by SSMP participants</i>
2 Informing	Flow of information from agency to citizen, no feedback	We have always been guided to follow the instructions for our presumed benefits. <i>- stated by SSMP participants</i>
1 Manipulative	Participation is simply pretence	We participate to make our presence felt in the programs and pass the time anyhow. <i>- stated by SSMP participants</i>

Table 3 reveals discrepancies between types of participation promoted in the documents and the reports of actual experience of farmers in Sanga, Kavre.

Farmers were consulted by the extension staff but their requests were not considered in planning the programs, *"... for formality extension staff ask us to submit the programs we want, but seldom have they acted on our request"*. Some participants complained that extension staff do not ask for their views about the program, *"...we have always been guided to follow but never been given a chance to advise on our interests"*. Some farmers also participated to 'make their presence felt' to the authorities even though programs were not based on their needs,

*"...in spite of having no interest or enthusiasm to attend the program, we participate to reflect that we want to learn, make our attendance felt and pass the time, but we hardly have any intention to learn anything. We respond to the program because it offers incentives"* ('Manipulative' on the GA scale, Table 3).

**Objective 3** - Describe and analyze how government, agencies and farmers involved in the program (participants) and non-participants, perceived participation.

DOA (2000) suggested that, the outcomes of participation should be measured in terms of the achievements and the benefits gained by the farmers. DADO, Kavre (2002) emphasized the outcomes as development of farmers' capacities to institutionalize participatory process for agricultural development. SSMP (Lalitpur) (2002) stressed in building technical capacities of farmers to manage sustainable agricultural soils.

According to Agricultural Extension Officer, DADO, Kavre, participant farmers improved their knowledge in modern agricultural practices and generated income from the program participation. The Agriculture Extension Officer also emphasized that farmers felt enriched in information that empowered them in making decisions, accessing resources and addressing their challenges. Some women farmers said, they gained social prestige because the community had begun to acknowledge their agricultural knowledge and experience, *"...neighbors invite us when they have farming problems"*.

Farmers participated in SSMP because it promoted the use of local resources (e.g., farm yard manure) in crop production, *"...when we came to know that we can replace chemical fertilizer with the sustainable use of local*

resources we decided to participate". Farmers wanted to continue their participation in SSMP and said, "...we need to know and understand the world, so we must participate when invited, whether the program is based on our interest or not". Program participants changed their cropping patterns and developed knowledge on cultivation practices, "...we shifted to commercial vegetable production from kitchen garden and from grain production to seed production". Many SSMP participants (14 out of 20) did not know about the program outcomes and said, "...extension staff prepare the program outcomes in advance and do not involve farmers in outcome evaluation". Farmers complained about the performance of the technology, "...SSMP did not offer significantly different practice to that of farmers' existing practice and new practices often produced poor results". Some farmers felt that program recommended technology were not farmer friendly, "...technology were expensive, needed careful handling and required a series of steps to reach the expected outcomes. Extension staff provided repeated opportunities to the farmers who were close to them, a program participant claimed that "... rich farmers have occupied key positions in the group and they often participate in meetings, seminars and training offered by DADO, Kavre".

Farmers with small land holdings had low risk-bearing capacity to test and adopt new practices due to fear of losing their regular farm income and were attracted to non-farm jobs than to participate in SSMP. A farmer said, "... who will take the responsibility if new technology fails to provide food security for my family. Due to lack of education, some farmers said they lacked confidence in learning new practices and were unclear about the government's intent for their participation in SSMP. However, generally farmers' expectation from SSMP participation was, "... to develop agricultural enterprises that can provide a regular source of income for family's food security".

Non-participant farmers developed negative attitude towards extension programs offered by DADO, Kavre by perceived failure of the previous program technology and hence they lacked interest to participate in SSMP. A non-participant farmer said, "...I got a new species of honey bees from extension but in next few months all the bees flew away and I threw out the hives". Non-participants believed that extension staff had insufficient practical experience to solve their farming problems, "...we followed their advice in farming practices but only bore loss. We can't participate in the extension programs giving away our farm incomes". They said that extension programs that could take into account their farming experience, knowledge and ideas to explore the local agricultural potential would be most attractive to them ('partnership' on the GA scale, Table 3). Some farmers did not participate in SSMP simply because they had no invitation from extension staff. A non-participant farmer said, "...I wanted to participate in the program but no one came to my door to inform me about the program activities".

## Discussion

Inconsistencies were revealed between the aims of participation mentioned in national policy documents, departmental documents, district program documents and SSMP documents (see Figure 1).

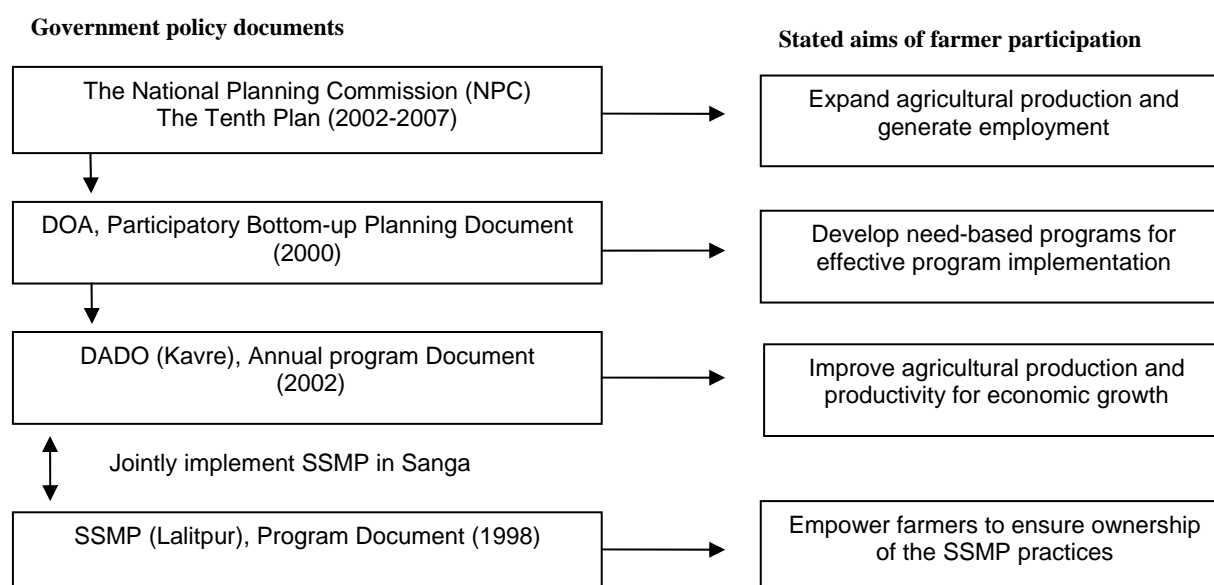


Figure 1: Aims of participation expressed in various documents on agricultural development in Nepal.

Figure 1 shows that the outcomes of farmer participation expected by the national policy documents differ from those in the documents from lower tiers of the government. The national policy document, the Tenth Plan (2002-2007), proposed the adoption of farmer participation in agricultural development with two main objectives, (1) to expand agricultural production, and (2) to generate employment. These broad objectives and outcomes were not reflected in the aims expressed in official documents at lower levels of the government hierarchy.

The DOA (2000) stated aim as to develop agricultural programs based on peoples' needs, for effective program implementation. This reflects a different emphasis to that of the Tenth Plan. One reason could be that the DOA adopted 'Participatory Bottom-up Planning' approach in 2000, before the goal of farmer participation was introduced in the Tenth Plan issued in 2002. Another reason could be that DOA adopted a bottom-up approach under the recommendation of donor agencies. Donors often place conditions on their grants and loans, emphasizing the requirement to support participatory research and development programs (Grounder, 1994). According to Pratt (2001), Nepal is highly aid dependent and the influence of donors in development policy is very important. Cornwall (2000) stated that it is mainly through the influence of donors, that participation has been understood and adopted in Nepal.

DADO, Kavre (2002) emphasized for improved agricultural productivity through farmer participation, while the SSMP (Lalitpur) (1998) concentrated on developing 'farmers' capacity'. DADO, Kavre and the SSMP (Lalitpur) jointly implement the sustainable soil management programs in Sanga but stated different aims on farmer participation, probably due to their different institutional structure. SSMP (Lalitpur) is a Swiss Government funded non-governmental organization and DADO, Kavre, is an agency of the Nepali government. It seems that the need for interaction and co-ordination between practitioners and national policy makers on farmer participation has been neglected in Nepal.

The aims of farmer participation stated in the documents did not reflect the concepts of 'co-learning', in which the knowledge and experience of farmers, scientists and managers are combined in a 'learning dialogue' in developing appropriate methods and techniques for agricultural development (see Vernooy, 2005; Roberts et al., 2002). There was little or no acknowledgement in Nepal that technologies developed without farmers' inputs were less likely to be adopted than those with farmer participation (Tyler, 2006). In many developing countries a large amount of agricultural technology has been rejected simply because farmers feel that it is impractical (Collinson, 2000).

The national policy documents advocated close coordination among research, extension, and farmers in planning extension programs, but at the field level many SSMP participants (16 out of 20) did not even know about SSMP activities. Extension staff informed selected farmers about predetermined programs and advised them to participate for their supposed benefit. Watts (1984) found that, in developing countries, governments use extension less for educating farmers, than as a means of conveying government policy and programs.

Many SSMP participants (17 out of 20) stated that they participated in the SSMP for the 'incentives' offered by the program. The extension staff did not seek farmers' experiences and knowledge in program planning and implementation. Probst et al. (2003) argued that participation is important to make full use of local knowledge to ensure locally felt needs are addressed and that all parties get involved in analysis, planning and decision-making local issues. Petheram and Clark (1998) stated that in co-learning approaches, there is an acceptance by extension staff that they themselves have as much to learn as the farmers, in diagnosing problems and seeking answers.

One reason that the extension staff did not practice a 'truly participatory' approach may be that they were mainly concerned with implementation of programs directed by the DADO, Kavre, and not in their design. Secondly, their focus was on meeting the targets that were assigned to them by DADO, rather than involving and assisting farmers to solve their farming problems. This finding is similar to that in many development projects and countries. For example, Harrison (2002) stated that in Ethiopia, government mainly expects extension agents distribute agricultural inputs to farmers and collect payments.

A senior SSMP (Lalitpur) staff stated, "...extension staff are lobbying farmers to implement the programs, meet targets assigned to them and create demand of those programs that are provided to them by DADO, Kavre". Probst et al. (2003) stated that a participatory approach in agricultural research and development has often been limited to application as 'an instrument to improve technology transfer'. Uphoff (1992) argued that building people's capacity through participation is more important than achieving specific outcomes.

Extension staff' attitudes are another possible explanation for poor participatory processes in the SSMP, Sanga, Kavre. They often see themselves as experts in providing knowledge for the people and assume that programs developed by extension will automatically be taken up by farmers. Chambers et al. (1989) stated that most extension professionals assume that they know farmers want and needs, but often they are wrong and likely to address wrong problems in their research. A senior SSMP (Lalitpur) staff said, "...extension staff are worried about the demand

*driven approach and afraid of the possibility of losing their job if farmers became decision makers of the program.* Lopez and Bunch (2000) stated that in Guatemala and Nicaragua, professional extensionists once feared that they would lose their jobs if villagers became promoters of the program.

Extension staff from DADO, Kavre and the farmers in Sanga have been involved in a 'supply driven' approach to development for many years, i.e., DADO provides the program and farmers have to participate. The challenge for developing effective participatory practice in the context of a deeply entrenched 'supply driven' approach remains difficult. There seems to be little effort made by the Nepali Government to train extension staff to adopt the principles of participatory-based extension system. A senior SSMP (Lalitpur) staff said,

*"...there is no orientation given to the extension staff to work with farmers in a participatory approach. These staff are accountable to their managers and a manager is responsible to monitor and evaluate the performance of the staff, not the farmers. It does not make any difference to the staff whether or not they properly implement the program because there is neither reward for their dedicated service to farmers, nor any serious disciplinary action for sluggish performance".*

In general, Sanga farmers had little land and they thought that seeking possible increase in their crop yields through adoption of new practices would be too risky for their livelihood. Resource-poor farmers world-wide show similar behavior in the face of risk. Timsina and Ojha (2007) in Nepal and Kamanga (2002) in Malawi and Zimbabwe found similar results and reported that poor farmers critically weigh up the risks to use their scarce resources in adopting a new technology.

The few farmers who were aware of their 'sharing' role as participants in the SSMP were comparatively rich in resources. They occupied key position in the group, controlled group decisions for their benefit, and were close to the extension staff. Hildebrand (1993) stated that extension agents often use contacts with progressive farmers as a prime strategy. The SSMP participants did not transmit the principle and practices learned in the program to non-participant farmers. Trip et al. (2005) in Sri Lanka and Bembridge (1991) in Africa found similar results. They reported that program participants did not share information with their friends outside the program and that people in the community were not aware of what program was trying to do.

Non-participant farmers perceived lack of practical experiences by the extension staff to solve farmers' field problems in Sanga. This finding is similar to what Gallagher (1999) found in most countries and suggested that to develop their technical skills and competencies, extension staff should be trained in field based season-long crop production and management courses.

Some farmers did not participate in SSMP, only because no invitation was delivered to their door by the extension staff. In Nepali social custom, community members feel uncomfortable in attending any event without a formal invitation, even when attendance may be useful to them. Millar and Dittoh (2004) stated that socio-cultural factors and individual beliefs can affect farmer participation in learning or change. Salmen (2002) argued that extension agents need to gain a practical understanding of social values and behavior to promote people's participation in development. The change in people's attitude either to accept or reject a program or technology is directly related with how they are approached (Sherif & Sherif, 1967).

The GA scale (Table 3) was used as a means to categorize and compare the level or aims of participation claimed by various information sources in this case study. The Ninth Plan and the Participatory Bottom-up Planning documents of DOA proposed joint involvement of farmers with extension and research and categorized as 'partnership' in the GA scale. The annual program document of DADO (Kavre) and SSMP program documents suggested self-management, i.e., at the top of the GA scale. It is important to emphasize that the steps higher on the scale are not meant to always imply a 'better' type of participation although many agree that the lower steps on the scale are less valuable in agricultural development.

The views of farmers about their participation in the SSMP, Sanga as depicted on the GA scale (Table 3) includes elements of 'consulting', 'manipulative' and 'participation for material incentives'. In 'consulting' type participation, extension staff asked farmers for their views on the type of program they wanted but did not necessarily respond to farmers' opinions. 'Manipulative' participation can be said to have occurred where the extension staff recruited farmers to participate in the SSMP and focused mainly on the generation of data for use in progress reports. A majority of the SSMP participants in Sanga (17 out of 20) experienced 'informing' and 'manipulative' types of participation, i.e., extension staff informed farmers about the predetermined SSMP activities, advised them to participate and directed farmer participation. The GA scale provides a graphic and valuable way of analyzing and explaining the results of this type of research.

## Conclusions

There is a need to find ways for improved interaction and effective coordination between national policy makers, participatory practitioners and farmers, on the aims and design of farmer participation in agricultural development. Professional reward structures are needed for extension staff - that will encourage them to work in close contact with farmers, study and understand their problems, and become aware of the philosophy of participation and program ownership by farmers. The disappointment stated by program participants and non-participants about exclusion from program design indicates potential for participatory design of future agricultural projects. Extension staff were ill-prepared for their extension role at the grassroots level. The fact that farmers' local knowledge and expertise remained largely untapped emphasizes the requirement for training of extension agents in their role as facilitators, and in showing respect for farmers' skills and experiences in planning and implementing government programs. SSMP activities were poorly promoted and out of step with the available resources of the poor farmers. These farmers weighed up the risk of change in practice against the perceived chance of improving their livelihood.

Extension staff paid little or no attention to fair selection of participants for SSMP activities because most of the opportunities to be gained from the SSMP were obtained by the key members of the group. This may have contributed to negative views of the program held by non-participant farmers. It seems important that extension workers should employ a more equitable process in selecting participants for future activities and projects. The perceived failure of technology in past programs and farmer perceptions of lack of staff capacity to solve local farming problems suggests that extension staff passed technology to farmers without analyzing its possible affect in the farmers' fields.

Lack of acknowledgement of farmer's experience and knowledge by the extension staff means DADO, Kavre should revise its policies to ensure close communication with farmers, including non-program participants. Further research is needed on why farmers are not participating in available extension programs. The evidence of potential benefit from this case study program confirm the value of participatory programs and the need to strive for their improvement through research, policy, training and other means. The need for in-built monitoring and evaluation in development programs seems paramount – to ensure that discrepancies between aims at different levels are detected, and brought to attention of all involved, so that program management is continuously improved, and that practical gains result for the farmers and the nation.

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