

ARTICLES

Nature and cost of participation in farmers field School: Case study from North Wollo administration zone, Ethiopia

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Abstract

This research was conducted on Integrated Pest Management (IPM) Farmers Field School (FFS) project of Save the Children - UK in North Wollo Administration Zone, Ethiopia. The objectives of the study were to assess the nature and quality of farmers' participation in development projects and to analyze the cost of participation for different categories of farmers. Data were collected using focus group discussions, observation and interviews with 120 respondents. Simple descriptive statistics were used to analyze the quantitative data using SPSS software. The qualitative data were coded in two categories using constant comparison and asking question techniques. The nature of participation evolved from lower consultative form of participation to higher levels involving self-mobilization. The cost to farmers in terms of time spent on project activities was found to be high. The financial and material cost of participation, however, were affordable to the farmers. It is recommended that the members be facilitated to gain adequate benefits from their involvement by linking the schools to other stakeholders and service providers and that expansion and growth of each school should be encouraged by increasing the number of members of the school to also include the disadvantaged, and by diversifying activities of the school.

Keywords: Farmer Field School, farmers' participation, participation cost

Introduction

The Transfer of Technology (TOT) model for development led to a dramatic increase in agricultural production and productivity in mid 1980s. Third world agriculture, however, benefited little from this model. The fundamental causes of this failure were the absence of physical and economic conditions ideal for TOT, and the exclusion of important stakeholders from development decisions (Chambers and Toulmin, 1991; Karl, 2000; Heck, 2003). This led to a considerable gap between the change agents as outsiders and the target group as insiders whereby the outsiders monopolized development (Reason, 1998) and the insiders rejected even well-developed recommendations (Pretty and Hine, 1999).

The above failure led some development specialists to question the philosophies of the TOT model of development and generally the power relation between the poor, illiterate and disadvantaged rural people and the rich, educated, urban and advantaged people. Hence, they proposed a development approach, which would reverse the above situation (Chambers, 1983; Chambers, 1991). The reversal called for farmers' own analysis to be the basis of research and development priorities, for farmers to experiment and evaluate, for scientists to learn from and with them, and for research and extension services to farmers to be decentralized, differentiated, and versatile (Chambers, 1993; Chambers and Toulmin, 1991). The result of the above movement was a boom of participatory methodologies. The pressure from donors and international agencies made most local projects to pretend as much as possible to be participatory. Hence the words 'participation' and 'participatory' came to be the daily languages of development practitioners. However, participation has come to be a catch-all concept which means different things for different people. It can also be attained at different levels. Projects which merely inform what has happened or what is going to happen and projects which mobilize farmers to solve their own problem using locally available resources equally claim to be participatory. Moreover, participation has been found to create more problems than it can solve when not handled with care. It can disturb the local power relations, it can force local people to shoulder the responsibility of development and it can initiate unmet expectations and many other problems (Arnstein, 1969, Pijnenburg, 2004). Because of these facts, participation is not something which can be taken as a solution for all problems of development, rather it should be critically considered to ensure that its advantages are more pronounced than its disadvantages (Turnhout *et al.*, 2010).

Another important concern with regard to participatory approaches is the cost they involve. There is empirical evidence for the cost of participation for implementing agencies. It was found that generally, participatory projects tend to be costly at initial stages but become less costly at later stages as stakeholders begin to take their own initiatives and cover their own cost (Heck, 2003). However, the evidence on cost of participation for primary stakeholders especially farmers is elusive. It is generally agreed that participation costs time, money and other resources (FAO, 1997). Specifically concerning the Farmers Field School (FFS) approach, farmers must attend a 3 - 4 hour meeting once every week for one whole growing season. The length of a season varies depending on the type of enterprise chosen (Scarborough *et al.*, 1997). Participatory projects with instrumental purposes would also require labour and local material contribution as the main form of farmers' participation (Gonslaves *et al.*, 2005). Besides,

participation in empowering activities would risk farmers' relation with local political leaders or other sections of the society since the relatively stable power relation has to be disturbed (Pijnenburg, 2004; FAO, 1997).

Accordingly, evaluation of the process involved in participatory approaches is considered important to ascertain its advantages and such evaluation would focus on, among others, the nature of participation and costs involved in the process aspects which are commonly less understood in the existing participation literature. This study was conducted to assess the nature of farmers' participation and cost they incur through their involvement in participatory projects, specifically in Farmers Field School. By taking the case of Save the Children (UK), the study attempted to examine the nature of participation by considering seven dimensions of participation which were adopted from the work of Simpson and Cala (2001) and UNDP (1996). The dimensions considered were:

- (a) *Whose agenda*: Whatever the purpose or ultimate goal of the project, people's interests, their needs and their wishes must be allowed to underpin the key decisions and actions relating to the project;
- (b) *Who participates*: Participatory development should seek to improve gender inequalities through providing a means by which women can take part in decision making. Apart from women, participatory projects should deliberately target other disadvantaged sections of the society like the youth, the ethnic minorities, the poor etc;
- (c) *Institutional arrangement for participation*: Formation of institutions is part and parcel of participatory projects. It is usually encouraged to work with existing local institutions. However, whenever this is not appropriate for any reasons, new institutions could be established.
- (d) *Autonomy vs control*: as far as it is realistic to do so, participatory projects should seek to invest as much responsibility as possible with the local people, and thus avoid leaving absolute control in the hands of project staff;
- (e) *Timing of participation*: Participation which is initiated early in a community development project cycle is preferable, and enhances the opportunities for capacity building, empowerment and community ownership;
- (f) *Role and role transformation*: Participating farmers could have different roles in the project. Some could have specific roles, others non-specific or still others peripheral roles. However, participatory projects must facilitate development or empowerment of individuals

in their roles as participants which would allow participants to take increasing responsibility for more decision-making, planning, organizing and implementation over time;

- (g) *Self-reliance*: A participatory project should seek every possibility to base its activities upon local resources, to avoid situations of dependence on external resources and also to help develop local capabilities, which will be important if development is to be sustained.

The history of Save the Children (UK) in Ethiopia dates back to 1972, when it delivered its first food aid. In 1973, it established a country office and a country program, and has maintained a presence ever since. In its early stages in Ethiopia in general and Wollo in particular, this non-governmental organization (NGO) focused on relief assistance.

However, since 1984 it has run several agriculture-related programs in the region including the Emergency Seed and Tool Support in North and South Wollo; and the Integrated Pest Management Project. Others are the Household Economy Analysis Project for Amhara Region; Farmer-led Extension and Research Project and Community Livestock Development Project. In northern Wollo, the organization's interventions focused mainly on the control of crop pests, one of the identified constraints to agricultural production in the area. The approach that was used to combat the problem evolved over time. Eventually, the organization focused on an integrated pest management (IPM) through the Farmer Field School (FFS) approach.

Since 2000 Save the Children (UK) has implemented a full-fledged project on IPM/FFS. The project had six areas of focus which include capacity building at different levels by providing training on issues of IPM and FFS, provision of material support for partner organizations, and establishment and running of FFSs. A total 126 FFSs were established in the North Wollo and Wag Hemra Administrative Zones. Each school was planned to have 24 members and each school was supposed to attract 12 follower farmers.

Methodology

This study was based on a cross-sectional design using a combination of quantitative and qualitative approaches. It was conducted in three Districts which were purposively selected from the North Wollo Administrative Zone. From each District three Farmers' Field Schools were selected purposively. The criterion of selection was accessibility. Schools which were along the main road or within walking distance from the main road were chosen. The population for the study was all the members of the FFS. The sampling frame was the list of members found in each school. From

each school, 15 members were selected. These consisted of five members in leadership position (one leader, two facilitators, one treasurer and one secretary), and ten ordinary members selected using a simple random sampling technique. With this technique, 120 respondents were obtained.

Several methods were used for data collection so as to increase the validity and reliability of the data collected. Personal interviews were used to collect data from respondents using a structured questionnaire. A checklist of questions were used to collect data from senior experts and Development Agents (DAs) and six focus group discussions, which were held with members of Farmer Field Schools. Participant observation was used to assess the condition of the farm plots of the schools and the participation of different categories of members of the schools during different occasions such as regular weekly meetings and graduation ceremonies of the schools. Constant comparison and questioning techniques were used to analyze the qualitative data. With these techniques, data unitization and categorization were made. The quantitative data were entered into SPSS and descriptive statistics such as means, media, standard deviations and chi-square values and t-test were computed.

Results and Discussion

Nature of Farmers Participation in the Project

As indicated earlier, the type and quality of participation could take different forms depending on the objective of the project. However, well beyond the objective of the project, participation could also take different forms depending on the difference between the project discourse and practice. The study attempted to look at the nature of participation by considering seven dimensions of participation which are adopted from Simpson and Cala (2001).

(a) Whose Agenda?

Participatory projects are supposed to reflect farmers' agendas (UNDP, 1996). One way of looking at whose agenda the project was promoting is to look at the project initiation process. The secondary data review revealed that the NGO undertook helicopter survey in 1993 and found that pests were a major production constraint. Since then it experimented on IPM in different parts of the two Administrative Zones. Hence, when the project was initiated it was with the assumption that the problem was common to all farmers in the area.

As an initial exercise, the project staff conducted series of PRA activities for different stakeholders and meetings with local communities. The

agenda for the PRA exercise and the meetings with the farmers was already set by the organization. The PRA was done to familiarize the stakeholders with local conditions and the project modalities. The meetings with the farmers were to convince farmers to join FFS. There was little chance for farmers to change the focus of the project. But, did the project objective and the farmers' objectives coincide? The results of the survey and focus group discussions indicate that farmers also felt that pests were their most serious concern. Hence, even though the project beneficiaries had no say on the focus of the project, the project agenda was still their concern.

(b) Who Participates?

Participatory approaches are also expected to benefit women and other disadvantaged section of the society (UNDP, 2006). On this issue, the project documents revealed that 14.8% of the members of the FFSs in both Zones were women. Specifically in the study area the proportion of women farmers was 20.8%, 15.0%, and 15.6% for Gobalafto, Kobo and Habru Districts respectively. This proportion was lower than the project's plan to make the proportion of women at least 20%. With regard to the social status, the school members demographic characteristics of the respondents revealed that most of the members were above 31 years, married, and had some form of formal education. More than half (61.9%) of the members had some form of leadership role in their community. The wealth ranking done during the focus group discussions revealed that the proportion of poor, middle and rich members was 21.7%, 55.7%, and 22.6% respectively. Hence, one can easily see that the project was biased towards better-off farmers and that the poor farmers were under-represented.

(c) Institutional Arrangement for Participation

Formation of local groups or institutions is one of the important features of participatory approaches (Rudqvist and Wood-Berger, 1996; FAO, 1997). The very concept of FFS also requires formation of farmer groups of 20-30 members each. The size of the schools was set to be 24 by the project staff. The members were divided into four sub groups of six members each. This is the standardized approach for FFS. The number of dropouts was minimal for all the schools under study. The reasons, as expressed during focus group discussions, seemed to be two fold. The first is that the members had seen the benefits of their participation. They asserted that they were able to save their produce from pest attack using the technologies and practices they developed themselves. The schools also boosted the farmers' confidence since they helped them to be seen as researchers in the community. The positive social relations they enjoyed were also mentioned as an important motivational factor for their staying with the schools.

The second reason is related to the commitment they made when the community selected them to participate in the FFSs. The community selected them so that they would learn and help others to learn the same. Considering this fact, the constitutions of each school stipulated the penalty for those who were inclined to dropout. In some of the schools, the penalty amounted to 50 birr (5.7 US dollars) and returning of all property of the school like overcoats, boots, gloves, and any other item provided by the school. If the person failed to pay the penalty willingly, the constitution demanded that he/she would be sued in the local social court. The only option is to stay with the school irrespective of their satisfaction or otherwise. The survey results reflected the members commitment since majority of the respondents (65.8%) felt that the school belongs to them.

Indicators on institutional arrangement include the frequency of meetings, the rate of attendance to meetings and the linkage between project groups. In principle FFS does not require members to meet more than once in a week. However, the schools had been meeting continuously for the last two and half to five years, which could be taken as an important strength and development of the schools. A serious problem, however, was found in the absence of linkages between the schools. Linkages were meant to lead to the formation of associations or federations in order to horizontally spread project activities. Hence, after withdrawal of Save the Children from the project area, there are less chances for the schools to organize experience-sharing programmes.

There was no increase in the number of members because of the project policy, which did not allow membership to exceed 24 per school. Growth and expansion could be possible either by increasing the number of members in each school or by forming new schools, which could invite other interested farmers. The approach of expansion adopted by the project was to form follower farmers who, as the name implies, follow the prescriptions made by FFS members. However, this would make the followers to be users rather than generators of the technologies. Growth would have also been possible in terms of the focus of the school. Based on experience from other countries, the focus of the FFS can be expanded from pest control to marketing, soil erosion control and any other constraint (Braun, and Duveskog, 2008). The schools under study, however, focused only on pest control for all the years of their operation.

(d) Autonomy Vs Control

During the implementation period of the project, different decisions pertaining to the activities of the schools had to be made. Hence, the

respondents were asked to rank the five major stakeholders in the project. The most powerful was reported to be leaders of the school followed by members of the school as the second most important, the local Development Agent as third most important, the staff of Save the Children-UK as fourth most important and finally the local administration as the least important. Almost all (98%) respondents agreed that farmers were vested with responsibilities in the school. Besides, 99.2% of the respondents agreed that farmers were autonomous in their decision regarding the school. Hence, it is safe to conclude that farmers had considerable autonomy in deciding their regular activities in the school.

There were vivid local initiatives by the schools, which the project did not initially envisage. For example, although the project was intended to tackle the problem of crop pests, the schools expanded this objective to include livestock and household pests. Furthermore, most of the schools had an arrangement to help orphans and there were schools which involved themselves in sensitizing the community about HIV/AIDS. At least one of the schools was providing credit to its members as an additional service. All these were local actions, showing that the schools were autonomous in what they intended to do.

(e) Timing of Participation

The nature of participation was determined by examining how, farmers or project officials, made major decisions pertinent to a given cycle and in doing so, whether or not the interest of the other party was taken into consideration (Gonsalves *et al.*, 2005). As indicated in Table 1, the nature of members' participation evolved at different phases of the project from merely being informed which is considered to be the lowest form of participation to self-mobilization which is the highest level of participation.

Table 1: Nature of participation by FFS members (N =120)

Nature of participation	Informing		Consulting		Collaborative		Collegial		Self-mobilization	
	No	%	No	%	No	%	No	%	No	%
Project phases										
Problem/need assessment	7	5.9	56	47.5	18	15.3	27	22.9	10	8.5
Planning and designing	26	21.8	20	16.8	38	31.9	22	18.5	13	10.9
Implementation	6	5.0	0	0.0	20	16.8	43	36.1	50	42.0
Evaluation	30	25.2	0	0.0	32	26.9	18	15.1	39	32.8

(f) Role and role transformation

The schools were designed to have a consistent structure throughout the project area. Hence, each school had one leader, two facilitators, one secretary and one treasurer. The election of those in leadership position was made during the early stages of the school. There was almost no complaint about the election procedure, since 88.2% of the respondents felt that the elections were transparent. Besides, 97.5% of the respondents reported that their leaders were capable of what they were doing. What was lacking was role transformation. There was no institutional mechanism for role transformation. Accordingly, 90.5% of the respondents said that there was no change in their role since the beginning of their participation. Whatever little role transformation that took place it was made in situations where one of the leaders was not able to accomplish his/her task for some reason.

(g) Self-Reliance

One of the very positive aspects of this project was its complete reliance on the knowledge and skills of farmers. The only materials provided for the schools were working gears like overcoats and gloves. Otherwise, the fundamental resources were the indigenous wisdom and strong social relation among members of the schools. The grassroots Development Agents and the senior officials were asked about evidence of the level of self-reliance. The evidence for reduced reliance on the project staff was the farmers' attendance at meetings without external pressure, the schools making important decisions without waiting for instructions from the organization, the schools developing the capacity to solve their problems using locally available materials and their own knowledge, the schools generating their own funds, and members working hard without expecting any compensation.

Evidence which shows reduced reliance on project inputs was also solicited and this included the schools using locally available materials for experimentation, members using their own farming tools and equipment and the experimental plots, and covering their stationery costs from their school accounts. Another evidence for self-reliance was whether the schools had self-initiated activities. In this regard, previously the NGO used to provide schools with seedlings of botanicals for use as pesticides; however, later the members began raising the seedlings on their own. They also expanded the project objective from tackling only crop pests to including livestock and homestead pests as well. Some of the schools also launched a program to help orphans in the community.

Cost of participation for farmers

The cost of participating can be in terms of the time, finances and materials spent on the project, which could have been used for other purposes. Participants may also incur social cost depending on how the rest of the community views the project. These were assessed in this study.

(a) Cost in terms of time

One of the challenges of farmers to participate in development projects is that it consumes considerable amount of their time. The study showed that at least five major activities namely; weekly meetings, collection of botanicals, taking part in the school farm plot, participating in experience sharing activities, and coordinating members are common for all the schools.

During weekly meetings members prepare plans, discuss their execution and monitor and evaluate their progress. The number of meetings varies from a minimum of two to a maximum of eight with an average of four per month. The duration of meetings varies from a minimum of one hour to a maximum of 8 hours, the average being 2.74 hours per meeting. The frequency of botanical collection varies from once to 12 times per a month with an average of 3.62 days per month. The average time taken for collection was recorded to be 2.56 hours per trip.

Participating in the school farm plot took different forms. Usually the whole group should be divided into six sub-groups and each sub-group would be responsible for a specific task, which is to be accomplished during the week. The task to be done varied according to the type of enterprise and the season, and usually was to be done during a time in which farmers were also busy in their own farms. The frequency of the task is reported to vary from one up to eight times per month with an average of 3.5 days and the amount of time required during each working day varying from 1 to 12 hours with a mean of 4 hours per task.

Besides the above tasks which were common for all schools, about 58% of the respondents participated in experience sharing activities of the schools organized by the project. The experience sharing activities were both intra and inter District. On average, 58% of the respondents used 1.3 days per month for such activities which took a mean of 9.3 hours. Coordinating other members was also a task for about 62% of the respondents. Coordination is required during weekly meetings, farming days, or collection of botanicals. On average, those who were in charge of coordination would be involved in this task for about 3.2 days each month.

The respondents were asked to rank the above roles according to their difficulty. Interestingly, 20.3% of the respondents said that none of the tasks was difficult. The most difficult task mentioned was collecting botanicals followed by preparing the chemicals, coordinating members, the farming practices and participating in experience sharing activities respectively.

Independent t-test was used to see if there was significant difference between those in the leadership position and the ordinary members in the level of attendance and the amount of time spent on each activity. Accordingly, only the level of participation in experience sharing activities shows significant difference (t value 2.17, df 68, p 95%). This means that those in leadership position were more involved in attending experience-sharing activities compared to ordinary members. This also means that in most respects the difference in the level of participation between FFS members was minimal. The same test was conducted to see if there was a difference between male and female members of the schools. Accordingly, only the number of times that members play a coordination role shows a significant difference between the two sexes (t value -2.23, df 73, p 95%), with women playing a more active role in coordinating other members than their male counterparts.

(b) Financial and material costs

The financial cost of farmers' participation is relatively low. Generally the financial contributions were for regular subscription to the school fund, helping out members during calamities such as death or sickness, helping out orphans in the area, organizing social functions, and for purchasing equipment. At times, the schools cover the above expenses from their financial account. Some of the schools had regular monthly subscriptions. This was considered affordable since members could do it in several small installments. Some of the schools have an arrangement to help orphans using their school fund. However, most of such contributions were made during death in the family of the school members. There was no difference among members in the above contributions, as the leaders and the members contributed equally.

The material contributions were also affordable. Members had to contribute a few stands of trees for preparing pegs to be used on the experimental plots. In a few schools, members contributed a few kilograms of seed for experimentation. In a few schools, members also contributed household utensils like buckets, cups, and mortars at the beginning of the school.

Overall, however, the contributions were regarded as insignificant by most farmers as it was revealed during the focus group discussion.

(c) The Social cost

Participating in an empowering activity could disrupt the local power relations and could be disputed by different sections of the society. The following section describes the reactions of three important sections of the society; family, non-FFS farmers and the local administration in relation to members' participation in the schools. The reactions are categorized based on two periods; reactions at the beginning of the school activity and reactions during the research period.

i) Family members

The reaction of family members was quite negative during the initial stages of the project. The weekly meetings of the school coupled with their consistent engagement in the school farm made the family members irritated. About 68% of the respondents said that they were subjected to family mockery. They were given derogatory nicknames like 'bichalebas' after the yellow overcoat supplied by the project organization, or 'checkchaki' after the traditional chemical preparation. Sixty six percent (66%) said that their family members used to tell them that they were engaged in a useless activity. On the other hand, the fact that they were part of a project regarded as 'foreign', 37% of the respondents said that they were suspected of getting monetary benefits. For this reason, their spouses required them to share what they got, which became a source of serious family conflict for some of the members.

However, the majority of the respondents said that the oppositions from the family members were not serious in nature; only 32% of them reported serious opposition. Moreover, not all family members had negative reaction towards participation of members in the IPM/FFS project. Accordingly, 33.6% of the respondents reported that their family members supported their activity and another 31.1% said that their family members considered their activity as effective.

The respondents were asked about the situation during the implementation period. Only 16.8% of the respondents said that they experienced family mockery and 17.5% said that their family members regarded their activity as useless. The percentage of serious opposition was also reduced to 10.3%. During this phase, support from family members increased. About 96.6% of the respondents said that they were getting full support and 94.1% said that their family members considered their project activity to be effective.

The reason for such a change, as reported by respondents during focus group discussions, was the proven effectiveness of the project activity. Some of the families saw their crops being saved from pest attack. Their livestock also benefited from the traditional chemicals produced by the FFS group.

The chi square test showed that there was statistically significant difference in the family members mockery against members of the school at the beginning of the schools and during the implementation period ($X^2 = 10.85$, $df = 1$, $p > 95\%$). This means a smaller proportion of farmers was facing mockery from their family members during the implementation period when compared to the time when the schools began. Family members' feelings that the school members were getting monetary payment from the NGO also showed statistically significant difference between the beginning of the schools and during the implementation period ($X^2 = 4.29$, $df = 1$, $p > 95\%$). This means that a smaller proportion of farmers felt that their family members were being paid by the NGO during the research period when compared to the period at which the schools began their operation.

ii) Non - FFS Farmers

Members of the FFS experienced much more pressure from their neighbours than they did from their family members. This was evident from the fact that 86.7% of the respondents reported that they were subjected to mockery from their neighbours. They were given negative and degrading names. Likewise, 80% of the members were persistently told that they were engaged in a useless activity.

Over 60% of the respondents were suspected of getting monetary payments for their participation. The opposition was much more serious than that from family since 54.2% of the respondents reported that they experienced serious opposition. This opposition took different forms. In some cases when there were communal activities to be done such as the repair of irrigation canals which coincided with the farmers' field school activity, members of the FFS were not excused since their project was regarded as useless. Furthermore, some farmers felt that the traditional pesticide preparation by the FFS members may prevent the government from providing industrial pesticides to farmers. As a result, they opposed the project activities. Accordingly, only 17.5% of the respondents reported that they got support from their neighbours and 15.1% of them said that their neighbours appreciated their efforts.

During the focus group discussions, discussants confirmed that, as in the case of the family members, the proved effectiveness of the project activity during the implementation phase reduced the negative pressures. In some of the project areas members of the FFS were seen as pest control experts. The FFS members were the first to arrive and help whenever there was a pest outbreak at the village. Some schools were also giving regular pest spraying service for their neighbours' livestock. Nonetheless, discussants confirmed also that the changes in these reactions were not pronounced. The chi-square test showed insignificant difference at $p > 95\%$ for all reactions of non-FFS farmers.

iii) Local Administration

Another source of pressure for members of the FFS was the local administration which was critical for the survival of the field school because of its power to effect strong decisions. However, because the local administration was ready to support local initiatives it was more supportive of the FFSs when compared to family members and non-FFS neighbouring farmers.

Accordingly, during the initial stages of the project, 42.5% of the respondents reported to experience mockery from local administration. Another 42.5% felt that the local administration considered their work as useless and 45% said that the local administration had believed members were being paid. Only 35% of the respondents experienced serious opposition from local leaders. This took many forms. In some cases the work schedule of the field school and that of the local communal work collided. In such cases members were penalized for not availing themselves for the communal work. In some cases the schools were not able to secure their own experimental plots due to lack of support from the local leadership. Even though the above analysis showed that pressure from the local leaders was relatively less but they were not cooperative enough. This was evident by the fact that only 35.5% of the respondents said that the local leaders supported their work and only 38.3% considered the work of FFS members as effective.

Here again the proved effectiveness of the FFS project activities during implementation impacted on the perception of the local administration. Their mockery, attitude of project being useless, their feeling that members were being paid and their serious opposition to the project dropped from initial high level (over 40%) to 16.7%, 15.1%, 210.8% and 12.5% respectively. On top of that, their support and feeling that the project activities are effective rose to 93.3% and 95.0% respectively. The chi-

square test showed that there was a significant difference in local administrators' perception during the implementation phase compared to the beginning of the project.

Conclusion and Recommendations

The nature of participation by farmers in the IPM/FFS project varied depending on the project cycle. It evolved through time from lower levels to higher levels of participation. However, both extremes of participation proved to have their own problems. When the level of participation was low, it led to narrow project focus and when it was higher it led to avoidance of the necessary follow-ups by project staff. The structure of the schools in terms of roles was uniform. But, the structure faced one serious defect observed - lack of role transformation. The roles assigned during the establishment of the schools remained the same throughout the project period with few exceptions. The level of self-reliance among schools was considerably high. The schools were running using locally available material and based on indigenous knowledge. The income generating schemes adopted by the schools enabled them to cover their financial expenses. The only problem in this regard was lack of linkage between the schools and the other important stakeholders like researchers, credit organizations, and input supply organizations which impeded the schools' ability to secure resources without the involvement of a third party.

Regarding the cost of participation among the three types of costs considered, time, social relations, and the financial cost of materials, the first two were found to be significant. The time that farmers invest to participate in the project activity was considerable and the fact that most of the schools activities should be done during the peak working seasons made it more demanding. However, most of the schools managed to run effectively for several years. The members of the schools faced a hard time in dealing with the social pressures from family members and neighbours. Nonetheless, the concrete benefits that they were realizing following project implementation helped them to patiently deal with pressure from others, but also reduced the negative stigma, especially from family members and local leaders. Finally, most of the schools' activities required locally available materials but most farmers could afford the financial costs.

Based on the above findings the following recommendations can be made. Since the time cost of participation was considerable, it is important that the members are facilitated to gain adequate benefits from their involvement in the schools by linking the schools to other important stakeholders and service providers like researchers, credit and inputs supply organizations

and output markets. Expansion and growth of each school should be encouraged in terms of increasing the number of members of the school to also include the disadvantaged, and to diversify activities of the school. Regular elections should be institutionalized to give all members of the schools the opportunity to develop leadership skills. The community at large also must be briefed on the importance of the project, its objective, outcomes and potential benefits even if they are not direct participants in the project. Efforts should also be made to involve the community more directly by organizing field days whereby community members are invited to come, observe and learn from the FFS plots.

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