



Impacts of Co-Management Activities on Women Members of Forest User Groups in Satchari National Park

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Abstract

The Nishorgo Support Project (NSP) plays a crucial role in supporting the livelihoods of people living in and around five protected areas (PAs) in Bangladesh. This research explores the involvement of women members in forest user groups (FUGs) at one of these sites, Satchari National Park, and examines the impact of participation in co-management on their livelihoods. I interviewed 40 female FUG members and 20 female non-FUG members to assess their degree of access to income-generating opportunities, their socio-economic empowerment, and their physical and material well-being. My results suggest that participation in FUGs has increased over the past year, and that 65% of respondents show an interest in joining future NSP activities through FUGs. The field survey revealed that 59% of women who belong to the FUGs received both training and funding for alternative income generating activities (AIGAs), and that 41% of the women who were trained successfully developed their own enterprises. On the other hand, only about 7% of non-FUG members, who did not receive training in income generating activities from NSP, report earning income from these types of activities, including cow fattening, nursery development, poultry rearing and fish production. Participation in FUGs not only enhances the livelihoods of women living in close proximity to Satchari National Park, but some women felt that it also increased their respect in the eyes of their family and society. These positive impacts on livelihoods and socioeconomic status encourage women living around Satchari National Park to become more involved in FUGs, and thereby contribute to forest protection.

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Introduction

Co-management:

'A situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources'.

(Borrini-Feyerabend et al. 2000)

Collaborative management (co-management) of protected areas is a participatory approach to environmental conservation that seeks to enhance both natural resource conservation and local livelihoods. This approach gives local residents both the responsibility to manage their natural resources effectively and the opportunity to enjoy the benefits derived from them. Without the active involvement of local people, there is little chance for reducing their dependence on forests and guaranteeing the success of PA initiatives. A great number of environmentalists, non-governmental organizations and national governments worldwide have begun to emphasize the importance of local people's participation in decision-making and management of PAs (Svarstad *et al.* 2006, as cited in Agrawal and Gibson 1999; Hulme and Murphree 2001; Ghatge 2003).

Bangladesh has faced significant losses in natural resources and biodiversity over the last few decades. A major reason for this environmental degradation is that many people have been left out of the conservation process. Not surprisingly, these people have decided not to cooperate with conservation efforts that they perceive could adversely affect their own livelihoods. To address this issue, and to engage local stakeholders as partners in the management of PAs, the Forest Department has initiated a nationwide co-management initiative called the Nishorgo Support Project (NSP). NSP has been working in five protected area pilot sites since 2004 to involve local stakeholders that are directly or indirectly dependent on forest resources in activities to improve their livelihoods. The primary goal of NSP is to promote the conservation of biodiversity within the protected areas of Bangladesh. In addition, one of the project's five key objectives is to "strengthen the local economy and to better the living standard of local stakeholders" (NSP 2007).



In Bangladesh, women have rarely been part of local participation initiatives; yet it is quite impossible for such initiatives to achieve success without them. Shiva (1989, as cited in Svarstad *et al.* 2006) argues that women always act in a way that is more environmentally friendly than men. Thus, policy-makers and PA managers should identify and address women's needs and interests in PA management in order to ensure effective conservation policy (Little 1994 as cited in Brasell-Jones 1998). Skill-development training and participation in co-management activities helps women to alleviate their reliance on forests. NSP's conservation efforts will succeed only when women who depend on forests perceive more value in conserving protected areas than in exploiting them.

NSP has identified local stakeholders, and formed forest user groups (FUGs), in order to provide them with opportunities for alternative income generating activities (AIGAs) and simultaneously promote forest protection. This study examines how the involvement of women in these local forest management institutions improves their livelihoods by enhancing their participation, their income-generating potential, their socio-economic empowerment, and their physical and material well-being. The goal of this study is to influence policy-makers and site managers to increase the involvement of women in NSP activities and thereby enhance the quality of livelihoods for all people living in and around Satchari National Park.

Background

Satchari National Park, the newest of 17 PAs in Bangladesh, was established in 2005 to preserve the remaining natural hill forest patch of Raghunandan Hill Reserve Forest. *Satchari* means "seven streams," referring to the water channels that flow through the forest and form important catchments. Ecologically and botanically, the tropical evergreen and semi-evergreen forest of Satchari represents a transition zone between the regions of the Indian subcontinent and mainland Southeast Asia. This forest and its biodiversity are now highly degraded. As a result, a number of animal species have already become locally extinct, while several more are on the verge of disappearing, and an even greater number are variously threatened.

The park is located in Chunarughat Upazilla (the smallest local administrative unit) of Habiganj district, nearly 130 km northeast of Dhaka and about 60 km

southwest of Srimongal. Satchari National Park covers an area of about 1,760 hectares and is governed by the regulations of the Forest Act 1927 (Mollah *et al.* 2004). The park is surrounded by a number of tea estates, villages, towns, and cultivated fields. Nine tea estates are located close to the park. Only one forest village, Tiprapara, inhabited by 24 households of the Tripura ethnic group, is located inside the park. The other settlements that have stakes in the reserve are located in 14 surrounding villages, situated from 3 to 8 km away from the reserve. The people from these villages, as well as the tea estate laborers, depend on forest resources to varying degrees (NSP 2004).

Satchari National Park directly supports the local population by providing fuelwood, fodder, house-building materials, and timber as well as non-timber forest products like bamboo, cane, honey, sungrass, medicinal plants, vegetables and sand. Some people are directly dependent on these resources for their basic subsistence, or to earn extra income. Others are not directly involved with resource extraction, but are variously linked to forest resources through processing, trade and other forms of utilization.

Stakeholders

Stakeholders are defined as those who have rights or interests in a system. They include individuals, communities, social groups, governments or organizations that affect, or are affected by conservation efforts and goals. Local people, indigenous communities, and other stakeholders depend on forest resources for their livelihood and cultural survival (Rao *et al.* 2003). NSP recognizes three categories of stakeholders at Satchari National Park: primary, secondary, and institutional (Mayer 2005). Primary stakeholders are directly involved in the extraction of resources from the forest, or otherwise directly affect the forest. Secondary stakeholders have an indirect impact on the forest through trading or other means. Institutional stakeholders are involved in various development activities and the administration of adjoining areas.

Forest user groups

FUGs are comprised of groups of stakeholders identified by NSP that are directly or indirectly dependent on the forest, and thus consist of both primary and secondary stakeholders. At Satchari National Park, 20 FUGs are involved in NSP

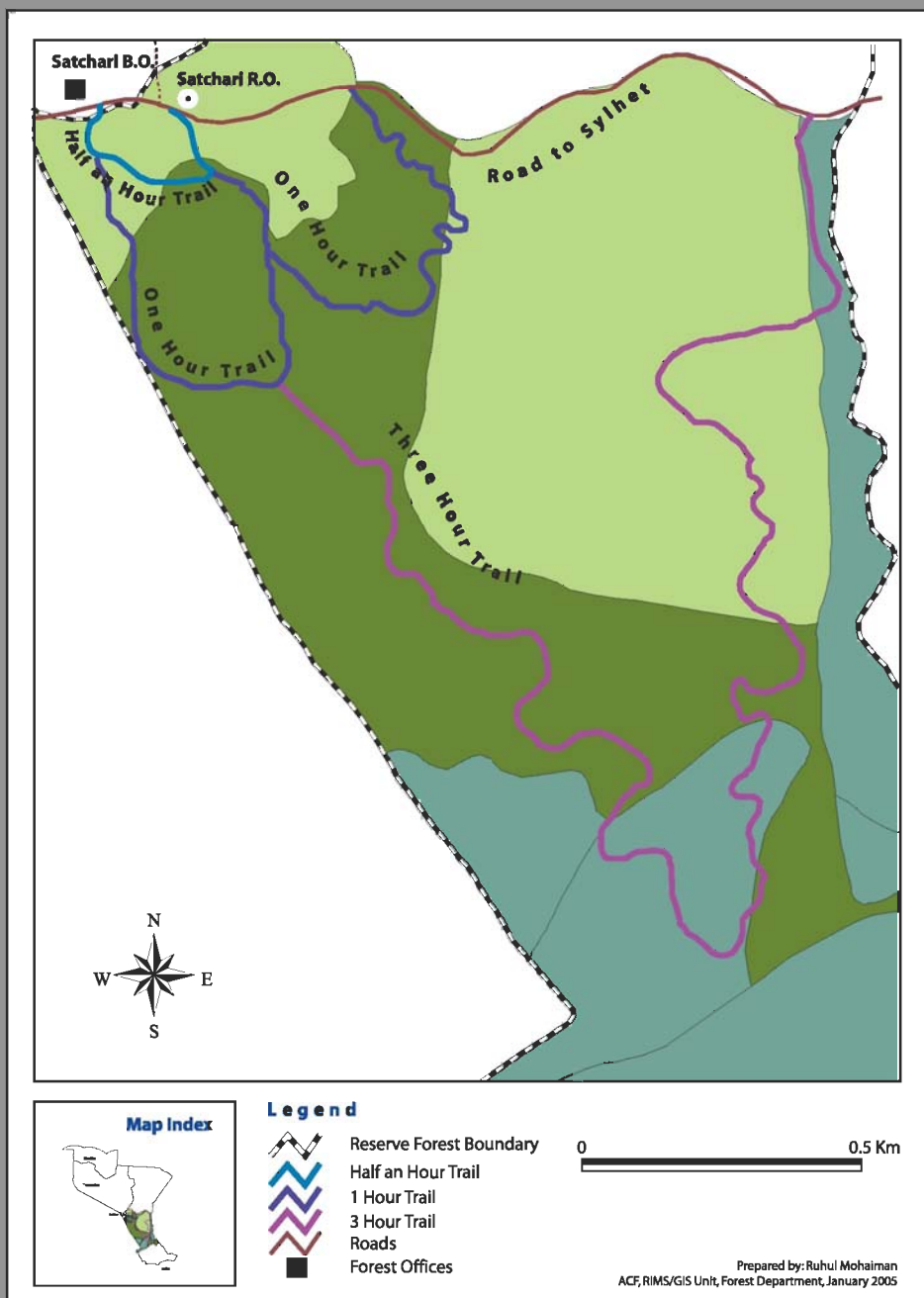


Figure 1: Map of Satchari National Park

activities, representing 273 households. Among these are 16 female FUGs and 4 male FUGs (NSP 2004). These local institutions seek to reduce dependence on the forest and to improve the quality of life of their members through the provision of training and AIGAs. According to the NSP site facilitator at Satchari National Park, Mr. Joy Dip Roy (personal communication, February 2007), FUGs seek to:

1. Reduce dependence on forest resources by increasing the use of alternative income sources.
2. Reduce fuelwood collection in the PA by developing alternative fuel plantations in the surrounding landscape.
3. Use alternative fuel stoves, and raise awareness of these alternatives among non-members.
4. Support co-management activities for managing the PA.
5. Support eco-tourism development in the park.
6. Generate savings for members' economic development and investment in alternative income-generating strategies.
7. Build awareness among the local population and surrounding community members about the importance of forest conservation.

Box 1: Successful activities of forest user groups

1. Participation in 60-70% of decisions regarding PA management.
2. Involvement in different types of awareness-raising programs such as people's theater and folk songs on biodiversity conservation.
3. Participation in local trainings on alternative stove making, production of alternative fuelwood trees, and landscape-development programs such as stair construction for the Satchari Tiprapara footpath.
4. Implementation of a program for planting trees along the Union Parishad road.

NSP has worked at Satchari National Park since 2004. To implement its co-management activities, NSP involves local people through the formation of FUGs.



To form a FUG, interested groups of stakeholders within a community first discuss their interest in forming a group with the NSP field organizer or with the Co-management Council members. Then, members conduct a survey among the community members to gauge their degree and nature of forest dependence, as well as their level of poverty. If the stakeholders fulfill the requirements, the Co-management Council gives them permission to form a FUG. Then the members select a chairperson, vice-chairperson, secretary and treasurer from among themselves. They organize meetings twice a month and NSP staff members or Co-management Council members follow the group's activities, helping them grow stronger. Box 1 above lists some successful activities of FUGs, and Box 2 below describes the types of AIGA training that FUG members have received.

Box 2: Types of training provided to forest user group members

- | | |
|---------------------------------------|-------------------------------------|
| 1. Cow fattening and milk-cow raising | 6. Home/vegetable gardening |
| 2. Poultry rearing | 7. Pig rearing |
| 3. Plant nursery development | 8. Eco-rickshaw service |
| 4. Fish raising | 9. Weaving |
| 5. Eco-tour guiding | 10. People's theater and folk songs |

Research objectives and methods

This study seeks to analyze the impact of co-management on the livelihoods of female FUG members in Satchari National Park. It examines how involvement of women in FUGs improves their livelihoods by enhancing their participation, their income-generating opportunities, their socio-economic empowerment, and their physical and material well-being. Considering all of these aspects, the specific objective of the study is to analyze the overall impact of participation in NSP-supported co-management activities on the livelihoods of female FUG members living in and around Satchari National Park.

I employed both primary and secondary data in my research. I collected primary data through personal interviews, using structured and semi-structured

questionnaires. I gathered secondary data by consulting relevant published and unpublished documents, participatory rural appraisal (PRA) reports, and the NSP site information brochure for Satchari National Park (NSP 2006). I also conducted focus group discussions and community mapping exercises.

NSP has formed 16 female FUGs in Satchari National Park in order to link women's livelihoods with forest conservation. I conducted my survey research among four of these female FUGs in two villages (two FUGs in each), Ratanpur and Baghbari, in Sajahanpur Union, from mid-February to late April 2007. The target working areas were selected through discussions with park officials, NSP staff members, staff members of the local coordinating NGO Rangpur Dinajpur Rural Service (RDRS), and the Co-management Committee for Satchari National Park. The four female FUGs selected from these two villages were Ratanpur Golap Mahila Dal, Ratanpur Shapla Mahila Dal, Uttar Baghbari Shapla Mahila Dal (No. 1), and Baghbari Meghna Mahila Dal (No. 2). During the survey, I randomly selected 10 members from each of the 4 FUGs for interviews (40 women total). I also randomly selected and interviewed 10 women who do not belong to a FUG from each village (20 total). Thus, I interviewed 60 women in all, 30 from each village. The interviews lasted 30-60 minutes for each participant.

Results and discussion

In this section, I will focus on four important elements of the livelihoods of female FUG members: (1) participation in NSP through FUGs; (2) employment and income-generating activities; (3) socio-economic empowerment; and (4) household physical and material well-being.

Participation in FUGs

Participation refers to involvement of local people in the design, implementation, and evaluation of a project (Brown and Wyckoff-Baird 1992). My findings reveal that women's participation in FUGs has been increasing over the past year. Out of the 40 FUG members interviewed, 14 joined in 2005 and 25 joined during 2006. This change has occurred partly because NSP encouraged people living in and near Satchari National Park to take part in various management and AIGAs. Approximately 65% of the non-members that I interviewed also expressed a desire to join



a FUG. According to my analysis, 87% of the women who joined FUGs and NSP activities did so through the influence of other FUGs members. After joining the FUGs, many women changed their lives by obtaining new sources of income and earning/saving more money than before. This, in turn, influenced other villagers to join. However, 55% of current non-members said they have not joined because they lack knowledge about NSP activities, and the remaining 45% reported that they were not interested in participating in NSP's income generating activities. Among the FUG members, 90% said they would encourage other people to participate in NSP-sponsored income-generating activities, while the remaining 10% said they would not try to influence others because they did not receive any benefits in the form of training or funding. It is noteworthy that such a large percentage of members feel the importance of encouraging non-participants to improve their livelihoods through NSP-supported income-generating activities.

Approximately 60% of members said they attend FUG meetings twice a month. These people generally feel that NSP represents a beneficial, ongoing project at Satchari National Park. In terms of participation in decision-making, approximately 50% of FUG members claim that their leaders make decisions affecting the group without asking for their input, while the other 50% felt that they have substantial influence in both decisions and final outcomes. Based on my own observations during the research, it is evident that group leaders have considerable influence in FUG decisions. In order to enhance female participation in co-management, it is essential that female stakeholders are able to communicate their concerns to NSP, and that NSP is aware of and able to respond to these concerns. For this to happen, women must participate more fully in decision-making processes of the FUGs and the Co-Management Committee.

Employment and income generation

Twenty one percent of FUG members and seven percent of non-members interviewed reported earning income from various AIGAs such as cow fattening, plant nursery development, poultry rearing and fish farming (all activities for which NSP provides training). Other respondents, both FUG members and non-members, are engaged in various other income-generating activities (Table 1).

Table 1: Income-generating activities of FUG members and non-members

Category	Members (% of respondents *)	Non-members (% of respondents *)
NSP-supported activities such as cow fattening, poultry raising, plant nurseries, fish culture	21%	7%
Agriculture	24%	19%
Fuelwood collection	4%	22%
Business (e.g., shop or tea stall)	23%	30%
Factory or office work	23%	22%
Services and crafts (e.g., rickshaw/van driver, weaving)	5%	7%

*NOTE: Due to multiple responses, percentages do not necessarily add up to 100%.

Forests have traditionally played an important role as a source of income and a basis for the livelihoods of local communities. One of NSP's six components is to "offer alternative income-generating opportunities to those presently living off of the sale of forest resources". Such activities help protect the forest. After participation in NSP, most FUG households have left the fuelwood collection profession and only 4% remain involved in this activity, whereas 22% of non-members are currently engaged in fuelwood collection. This suggests that NSP may have influenced FUG members to give up illegal fuelwood collection in favor of other options.

Table 2: Gross monthly income of respondents' households (in Bangladeshi Taka*)

Group	Mean	Median	Standard deviation	Minimum	Maximum
Members	6,587	5,000	4,305	360	16,600
Non-members	4,668	5,000	2,696	1,600	12,000
Total (both groups)	5,958	5,000	3,934	360	16,600

*NOTE: \$1.00 is worth approximately 65 Bangladeshi Taka (BDT).

The gross income of FUG member's (6,587 BDT) is 41% higher per month on average than that of non-members (4,668 BDT) (Table 2). One possible reason for this is that NSP actually creates more income-earning opportunities for FUG members. Members receive various types of training and can thus earn more from different sources. Total expenditures by members are also higher than those of



non-members in terms of clothing, education and health care. These results suggest that FUG members may lead a more financially solvent lifestyle. Although the cost of general education is the same, some women from both groups send their children to private tutors for better education, depending on their financial status. Furthermore, results show that only FUG members provide a dowry for their daughter's wedding. From the above evidence, we can surmise that FUG members are more financially secure than non-members.

While the financial status of women FUG members is better than that of non-members, it is still not secure, and they try to survive by taking loans. Fifty percent of women FUG members received credit from NGOs (eight NGOs unrelated to NSP provide credit to villagers at Satchari National Park); 16% took a loan from the bank; and 33% borrowed money from neighbors or other relatives. On the other hand, all women FUG non-members took loans from their relatives, indicating that they did not enjoy the same level of access to formal credit sources. One reason for greater access to financing among FUG members may be that these women are more socially empowered. In Bangladesh, especially in rural areas, empowered women experience more social status and mobility, and thus have greater access to financial networks and services. Other dimensions of empowerment are discussed in the following section.

Socioeconomic empowerment

Women play a significant role in resource management because of their diverse skills, their knowledge, and their experiences, which are different from those of men (Brown and Switzer 1992). NSP gives local women an opportunity to participate in resource management by allowing them to join FUGs. FUG membership also empowers women in terms of their income-earning opportunities, health, decision-making power, and skills development. In Bangladesh, women are deprived of status and respect in both their family environment and the larger society. However, after joining a FUG, about 22% of women reported that they received greater respect in both their community and their own families. Moreover, over half of these women (12%) reported that they gained greater decision-making power in their own households. In addition, approximately 26% of female FUG members said they enhanced their employment status, and 17% said they increased their income (Table 3).

Table 3: Benefits female FUG members have received from NSP participation

Category label	Members	
	Count	% of respondents (n=60)*
Increased income	13	21.7%
Better health	7	11.7%
Better employment	20	33.3%
More decision - making power	9	15.0%
More respect in family and society	17	28.3%
Increased skills	5	8.3%
Other benefits	5	8.3%

*Note: Due to multiple responses, percentages do not add up to 100%.

In terms of decision-making power, 20% of female FUG members reported that they make most decisions in the household, compared with only 12% of non-members. However, approximately 55% of members and 61% of non-members report that both men and women make major decisions collaboratively (Figure 2).

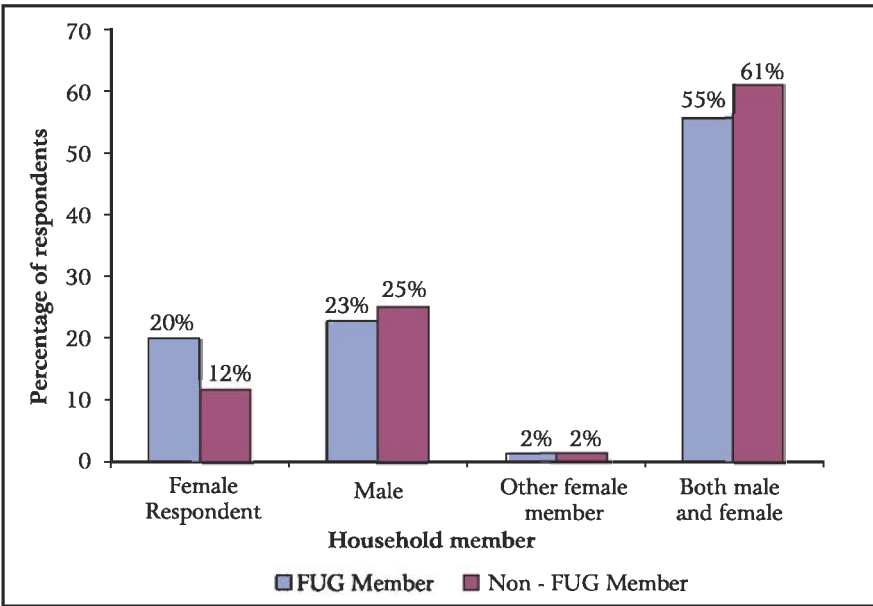


Figure 2: Who has the decision-making power in the household?

Training is a key component of NSP activities in the communities surrounding Satchari National Park. Results reveal that nearly 59% of female FUG members



received training and 41% of these have since become involved in AIGAs. Furthermore, NSP has provided 76% of those FUG members who received training in livestock maintenance with a cow, while approximately 16% of them received seeds and accompanying training for their home and vegetable gardens. As a result, many of the FUG members now have their own vegetable gardens and livestock, whereas before they worked as a tenant in other villagers' gardens. They not only earn money from these activities, but can also meet their household's nutritional requirements. NSP does not charge any fees for training their participants, nor do they generally provide cash grants or loans to them. Instead, they provide the necessary equipment and raw materials to members upon completion of training (Table 4).

Table 4: Training activities provided to FUG members by the Nishorgo Support Project

Type of training	Members	
	Count	% of respondents
Cow fattening & milk cows	28	76%
Plant nursery development	2	5%
Fish culture	1	3%
Home and vegetable gardening	6	16%
Total responses	37	100%

Physical and material well-being of households

Involvement in FUGs has also helped women to improve their own physical and material well-being, as well as that of their household members. With respect to health status, however, there is little evidence that FUG involvement has enhanced the health of members' households. In fact, in some cases, the health situation was worse for FUG members' households. For instance, results show that 16% of members' households have suffered from acute illness, while none of the non-member households suffered from such illnesses. Moreover, approximately 32% of female FUG members' households were affected by stomach-related diseases, compared with only 15% of non-members' households. During the survey period (April 2007), people generally suffered from different seasonal illnesses. Despite these

discrepancies in the incidence of illness and disease, it is encouraging that almost 100% of both member and non-member households consulted doctors, and that approximately 92% took medicines. Furthermore, the majority of both members and non-members reported that they use water from deep tube-wells for their daily household needs. As a result, both groups are more secure from water-borne diseases. Nonetheless, approximately 10% of FUG member households reported suffering from a water-borne disease during the past year, perhaps because they used water from shallow tube-wells; whereas nearly all of the non-members used water from deep tube-wells and none were affected by water-borne diseases. Even when considering stomach illnesses, which are frequently transmitted through water, the incidence among non-members is considerably lower (42% for FUG members versus 15% for non-members).

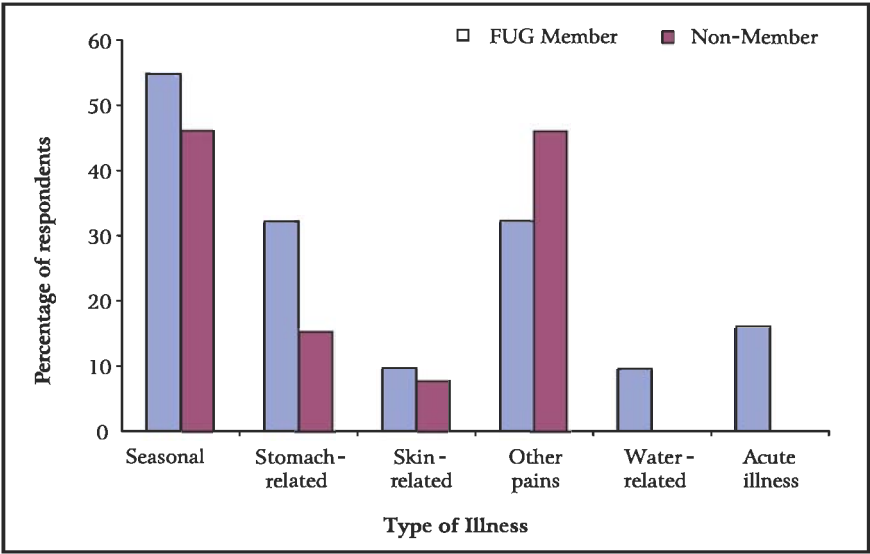


Figure 3: Health status of FUG member vs. non-member households

Approximately 80% of the homes of both members and non-members were built of mud, while 11% of non-members’ and 4% of members’ houses were made of straw. Furthermore, approximately 4% of FUG members’ houses were built with concrete, whereas none of the non-members’ were. This suggests that FUG members’ homes had more developed infrastructure.



Conclusions

Promoting sustainable rural livelihoods requires the building of household and community assets. The livelihoods of those respondents surveyed in this study are mostly agriculture-based. I found little difference in the types of households, means of transport, livestock, ornaments, and other equipment between FUG members and non-members. Likewise, I found few advantages in education or health among FUG members. I did, however, find relatively large differences in terms of income, expenditures, and socio-economic empowerment. These differences suggest enhanced livelihoods of members in the future, in terms of employment opportunities, income generation, socio-economic empowerment, and physical and material well-being. Moreover, these changes in household status among FUG members may influence other stakeholders, especially non-member women, to participate in FUGs and NSP activities.

The main objective of this study was to analyze the impact of participation in co-management activities of NSP on the livelihoods of female FUG members at Satchari National Park by comparing them with non-members. The results reveal that involvement of female FUG members in NSP activities has increased within the past year. After participation in these activities, a majority of female FUG member households have left the fuelwood collection profession and have become more involved in AIGA activities – such as cow fattening, nursery development, poultry rearing, and fish culture – thanks to NSP training. Non-members, on the other hand, have not reduced their involvement in fuelwood collection, which is destructive to the forest. Thus, a woman's degree of involvement in a FUG appears to correlate with her household's level of dependence on the forest. The overall gross income and expenditure on various items such as clothing, education, and health care was also greater among members than among non-members, suggesting that the households of FUG members may be more economically solvent. Finally, more female FUG members than non-members report being empowered, in the form of making major decisions in their households.

Results from this report suggest that women who participate in the activities of NSP, and collaborate in conservation efforts via the FUGs, can enhance their livelihoods through advancing their participation, their income-generating opportunities, their socioeconomic empowerment, and their physical and material well-

being. However, to make their livelihoods truly sustainable in the long run, a lot more support is required from NSP, especially for the women of Ratanpur and Baghbari villages. These women want more skill development training, more equipment and raw materials, and more financial capital so that they can invest in productive activities and infrastructure development. Although different types of NGOs are providing them with micro-credit, many women are unable to repay their loans and expect assistance from NSP. However, subsidizing loan payments is not an effective use of NSP's funds. Fulfilling other livelihood requirements may encourage members of FUGs to invest more and to create more income-generating activities, thereby enhancing their own livelihoods. NSP needs to integrate these suggestions into their co-management policy.

In Bangladesh, local socio-cultural values and gender norms are very strong, so any new interventions from the outside are often treated skeptically or negatively. As a result, women from forest villages often fail to realize long-term positive impacts for their livelihoods. Some co-management activities are aimed at changing the attitudes of local people through involving them in activities at designated project sites. The sample in this study was quite small and the views of respondents may not necessarily reflect the overall picture. A more in-depth study is needed in order to tease out the specific impacts of women's participation on their socioeconomic, cultural and material well-being. Nonetheless, these findings provide important insights for further research and can contribute to the improvement of co-management activities for PAs like Satchari National Park. They may also be helpful to policy-makers and planners, researchers, and program managers for implementation of future co-management plans and activities in Satchari National Park and other PAs. Rao *et al.* (2003) suggest that, to succeed in co-management planning and practice, local people must be more aware of, and more involved in, management procedures and decisions. This study suggests that, due to their close connection with the forest and their important social and economic function in maintaining household well-being, women can play a critical role in this regard.

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Plate 1:
The researcher
conducting survey
interviews at
Satchari National Park.

Plate 2:
Cows provided by NSP
to a FUG member at
Satchari National Park



Plate 3:
After receiving
training, a FUG
member built her
own poultry farm

Plate 4:
Members of Ratanpur
Mohila Dal working in
their vegetable garden

