

Strategies for Sustainable Forest Conservation Practice: A Case Study on Lawachara National Park

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Abstract

The rapid growth of population in Bangladesh along with unplanned urbanization causes a serious threat to the marginal forest resources of the country. The degrading situation spurred government effort to designate and establish a number of protected areas (such as national park, wildlife sanctuary and game reserve etc.) with significance of biodiversity under the provision of Wildlife Preservation Act, 1973. The Nirshorgo Support Project (NSP) was designed to develop, promote and implement forest co-management model in order to conserve the forests of the protected areas. This paper examines and appraises the existing conditions of Nirshorgo Support Project in Lawachara National Park of Moulvibazar. Based on field visits and interviews of the stakeholders of the project this paper tries to evaluate the Co-management operation towards the goal of sustainable forest conservation practice. Towards this ends it identifies stakeholders perception about the involvement of Kamalgonj Upazila Parishad in forest conservation for reducing the drawbacks of the existing practice like the present conflict between the Forest Department (FD) and Co-management Committee, inadequate funding and training; and ambiguity in the future course of the project. As an act in response, local government is felt to be an active partner by the stakeholders of Lawachara National Park for forest conservation in a sustainable way.

Key words: Co-management approach, Sustainable forest conservation, Stakeholders' perception.

1.0 Introduction

Forests form an integral component of the biosphere and essential for the stabilization of micro and macro climate of a country. Unfortunately, forests are being destroyed at unprecedented rates due to unsustainable and illegal logging, agricultural expansion, population pressures, large scale industrial and infrastructure projects, and national policies that prop up forest conversion to other uses. To avoid this unprecedented rate of forest destruction, a sustainable forest management practice is required. The goal of such a sustainable forest conservation practice is to maintain and enhance the long-term health of forests' ecosystems while providing ecological, economic, social, and cultural opportunities for the benefit of present and future generations. Collaboration among diverse stakeholders can strengthen such management efforts by resolving conflicts, pooling resources, and enlisting community support (Wikipedia, 2008).

The government of Bangladesh has made an effort by gradual shifting of the existing practice of the forest management approach from the Forest Department (FD) who was in a traditional custodian's role to a more participatory approach. Forestry Sector Project (FSP) has been implemented with a major policy shift in favor of a participatory management of the country's forests and protected areas (FSP, 2000). The Nirshorgo Support Program of the FD was adopted in the form of a 'co-management model'¹ in 2004 with the financial support of USAID in order to conserve the forests of the protected areas by building partnerships between FD and main stakeholders from local community (NSP, 2006a and 2006b). Such a shift in management approach is hoped to be sustainable as a forest conservation strategy which needs to keep a balance between improvement of the production by the community and the supply of the forest products for the community itself. Therefore, the paper aims to explore the activities of

¹ Collaborative management or co-management is defined as 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. An equitable sharing of benefits and costs of protected area's protection and management among the stakeholders is, therefore, an important part of co-management approach. An effective linking of socio-economic and ecological incentives and biodiversity conservation will be instrumental in eliciting stakeholders' participation in this approach.

Nirshorgo Support Program in Lawachara National Park at Kamalgonj Upazila, Moulvibazar District and to evaluate those towards the objective of sustainable forest conservation in Bangladesh.

1.1. Lawachara National Park and Emergence of Nirshorgo Support Program (Nsp)

The total forest in the north-eastern part of Bangladesh i.e. Moulvibazar district is known as West Bhanugach Reserved Forest (WBRF) and Lawachara National Park is only a part of the WBRF. (FSP, 2000) (Map 1) During the initiation of the project, the Nirshorgo Support Project of USAID made a land use plan of Lawachara National Park which included 250 hectares available forest (at that time) along with additional 281 hectares proposed extensions. So, the existing area of Lawachara National Park is 1531 hectares. The parts of the existing forest include the following. (Table:1)

Table: 1- Existing Forest Area

Major coverage of natural primary forest	80.6 hectares
Long rotation plantation	1110 hectares
Short rotation plantation	187 hectares
Bamboo and cane plantation	25 hectares
Village area	129 hectares
Total	1531.6 hectares

The major coverage of natural primary forest includes the Forest Research Institute, unconverted betel leaf plots and small patch of forest. The long rotation plantation (Teak, Jarul, Chaplash, Garjan etc.) covers an area of about 1110 hectares and short rotation plantation about 187 hectares. Bamboo and cane plantation covers an area of about 25 hectares. Out of the forest, the village area of 129 hectares among which about 110 hectares are covered by betel vines area and the rest are homestead lands. FSP (2000) compiled lists, based on studies, which include a number of species of plants and animals: about 176 plants, 4 amphibian and 6 reptiles, 246 birds and 20 mammals, and 17 odonate insects (Ahsan, 1995).

However, the population pressure and their demand on the resources of the forest have endangered the existence of the forest and its rich eco-system. In practice sustainable forest conservation is the attainment of balance - balance between society's increasing demands for forest products and benefits, and the preservation of forest health and diversity. This balance is critical to the survival of forests, and to the prosperity of forest-dependent communities. Forest managers must assess and integrate a wide array of sometimes conflicting factors - commercial and non-commercial values, environmental considerations, community needs - to produce sound and sustainable forest plans.

At present it appears difficult for Forest Department to maintain the cherished sustainability with their traditional one way management system. Nirshorgo Support Project (NSP), the five-year management plan, was prepared for three protected areas (Lawachara National Park, Rema-Kalenga Wildlife Sanctuary and proposed Satchuri National Park) under the USAID supported NSP (2003/04 - 2007/08) (NSP, 2006a and 2006b). Nirshorgo support project in the Lawachara National Park has some specific objectives: develop a functional model for formalized co-management; create alternative income generation opportunities for key local stakeholders; develop policies conducive to improve protected area management and build constituencies; strengthen the institutional systems and capacity of the FD and key stakeholders; build or reinforce the infrastructure to enable better management and provision of visitor services at co-managed sites; and design and implement a program of habitat management and restoration for pilot protected areas.

The attempt to manage forests in a sustainable way usually faces many hurdles. Efforts to overcome these hurdles at the policy, legal and project level have met with mixed success. The persistent stresses on Lawachara's forests are pressure from timber concessions, from overcapacity in forestry related industries and from illegal logging. Inadequate

² In Lawachara National Park, the Co-management committee consists of 15 members elected by the Conservation Council following a structured guideline. The members are - Range Officer (convener), three representatives from forest villages, two from NGO organized federations/groups, two from local government, two from NGOs, three from local elite, one from resource owning groups, one from law enforcing authorities and two from Forest Department. The Co-management committee has a Chairperson, Vice-chairperson and a Secretary. Half of the committee retires voluntarily every year and new members will be elected against the posts (a member can be elected two consecutive terms).

implementation and monitoring systems and a capacity building deficiency are the chief deficiencies for achieving sustainable forest management. Although co-management is important in forest conservation as it has been adopted in this project. There are circumstances in which it is absolutely necessary, for example high population pressures and resource use conflicts, communal ownership and in smaller and more vulnerable protected areas (Roche & Dourojeanni 1984). In such cases, conservation without co-management is doomed to failure. Nevertheless, co-management in itself provides no guarantee of success. The outcome of co-management processes often depends on additional factors such as institutional or legal frameworks, and the education or interests of local people and other stakeholders.

In addition, majority of local people are poor and unemployed. Resource extraction from the forest serves as the primary sources of income and perhaps, the only livelihood option for them. The NSP engaged those people in the forest management program by including them in the co-management committee. But they are not well-benefited from the program and even their survival is very much difficult. On the other hand the cases against them, which were filed in the previous records, are not still withdrawn. Moreover, some corrupted staffs of the Forest Department are involved in the illegal logging of forest. Thus, the actors of the forest management approach are not transparent and accountable and consequently the sustainability of forest management practice in the Lawachara National Park cannot be attainable.

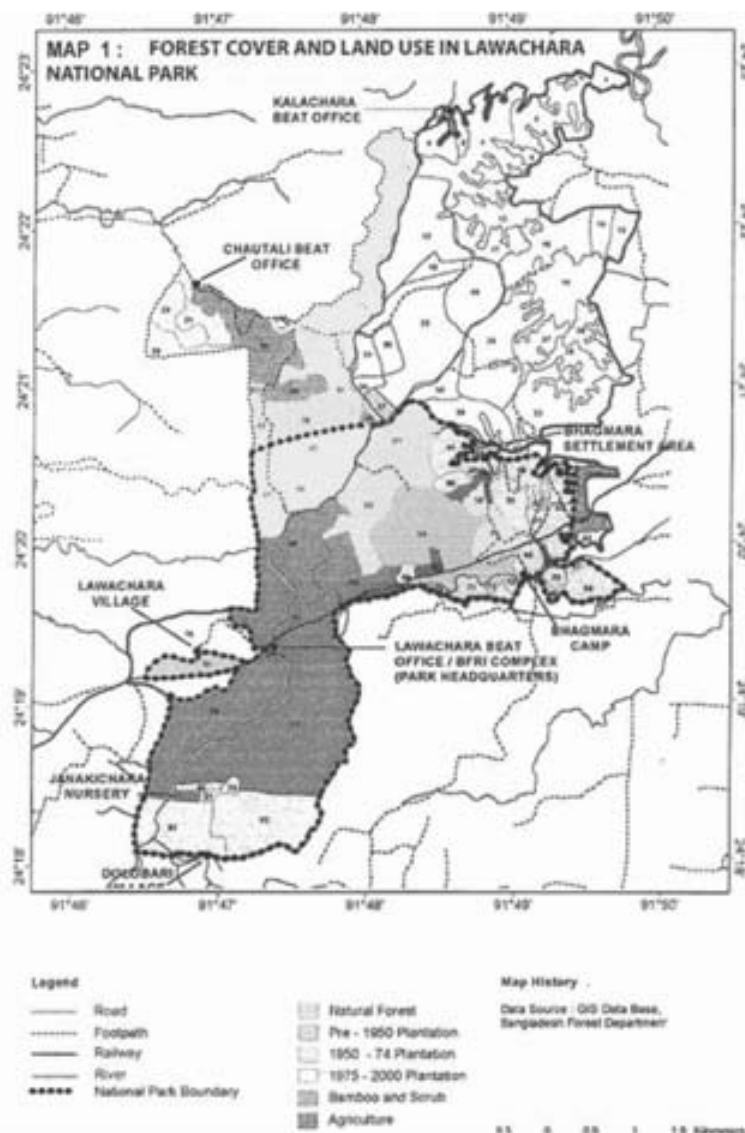


Figure 01: Map of Lawachara National Park

1.3. Research Methodology

The paper is based on data which are collected both from available primary and secondary sources. A structured questionnaire survey was undertaken on the Local people, beneficiaries from the project, employees of the NSP, co-management committee, patrolling group members and staffs of the Kamalgonj Upazila Parishad. The interview was conducted during February 2007 to identify the present status of Lawachara National Park and problems and prospects of Nirshorgo Support Project.

At the First stage, the stakeholders were asked about the functioning of the Nirshorgo Support Project and its drawbacks and benefits. Later on, the stakeholders' perspectives on Kamalgonj Upazila Parishad as a participant in the co-management committee in forest conservation practice were assessed and categorized following the factors given below in Table 2:

Table 2: Factor array of Kamalgonj Upazila Parishad's participation

Factor A	unwilling participant
Factor B	inconsequential participant
Factor C	problematic participant
Factor D	potential participant
Factor E	most positively participatory partner

Source: Pini et al., 2007

After the assessment of Kamalgonj Upazila Parishad's participation the research had been conducted in three key stages which encompassed to examine the extent to which stakeholders supports Upazila Parishad to be engaged in this new role (i.e. co-management) of forest conservation. The first stage involved in generating a set of statements drawn from a communication concourse of attitudes and perspectives on Upazila Parishad and forest conservation by reviewing theoretical, policy documents and research reports on the forest conservation approaches those are internationally exercised and succeeded.

To manage the decision process during statement selection the researchers adopted a structural approach to identify domain themes of engagement. Table 3 describes the four themes of engagement, which can be acted as facilitators or barriers to the take-up of forest conservation by the concerned Upazila Parishad (Keen et al., 1994; Adams and Hine, 1999; and Wild River, 2003).

Table 3: Statement set structure

Major theme	Levels
A. Engagement factors	(a) Community: Community refers to the population of people living in the study area and their involvement in forest conservation. (b) Capacity: Capacity refers to both human and financial resources of the Kamalgonj Upazila Parishad. (c) Connection: Connection focuses on the extent to which Upazila Parishad is involved in inter-agency networking in relation to forest conservation. (d) Commitment: Commitment refers to the level of ownership the Upazila Parishad may have in terms of forest conservation.
B. Dimensions	(a) Facilitators (b) Barriers

Source: Pini et al., 2007

Later on, the P-set (Participant-set, i.e. those who are questioned in the questionnaire survey) was structured considering different stakeholders of Upazila Parishad (UP) and forest conservation (Table 4). A total of 30 stakeholders, who were selected randomly, were included in this interview season. Among them, number of participants who had expressed the perspective illustrated by Factor A, B, C, D and E were respectively 6, 2, 5, 8 and 9.

³ Total number of households in villages surrounding the park is approximately 4000. Of them, 136 are tribal (Khasia and Tripura) and among this households 64 are represented by forest villagers (Field Survey, 2007). Stakeholders were staff of Upazila Parishad; land encroachers; sawmill, brick field and furniture owners; volunteers; and staff of the project. About 10 percent of the households and 30 percent of the co-management committee were surveyed. However, the Samples from the other stakeholders were determined randomly.

Table 4: P-set structure

Stakeholders	No.
1. Staff of Kamalgonj Upazila Parishad	2
2. Fuel wood, bamboo, honey, fodder, bark, and sun grass collectors	2
3. Land encroachers	2
4. Sawmill, brickfield and furniture shop owners	5
5. Local and Indigenous (Khasia and Tipra) people	5
6. Volunteers	4
7. Staff of Nirshorgo Support Project	5
8. Members of co-management committee	5

The final stage involves interpretation of the factors identified by valuing them within the range from 'most likely (+5)' to 'most unlikely (-5)' with respect to the selected statements (Table 5).

Table 5: Value distribution

Most unlike					Most like						
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	

To facilitate data collection, statements were written in small cards and sorted into piles in a quasi-normal distribution. In this study the instruction was: 'What is your perception about the existing forest conservation system?' 'Will the involvement of Kamalgonj Upazila Parishad ensure the sustainable management of forest conservation?' Table 5 presents the complete factor array, including item scores (value of perspective x frequency of opinion of the participants) and a list of statements and enables us to examine the five ideal factor arrays for each of the statements characterized by each factor as a facilitator and barrier.

Furthermore, relevant information and related data (on forest conservation projects; functions, organogram and responsibilities of co-management committee; and the role of Forest Department) and the maps of the study area were also collected from the branch office of Nirshorgo Support Project at Srimongol, Nirshorgo Head Office, Forest Department, USAID and other NGOs working on forest conservation.

2.1. Analysis of the Existing Co-Management System

The research starts with the analysis of the present practice of Co- management system under the umbrella of Nirshorgo Support Project in comparison to the traditional role of the Forest Department at local level who acted only as a custodian of the resources of the forest. The strengths (positive approaches), opportunities (success), weaknesses (barrier to fulfill the objectives) and threats (obstacles to attain long-term success) of the Nirshorgo Support Project in Lawachara National Park can be evaluated by the SWOT analysis.

2.1.1. Strengths

- o **Co-management approach:** The co-management approach is used in the NSP to make an equitable share of benefits and costs of forest protection and management among the stakeholders and Forest Department, as legal custodian of protected area. This approach makes an effective linking of participatory benefit sharing agreements to conservation by the local stakeholders and brings out the loggers from illegal cutting of timber.
- o **Landscape Development Fund (LDF):** The sharing of benefit from the harvests of plantations is a main mechanism for eliciting people's participation and forming Tree Farming Fund (10% of total proceeds). In addition, an initial amount of USD 300000 earmarks is used as seed money (Field survey, 2007) It appears that the flow of benefits to local people is much less in co-management of protected areas.
- o **Habitat management program:** The outcomes of this program include preparation of updated forest cover and land use map, delineation of park boundaries, conflict resolution between Forest Department and co-management committee, and provision of incentives for good protection efforts and disincentives for poor effort by Forest Department and NSP (Field survey, 2007).
- o **Management zoning:** The management of core zoning is the long-term protection and rehabilitation of forest cover, restoration and manipulation of habitat of selected wild life species and plantation. A study on assessment of Forest Department's institutional organization and capacity to manage the core zone (protected area) was completed under Nirshorgo Support Project (NSP). The main objectives were to identify the key elements of a sustainable protected area system, assessment of current status of protected area management element and preparation of recommendations along with delivery mechanisms. The management support system of institutional organization will include organizational management,

information management technology, spatial data management, financial organizational system, institutional orientation to co-management, legal support, law enforcement, wildlife insurance, education and communication, research, monitoring and evaluation, inter-sectoral conservation plan, public-private partnership and sustainable financing.

2.1.1.2. Opportunities

- o **Reduction of illegal logging** up to 90 percent: From the field survey, it is revealed that the previous percentage of logging has been reduced to a large extent as no new cases have been filed in the local police station during the last three years (Field survey, 2007). Nevertheless, the allegation was raised against some staffs of the Forest Department who are involved in illegal forest logging.
- o **Building self-sufficiency and eradication of rural poverty:** Through the self-employment training program for the local people on different sectors of small enterprises, NSP is participating in rural development efforts. Initially NSP collects TK 10 per week from 15 women in a group after completion of three days training. Three members out of fifteen are given grant of TK 2000 for their self-employment e.g. livestock rearing, small cottage industries and vegetation etc. one percent share of the total earned profit from activities performed by the grant is supposed to be restored in the fund. From this fund (excluding TK 1100 as safety margin or reserved fund) money is given to the other members as loan (Field survey, 2007).
- o **Eco-tourism:** NSP has taken various programs to develop the system of eco-tourism such as identification of tourist spots; provision of guesthouses; availability of information materials like fixed signs, brochures; and development of trail network for visitor's movement.
- o **Increased bio-diversity:** The major occupations of the local people (Khasia, Tipra and Bangalee) are agriculture (betel vine, pineapple and lemon cultivation) (65-70 percent) followed by day labor (10-15 percent), fuel wood collection (5-10 percent) and small business (3-5 percent) (Field survey, 2007). Due to the conversion of forest into agricultural land, many species e.g. Hoolock gibbon and capped langur were endangered. For this, NSP has taken model development concepts and procedures for two selected species Hoolock gibbon and capped langur. Habitat Suitability Index (HIS) models have been developed for each species, which increased their number (NSP, 2006a and 2006b).

2.1.1.3. Weaknesses

- o **Lack of future direction:** The time duration of NSP is up to 2009 and after the completion of NSP the flow of money supplied as grants and remunerations will be stopped. After the termination of the project, the future of the forest conservation program and training and activities of co-management committee will be uncertain.
- o **Lack of initiative:** Little amount of remuneration (TK 2250) is given to the co-management committee members and the secretary. Before their engagement in the co-management committee, they earned more than TK 5000 monthly by illegal logging of forest (Field survey, 2007).
- o **Inadequate training and insufficient funding:** NSP provides training on various sectors like poultry, nursery, and fishery etc. Nevertheless, the training period is only 3 days and the training is given at Srimongol town which is far away (more than 30 km) from the Lawachara National Park. The participants are given material grants (ducks, chicken, goat etc.) which are worth of TK 2000 instead of cash after the completion of the training program. Consequently local people feel no interest in this training program (Field survey, 2007).
- o **Accountability and transparency:** Even though the survey found that no case was filed against the local people during the last couple of years, illegal logging is still going on by the corrupted staffs and guards of the Forest Department. Thus, lack of honest and responsible officers and guards, there is no chance of accountability and transparency in the administrative system.

2.1.1.4. Threats

- o **Conflict between interest groups:** Conflicts are rising between the Forest Department and co-management committees and there is also lack of trust between them. The members of the co-management committee

4 According to the Worldwide Fund for Natural India (WZF), eco-tourism is an alternative tourism and it respects social and cultural traditions. It is decentralized in nature and seeks to integrate rural development. Eco-tourism would ideally generate revenue for conservation of natural and cultural wealth and afford cultural exchange among the people. But its most avowed objective would be to attain a balance between nature and human beings and ensure the co-existence of both (Ghosh, 2000 p. 179).

were assured about the withdrawal of the cases against them but still now there is no initiative by the Forest Department and the law enforcing agencies.

2.2. Assessment of Kamalgonj Upazila Parishad's involvement in the co- management system

Clearly, the alarming rate at which forests are being reduced and degraded is unlikely to be arrested -- much less slow down -- if current management practices continue to persist. A change in the management system is required.

Furthermore, different questions were explored regarding the existing management system such as: What will happen to those people who became jobless due to NSP? What will happen if the members of the co-management councils fail to prove their transparency, accountability after the departure of NSP? Is there any possibility to take the responsibility of co-management approach by the local rural government?

The participation of Kamalgonj Upazila Parishad in the forest conservation approach along with local people and Forest Department was taken under consideration for attaining sustainable management of the forest conservation. The perspective of the stakeholders regarding the effectiveness of the participation of the Upazila Parishad in the current conservation practice was analyzed.

The well-built perspective of those respondents (20%) who loaded on Factor A (inconsequent participant) which identified that UP will be unwilling participant because it has lack of skill on defining, monitoring, planning and managing forest conservation; lack of knowledge on cost of environmental loss, ecosystem degradation and species decline; non existence of property right of indigenous people and poorly coordinated policies and service delivery. This group of stakeholders strongly disagreed about the statements like 'UP has moved from a siege mentality to a proactive agenda in relation to forest conservation' and 'UP has strong record on consultation in relation to forest conservation' (See: Table 5 and 6).

The stakeholders (6%) loading on Factor B (indicating UP as inconsequent participant) articulated a point of view that gives credence to the views 'Public distrust of local government intention of community involvement and 'Inexperienced elected members and staff in community engagement'. While this group of stakeholders has a very strong negative reaction to the statement, 'There are some dynamic and passionate individual staff and councilors who are committed to forest conservation' and 'Upazila Parishad has moved from a siege mentality to a proactive agenda in relation to forest conservation' (See: Table 6 and 7).

Those respondents (16%) loading on Factor C (indication UP as problematic participant) gave a high level of emphasis to 'Parishad is overloaded with inappropriate program objectives and performance indicators and onerous upwards accountability burdens', 'Policies and service delivery are poorly coordinated and inefficiently delivered' and 'Council is more familiar with engineering works' (See: Table 6 and 7).

Some respondents (26%) loading in Factor D (indicating UP as potential participant) have had a much more positive experience of UP's engagement in forest conservation. They assigned high negative value to 'Non-existence of statutory property rights for the indigenous people'. On the other hand, they strongly believe that UP should be responsible for conflict resolution between FD and Co-management committee. This is not to suggest that these stakeholders are entirely positive about UP's commitment to forest conservation (See: Table 6 and 7).

A significant number of respondents (32%) loading on the Factor E (indicating UP as positively participatory partner) can be differentiated from the other participants in that they agreed strongly that councils must address forest conservation through engagement with the community and other stakeholders. They articulated such a stance by assigning a highly positive value to statements 'Even if the local people isn't using the term forest conservation they are still likely to be interested and committed to the issues' and 'Upazila Parishad has a strong record on community consultation in relation to forest conservation' and 'Upazila Parishad needs to focus on educating and empowering the community about forest conservation' (See: Table 6 and 7).

Table 6: List of statements and factor array (Upazila Parishad as a facilitator)

Statements	Factor (Avg. value of perspective x no. of participants)				
	A	B	C	D	E
Act as a facilitator					
1. Responsible for multilateral benefit sharing agreements/co-management agreement	-24	-2	-15	32	27
2. Sustainable utilization of Landscape Development Fund (LDF) by Upazila Parishad to set up micro-enterprises, offering self-employment opportunities	-18	2	-15	16	27
3. Responsible for conflict resolution between Forest Department and Co-management committee.	-18	2	-15	40	27
4. Upazila Parishad is employing environmental specialist staff who help them understand their responsibilities and train up other staff and community members	-6	-2	-10	-8	-18
5. There are some dynamic and passionate individual staff and councilors who are committed to forest conservation and they are making a difference	6	-10	-10	8	36
6. Upazila Parishad needs to pay its environmental officer from recurrent funds so as to safeguard the job	0	0	-10	24	18
7. One of council's role is to go out to people and articulate forest conservation goals in a language they understand	-12	-8	5	8	36
8. Even if the local people isn't using the term forest conservation they are still likely to be interested and committed to the issues	18	-6	25	-8	-9
9. Certain individuals and groups have greater political power and their voices are heard most strongly	0	6	-5	32	45
10. Co-management committee is becoming more used to working co-operatively on projects and for planning	-30	-6	10	8	27
11. Upazila Parishad has moved from a siege mentality to a proactive agenda in case of forest conservation	-30	-4	-10	-24	-27
12. Upazila Parishad has a strong record on community consultation in relation to forest conservation	-30	-2	-10	-40	-36
13. Parishad should provide in-kind and direct financial assistance to community based groups	-30	-2	10	24	45
14. Successful management of forest conservation depends on Upazila Parishad taking a lead role	0	-8	-15	-24	-9
15. Upazila Parishad needs to focus on educating and empowering the community about forest conservation	0	-4	0	24	0
16. People don't get involved with forest conservation because they think they have to be experts or have scientific knowledge	0	-6	-20	-16	45
17. Parishad could raise funds through environmental levies or provide financial incentives	0	-8	-20	-16	-36
18. Indigenous cultural and 'adventure' tourism are potential niche markets for economic development	0	0	-5	16	9
Total	-174	-58	-110	96	207

Table 7: List of statements and factor array (Upazila Parishad as a barrier)

Statements	Factor (Avg. value of perspective x no. of participants)				
	A	B	C	D	E
Act as a facilitator					
1. Knowledge about forest conservation is lacking amongst council staff and elected members	24	2	0	16	9
2. Involving the community is very time consuming	0	4	10	0	-27
3. The range of skills required for defining, monitoring, planning for and managing forest conservation is not currently readily available within the Upazila Parishad	30	0	-20	-32	-9
4. The ministry and higher authorities recognize Upazila Parishad as key stakeholders but rarely involve them in leadership roles.	24	-4	-5	-16	18
5. Council is more familiar with engineering works, with the more traditional sets of tangible costs and benefits and has little consent about the cost of environmental loss, ecosystem degradation and species decline	30	2	25	32	9
6. There is lack of appropriate data on forest conservation at the Upazila level	-6	8	-20	-8	0
7. Upazila Parishad does not have the resources to take an active role in forest conservation practice	-6	2	0	-16	0
8. There is a lot of public distrust of government seeking community involvement	6	10	-10	-16	-18
9. The dilemma for Upazila Parishad is that they may need people's participation but they fear it more	0	2	0	-32	-36
10. Elected members and staff are not experienced in community engagement	6	10	0	0	-27
11. Upazila Parishad sees forest conservation as a Forest Department function	6	0	-15	0	0
12. Non-existence of statutory property rights for the indigenous people	30	2	15	-40	-36
13. Policies and service delivery are poorly coordinated and inefficiently delivered	30	6	25	-24	-36
14. Parishad is overloaded with inappropriate program objectives and performance indicators and onerous 'upwards accountability' burdens	24	2	25	-24	-18
15. Parishad has substantial infrastructure gaps and high rates of capital deterioration	24	2	15	-8	-18
16. Parishad has too much planning and not enough action and leaders are overloaded with meetings	24	2	15	-8	-18
17. Factionalism within the Upazila Parishad destroys the stability of the governing body	24	6	15	-16	-18
18. Upazila Parishad uses the indigenous people as testing grounds for economic and political experiments	-6	-2	10	-24	-36
Total	264	54	85	-216	-261

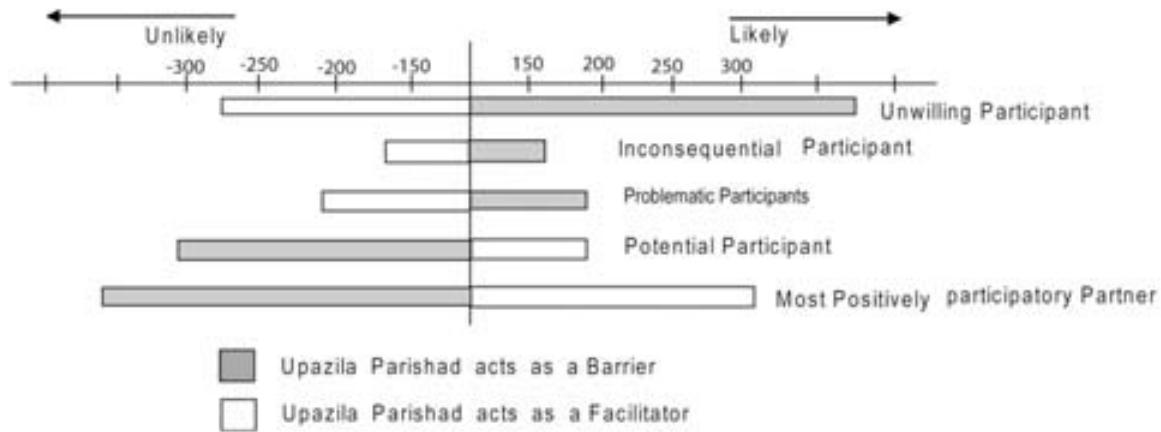


Figure 02: Factor scores in case of UP's involvement as facilitator or barrier

Hence, the perspective of the stakeholders regarding the UP's participation in forest conservation at different scales can better be evaluated by interpreting Figure 1. In case of unwilling participation (Factor A), the role of UP is much more impeding (factor score 264 as a barrier and -174 as a facilitator) in case of forest conservation. For Factor B (Inconsequential participation), the UP is comparatively less impeding than Factor A (factor score 54 as a barrier and -58 as a facilitator). The role of UP in Factor C is almost similar to that in Factor A bearing in mind their factor scores (factor score 85 as a barrier and -110 as a facilitator). Nevertheless, the perception of stakeholders in respect of UP's involvement as a potential participant (Factor D) and partner (Factor E) is completely reversible comparing to the rest ones. The stakeholders are highly optimistic about the participation of UP in forest conservation in any form of potential participant or partner. However, council's participation in forest conservation is much more prioritize in the form of partner (factor score -261 as a barrier and 207 as a facilitator) rather than as a potential participant (factor score -216 as a barrier and 96 as a facilitator) in accordance with the perception of the stakeholders.

Therefore, the drawbacks of existing Nirshorgo Support Project (NSP) in Lawachara National Park can better be convincible by involving the Kamalgonj Upazila Parishad as an active partner and this argument is structured by assessing the perception of stakeholders of Lawachara National Park in the present research.

3. Recommendations

Sustainable forest management does not only imply sustained yield forestry and sustaining a wider array of forest functions, but furthermore a high degree of economic feasibility and social acceptance. The participation of Kamalgonj Upazila Parishad can play an important role in attaining sustainable forest conservation. Partnership among local communities and Upazila Parishad is an essential prerequisite therefore of conservation concessions. Transparent and credible administrative procedures that enable co-decision-making with local communities have to be introduced. Some additional measures need to be taken such as

- o The creation of a Sustainable Forest Management Committee (SFMC) that will operate as an environmental share-issuing committee. The committee will be headed by the Chairman of Kamalgonj Upazila Parishad. The range officer and beat officer of Forest Department, representative from Khasia and Tipra communities, representatives from co-management communities and representative from resource owning groups will be included as members. Within its area of influence, the SFMC will be responsible for the conservation of natural forests and for the sustainable management of degraded forests and forest plantations, for improving the living conditions of the population as well as for regular evaluation and monitoring of the activities of the different departments and committees of the forest management system. In order to address this goal the SFMC will implement an integrated financing method combining three financing sources: private investment in environmental shares; income derived from sustainable management of forest goods (timber and nontimber forest products); and payments for forest services (biodiversity conservation).

- o A rehabilitation scheme should separately be considered for the non-human primates, the most important component of the Lawachara National Park ecosystem, by reestablishing the habitat continuity between fragmented habitats of the primates and plantation of food trees.
- o The collection of fuel-wood, bamboo and other major building materials should be stopped on a short-term basis.
- o A long-term biodiversity monitoring scheme should be planned with provision for database development, not only for tracking the success of the project but also for track the changes in the biodiversity within the park so that necessary actions could be designed and implemented to conserve the biodiversity.

4. Conclusion

Forest conservation and sustainable forest management has to make tangible sense to all the groups, whose activities have the potential impact on forests. Being able to demonstrate the full range of ecosystem values in one part of this equation, another is to find ways of equitably capturing these values and benefits over the long term so that they can put in place incentives for local communities, private sector actors and governments to promote sustainable forest management. Nirshorgo Support Project has taken a stand in the forest conservation but the sustainability of forest management is currently subjected to some threats, which need to be resolved by positive participation of Kamalgonj Upazila Parishad. Upazila Parishad can be acted as the conflict negotiator among the Forest Department and local people and as a statutory platform for the SFMC. There may be a need, therefore, for Upazila Parishad to look to the more innovative and sustainable approaches like capacity building training, rehabilitation scheme, initiation of alternative income generation program and long-term bio-diversity monitoring scheme.

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