



# Can Alternative Income Generating Activities Reduce Dependence on Protected Areas? Evidence from Teknaf Game Reserve

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## **Abstract**

*The main focus of this study is to assess the effectiveness of alternative income generating activities (AIGAs) provided by the Nishorgo Support Project (NSP or Nishorgo) as a tool for reducing dependence on forest resources by people living in and around Teknaf Game Reserve (TGR or Teknaf). NSP introduced a participatory co-management approach in Protected Areas (PAs) consisting of the formation of co-management councils, co-management committees, community patrolling groups (CPGs), and forest user groups (FUGs). NSP seeks to use these institutions to develop a holistic approach for conserving biodiversity in TGR. For this study I randomly selected respondents from three CPGs and three co-management council/committees in Shilkhali, Teknaf and Whykong. I chose to research common AIGA options that are practiced at all three sites. I conducted the survey through personal interviews with CPG and FUG members and focus group discussions with Co-management Councils, Co-management Committees and Forest Department (FD) and NSP staff. Semi-structured and open-ended questionnaires were used as part of this study. Information on the demographic and social characteristics of the beneficiaries was also collected. I studied the performance of AIGAs provided by NSP to the beneficiaries for economic improvement and reduction of resource dependence. I discovered that AIGAs are contributing 17% of the total income of the CPG members and only 3% of the total income of the FUG members. In this study, I found that most AIGAs are working quite well but there are some exceptions. I also found that there is a coordination gap among NSP, FD and the Co-management Councils and Committees.*

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## Introduction

Protected areas (PAs) in the tropics face many threats and are often poorly managed (Wells and McShane 2004). This is because local people's interests are often seen as incompatible with biodiversity conservation and PA management has often followed a "fences and fines" approach that excludes people. However, conservation managers increasingly recognize that local people, local knowledge, and local participation are key factors in realizing sustainable PA management (Svartad et al. 2006). In the 1980s, conservation organizations tried to develop new PA management approaches (i.e., participatory management) that would support local people through alternative income generating activities to compensate them for their loss of access to PA resources. The economic benefits from these activities are intended to reduce people's dependence on protected area resources and therefore their negative impacts on PAs (Svartad et al. 2006).

PAs in Bangladesh have historically been poorly managed. Most of the country's PAs were declared by gazette notification, but no effective management was implemented. Moreover, the people living in and around PAs were not considered nor allowed to participate in PA management.

In 2004, the Nishorgo Support Project (NSP) initiated a co-management approach in five of Bangladesh's PAs on a pilot basis. This approach works by building partnerships between the Forest Department of Bangladesh and key local and national stakeholders that could assist in conservation efforts, especially those living in and around PAs (e.g., co-management councils and co-management committees) (Nishorgo 2007).

NSP aims to collaboratively develop co-management agreements leading to measurable improvements in forest resource conservation in selected PAs. One of NSP's five specific objectives is, "To create alternative income generation opportunities for key local stakeholders associated with pilot co-managed PAs" (Nishorgo 2007). An expected outcome of the project is livelihood improvements for key stakeholders. NSP considers people living within 5 km of the periphery of a PA to be key stakeholders because they are part of a "landscape zone". NSP aims to improve the income of forest-dependent people neighboring PAs by providing alternative income generating activities (AIGAs) consistent with conservation. As



part of this effort, NSP initiated AIGAs in Teknaf Game Reserve (TGR) and four other PAs of Bangladesh (Nishorgo 2007).

The project has been in implementation at Teknaf for the last four years, following an approach of creating alternative income generating activities as a tool for reducing dependence on forest resources. Now is a critical time to investigate the impact of AIGAs on local stakeholders. This case study assesses the potential of AIGAs to reduce forest dependence of people in and around TGR. The study seeks to answer the following three questions:

1. Was the amount of AIGAs distributed to the members of community patrolling groups (CPGs) and forest user groups (FUGs) sufficient for reducing dependency on forest resources?
2. Were decisions about the distribution of AIGAs among the participants discussed in both Co-management Council and Co-management Committee meetings in advance?
3. Was there effective coordination among the FD, the NSP and the CMCs?

## Background

Teknaf Game Reserve lies in the hilly range that forms the backbone of the narrow Teknaf Peninsula in the southeast corner of Bangladesh, near the Myanmar border. It encompasses three distinct geological series: Surma Series, Tipam Series and Dupi Tila Series (Choudhury 1969). The range runs in a north-south direction and reaches a maximum altitude of about 700 m above mean sea level (Mollah et al. 2004). It is bordered on the north by reserved forest, on the east by the Naf River, on the south by the town of Teknaf, and on the west by the Bay of Bengal. The northern end of the reserve lies 58 km south of the Cox's Bazaar District Headquarters. The reserve measures roughly 28 km north to south and 4 to 5 km east to west and lies between 20°52' N and 21°09' N latitude and between 92°08' E and 92°18' E longitude (Rosario 1997). The reserve includes the unions of Teknaf, Whykong, Baharchara, and Hnila and the municipality of Teknaf. Formerly a reserved forest (RF) area encompassing 28,688 acres (11,610 hectares), the forest was declared a game reserve in 1983 under the Bangladesh Wildlife (Preservation) (Amendment) Act 1974 (GOB 1984). The gazette notice lists it as covering ten

reserve forest blocks in three forest ranges (Whykong, Shilkhali and Teknaf) in Cox's Bazaar South Forest Division (Forest Department of Bangladesh 2006). The TGR was established with the purpose of preserving habitat for a large diversity of wildlife (Bari and Dutta 2004). Approximately fifty FD officers and staff members are presently working in the reserve.

A total of 115 villages depend on TGR for their livelihoods (this excludes a number of settlements of Rohingya refugees from Myanmar that also rely on the reserve). These villages belong to Baharchara, Hnila, Teknaf and Whykong Unions and Teknaf Municipality. The population is approximately 149,564 people living in 24,373 households, of whom 52% are male. The literacy level is 26%. Nine percent of the population has completed primary education, 3% secondary education, and less than 2% higher secondary education (BBS 2001). Forty-six percent of these villages are located inside the game reserve, 11% on the periphery, 35% adjacent to the game reserve, and 8% are located a little further away. The villages have different levels of dependence on the game reserve. On the basis of resource use and forest degradation activities, about 62% of the residents of the villages have major stakes in the reserve's forest resources, 32% have moderate, and 6% have minor stakes (Mollah et al. 2004). Some of these people belong to Rakhain, Tonchainga, and Chakma ethnic minorities (Mollah et al. 2004). Most people living on the Teknaf peninsula are poor to very poor. About 70% of the households have a total annual income in the range of 15,000 BDT<sup>1</sup> to 45,000 BDT per capita (approximately 220 USD to 650 USD) (Bari and Dutta 2004).

NSP is a comprehensive effort to improve the management of the five PAs in Bangladesh. NSP is funded by the United States Agency for International Development (USAID) and implemented by the International Resources Group (IRG) with collaboration from the Community Development Centre, Rangpur Dinazpur Rural Service and Nature Conservation Management (Forest Department of Bangladesh 2006). NSP seeks to assist the FD in conserving biodiversity (with the assistance of local stakeholders) and to reduce the dependence of local communities on forest resources.

In 2006 a government order of the Ministry of Environment and Forests created eight co-management councils and eight co-management committees in five PAs of

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<sup>1</sup> 1 USD = 68.60 Bangladeshi Taka (BDT)



Bangladesh. In TGR three co-management councils were formed with 55 councilors from the following five categories of people: (1) 21 representatives of civil society (e.g., local leaders, teachers, physicians, social workers); (2) four representatives of local government (Upazilla Nirbahi Officer, FD, law enforcing agencies); (3) 21 local people (representatives of resource user groups, resource owners groups, ethnic minorities, and youth groups); (4) six representatives of various government departments (e.g., Agriculture, Animal Husbandry, Fisheries, Social Welfare) working in the PA's surrounding areas; and (5) four representatives of local non-governmental organizations. The Upazilla Nirbahi Officer acts as chairperson and either the Assistant Conservator of Forests or the Range Officer acts as member secretary of the council. Nishorgo also formed three co-management committees that consist of 19 members that are elected by members of the co-management councils (GOB 2006).

NSP supported the formation of 15 CPGs consisting of 595 members to protect forest resources in TGR. The CPGs consist of 28-49 members at different sites. One of the CPGs is for women only and consists of 28 members. To further reduce people's dependence on forest resources in and around the reserve, NSP formed 102 forest user groups (FUGs). Each FUG has approximately 25-40 members. Forty-two of the FUGs are specifically for females. Approximately 1,396 women are FUG members.

To help lessen local people's need for forest resources inside the reserve, Nishorgo provided AIGAs to support CPG and FUG members. AIGAs were also made available to local people in considerable poverty, co-management committee members, and other people that live close to the reserve. NSP provided two basic types of AIGAs: large AIGAs worth BDT 3,500 to BDT 5,000 were given to CPG members, and small AIGAs worth BDT 500 were given to FUG members and people in severe poverty. As of June 2007, 326 (56%) CPG members had received some sort of AIGA support. NSP provided different types of AIGAs, such as cow fattening, nursery development, small trade, fish cultivation, pig rearing, poultry rearing, dry fish selling, rickshaw/van supply, etc. In total, CPG members could choose from about 20 different AIGA options.

As of June 2007, 1,725 FUG members (55%) had received AIGA support. In contrast to CPG members, FUG members were given only one AIGA option:

homestead vegetable gardening. Nishorgo also provided AIGA support to 82 people in severe poverty worth BDT 500 per person. The people in severe poverty try to improve their economic condition by starting small businesses and providing services such as ferry transport.

Nishorgo facilitated the installation of improved stoves (*chullas*) for CPG, FUG, and CMC members with the assistance of two non-governmental organizations (NGOs): Grameen Shakti and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). Nishorgo also trained CPG and FUG members to build improved stoves – a skill that makes it possible for these people to earn an income building stoves for others. Through June 2007, Nishorgo assisted in the installation of 41 improved stoves. Nishorgo provided improved stoves and biogas plants for businesses and other organizations like residential educational institutions. Nishorgo also helped members of CPGs, FUGs and CMCs to establish eco-cottages in and around the PAs. Two eco-cottages are presently under construction, one near Teknaf Nature Park and another one at Shaplapur, near Shilkhali. Nishorgo is assisting CPG and FUG members to link with NGOs to help them gain access to micro-credit.

## Methods

I used random sampling to select groups for semi-structured and open-ended interviews. I interviewed 48 individuals from CPGs and FUGs under the supervision of the co-management councils and committees in Shilkhali, Whykhong and Teknaf Unions (one CMC in each union) to obtain information about the benefits realized from AIGAs. To get an idea of the governance issues involved, I conducted focus group discussions with representatives from the administrative bodies in each of the three sites. To learn about AIGAs and CPGs, I selected one CPG and one FUG from each of the three sites to interview. The CPGs were chosen because they were the first groups to receive AIGA support at each site and the groups were similar in size. I used the five most common AIGAs at one site, while in the other two sites I used the four most common AIGAs (see Table 1).



**Table 1: AIGAs considered in survey sample by NSP co-management site area**

Different types of AIGAs for CPGs	Shilkhali	Whykong	Teknaf	Total Sample
Cow fattening	3	3	3	9
Nursery	3	3	3	9
Small trade	3	3	3	9
Poultry	3	-	3	6
Fish cultivation	3	3	-	6
Totals	15	12	12	39

I selected one FUG from each site (Shilkhali, Whykhong, and Teknaf) and interviewed three people from each group who had received an AIGA (for a total of 9 FUG respondents). In addition, I conducted focus group discussions with representatives of the co-management councils, FD local officers (such as the Assistant Conservator of Forests, range officers, deputy rangers, foresters, and forest guards) and NSP officials from the three sites. The total number of focus group discussions was nine.

**Table 2: Number of focus groups and participants at each of the three research sites**

Number of Focus Group Discussions and participants	Shilkhali	Whykong	Teknaf	Total Sample
FD	1 (6)	1(5)	1(5)	3 (16)
NSP	1 (5)	1(5)	1(5)	3 (15)
CMC	1 (9)	1(12)	1(9)	3 (30)
Total	3(20)	3(22)	3(19)	9 (51)

Note: Numbers in parentheses represent number of participants in each focus group

## Results and Discussions

*AIGAs and Forest Resource Dependence: Were the benefits from the AIGAs distributed to CPG and FUG members sufficient to reduce their dependency on forest resources?*

NSP began distributing AIGA to participants in Teknaf in February 2007; hence it is too early to assess how these benefits might affect people’s forest dependence. However, I have observed that CPG members at the Shilkhali Garjan site are doing better in comparison to the other two sites as their AIGAs were distributed earlier in comparison to the others.

I found small trade to be one of the most successful AIGAs. It has provided good returns at all three sites in the reserve. Most of the AIGA-supported small traders are successfully running their businesses. They also invest their own capital into their businesses. The AIGA-supported small traders can earn returns immediately after starting their business. That is why most beneficiaries tried to get AIGA support for small trading. While most people prefer to run their small business individually, there are a few cases of participants developing partnerships that appear to be doing quite well.

Though it is a slow process, I found that AIGAs on cow fattening were doing well at all three sites. Many participants earn a good income from this AIGA, with those who received cows and training on fattening them earlier doing better than others. Nursery development has become another successful AIGA at all three sites. The individuals involved in this activity have developed and improved their nurseries and earn a good amount from this activity. One CPG member from Shilkhali site earned BDT 35,000 last year from selling tree seedlings raised in his nursery. He is continuing his nursery this year and expects to earn a good income from selling his products. Another positive side for people who invest in tree nursery activities is that FD staff members can provide advice and assistance, as FD staff members are experts on nursery raising and plantation activities. Marketing is the only problem owners of plant nurseries face. If NSP could help nursery owners to market their products they would benefit greatly.

Originally, large AIGA support (BDT 3,500 to 5,000) for plant nurseries was to be made available only to CPG members. At first, not many CPG members were interested in participating in tree nursery activities. That gradually changed. NSP decided to also provide large AIGA support for plant nurseries to FUG members, CMC members and other people who lived outside but near the reserve. NSP provided more support for plant nursery activities because it was felt that tree nurseries helped to improve biodiversity in the reserve. Tree nurseries could meet the combined objectives of increasing biodiversity and generating income (Scherl *et al.* 2004).

Poultry rearing was another AIGA, but I found that option to be unsuccessful at all three sites. Participants in poultry rearing activities had two options: country or hatchery varieties of chickens. The country variety of chickens was susceptible to





disease and participants could not earn an income from it. When the country variety of chickens died from Ranikhet disease, many of the beneficiaries' previous household chickens also died. Because TGR is in a remote area and both veterinary doctors and medicine are not available there, the AIGA-supported persons could not take the necessary actions to recover from the disaster. The situation is a little better in the case of poultry rearing using the hatchery variety of chickens.

The AIGA on pisciculture at the Whykong site almost failed because most of the supported individuals did not earn a good return from fish rearing. Some people have already stopped their fish cultivation activities for various reasons. In some cases, failure occurred because fish fingerlings were not distributed at the proper time and people did not prepare their pond properly before releasing the fish fingerlings. AIGA recipients were not very cautious about their fish rearing and ultimately most failed in sustaining the AIGAs. However, at the Shilkhali site the AIGA-supported fish cultivators are doing quite well. They are continuing the AIGA and have received some returns from selling their products. They were already experienced with pisciculture and considered the project to be important. This is likely the reason why they have been more successful than people at the other sites. The success also depends upon the consciousness of the recipients about how they are taking care of their AIGAs and the levels of monitoring from FD, NSP and CMC.

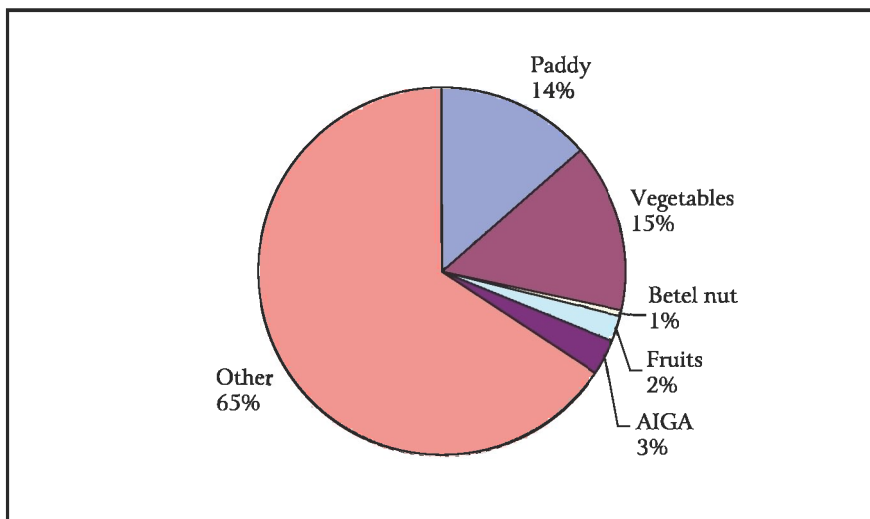
Some AIGA-supported persons in the fish business in the Shilkhali area have temporarily switched from their AIGAs to other alternatives. The main reason for switching from the fish business to another activity was that the fish business was suitable only in the winter season. During this time, they earned a good amount from their business. Outside of the winter season, they utilized the money in cow and goat rearing. They will continue this activity up until the next winter, at which time they will sell their products and again invest in the fish business.

Building and installing improved stoves (chullas) was found to be another successful AIGA in TGR. It is compatible for income generation of the chulla makers and it simultaneously helps to directly reduce the fuelwood consumption of the people. NSP has trained many CPG and FUG members as improved chulla makers with the help of another two NGOs and this is now becoming a good source of income for the chulla makers, as they receive BDT 200 per chulla. The improved chullas

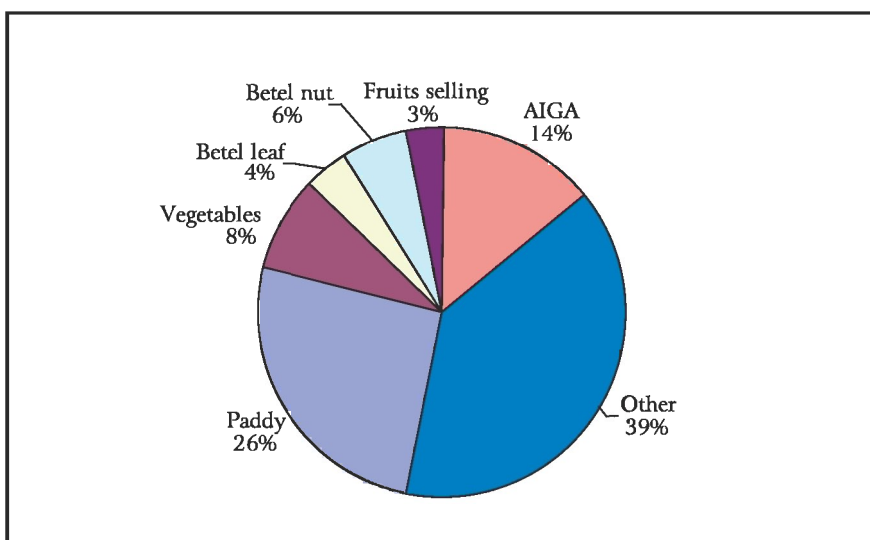
can be installed by local people and can provide a further source of income for those individuals who learn to make them. NSP is helping the CPG, FUG, CMC and neighbors of the protected area with the installation of improved chullas by providing 50% of the cost that is required for installation. Studies have shown that the improved chulla can reduce fuelwood consumption by approximately two-thirds when compared to the traditional chulla. These new chullas can directly help to reduce consumption of fuelwood and the dependence of local people on wood from TGR.

The FUGs are doing well with their AIGAs, especially considering the limited amount of support they received. FUG members received only BDT 500 for home-stead vegetable gardening. For the gardening they followed the *kalikapur* model in which the producer can get different types of vegetables year round. They have earned some returns from their AIGAs, but they do not have much capital for continuing the vegetable gardening. They generally spend everything that they have earned from vegetable gardening on meeting their daily needs. In most cases, participants received support only once and have insufficient funds to sustain the project. More financial support is required to improve AIGAs and monitoring should be strengthened.

Considering that thousands of people who are completely dependent on forest resources live in and around TGR, the intensity of AIGAs is very limited. As of June 2007, 326 of 595 CPG members (54%) had received AIGAs. Of the 3,122 FUG members, 1,725 FUG members (55%) had received AIGAs. Although AIGA support has been received by more than half of the CPG (BDT 3,500-5,000 per member) and the FUG (BDT 500 per member), the return received from AIGA support is not a considerable percentage of their total income. In the case of CPGs, the return from AIGAs is 17% and in the case of FUGs, it is only 3% (Figures 1 and 2). Furthermore, there are about 149,564 people living in and around TGR, out of which 62% play a major role in resource degradation (Mollah et al. 2004). Considering that the goal is to reduce dependence on forest resources, the amount of AIGA support provided to accomplish this goal is minimal. Undoubtedly, AIGAs have had a positive impact on livelihoods and reducing dependence on forest resources, but they should be made much more available and more consistent for the forest-dependent people in and around TGR.



**Figure 1: Different sources of income of FUGs in TGR**



**Figure 2: Different sources of income of CPGs in TGR**

***Distribution of AIGAs: Were decisions about the distribution of AIGAs made in an equitable and participatory manner?***

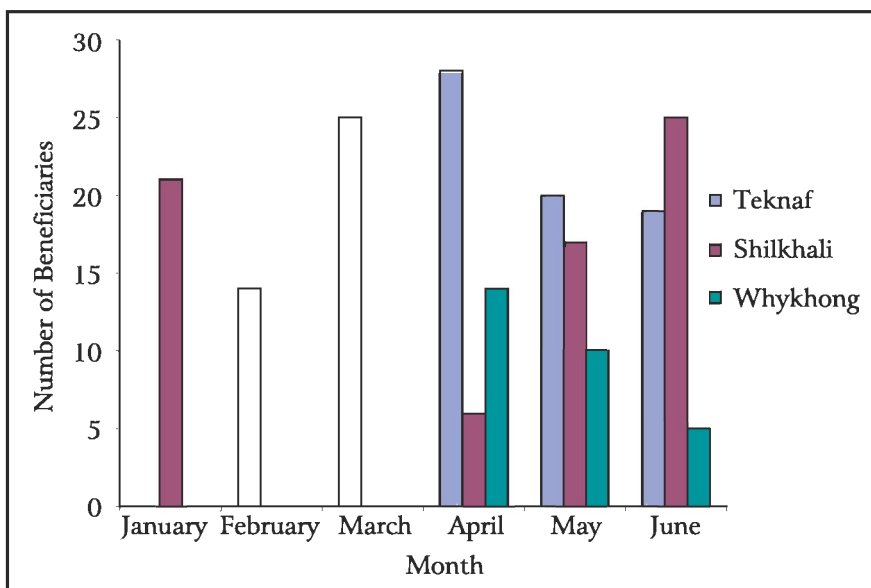
At present, there are 15 CPGs working in TGR. Previously only three CPGs had been formed in the three sites. Then NSP decided to convert some FUGs to CPGs, but this was not discussed in much depth with the FD and CMC. Ultimately the number of CPGs rose to 15. These groups have become burdens for the current project because the more CPGs that are formed, the more AIGAs that need be distributed. The NSP is limited by its budget but has already formed and made commitments to the new CPGs. As a result, NSP reduced its per head AIGA support, which made the CPG members angry and ultimately dissatisfied. The average amount AIGAs were worth during 2006 was 3,500 BDT, while the average amount delivered by AIGAs before that was 5,000 BDT. Those CPG members who received less AIGA support than others but were engaged in the same activities became dissatisfied. They felt that they had the right to receive the same AIGAs as others received.

In many cases, NSP did not have much discussion with the FD and CMC members about the selection of CPG and FUG members. As a result, in some cases inappropriate people were selected for CPG and FUG groups. NSP did not talk much with the CMC and FD before distributing the AIGAs. The CMC and FD staff members were not well aware of the responsibilities of their job. As a result, inappropriate people received inappropriate AIGAs. For example, individuals with no experience in raising poultry received AIGAs in poultry rearing, which they were unable to utilize and which ultimately failed. Situations like this have had a negative impact on AIGAs as a whole. In some instances it was found that NSP changed previous decisions about AIGAs months later. Initially, NSP formed FUGs and distributed AIGAs among them. Then, three to six months later, FUGs were converted to CPGs without adequate consultation with the FD and CMC. The converted CPGs then received AIGAs as CPG members. As a result, those who received AIGAs as FUG members earlier received them again through the CPG. At the Teknaf site, one person received four types of AIGAs from the NSP. At first he received an AIGA as a FUG member. Then the FUG converted to a CPG and he received an AIGA as a CPG member. Next he received training as an eco-tour guide, which was also a source of income for him. Finally, he received support in establishing an



eco-cottage. Furthermore, in the Shilkhali area it was found that within the same household a mother and/or wife would be a member of the FUG and the husband and/or son would be a member of the CPG. Therefore, they both received AIGA support, while some households received none. As a result, it was found that the AIGAs were not distributed as rationally or equitably as they could have been.

The situation is changing slowly. When this co-management approach was started no one was experienced in it. As a result, some mistakes were made in the distribution of benefits. But over time much discussion has been held on this and the situation is developing day by day. The trend of AIGA support distribution by NSP is shown in Figure 3. I have collected the data from the monthly reports on AIGAs submitted by the NSP site offices. The distribution trend is discontinuous. Ideally there would be a rational, equitable and continuous flow of benefits.



**Figure 3: AIGAs supports to the CPGs members in three NSP sites of TGR**

Table 3: Distribution of AIGAs in different groups in TGR

	Nursery	Cow Fattening	Small trade	Fish cultivation	Homestead gardening	Poultry rearing	Total	Percent
CPG members	3	9	9	4	0	6	31	65%
FUG members	3	0	0	2	9	0	14	29%
CMC members	1	0	0	0	0	0	1	2%
Non-roup members	2	0	0	0	0	0	2	4%
Total	9	9	9	6	9	6	48	100%

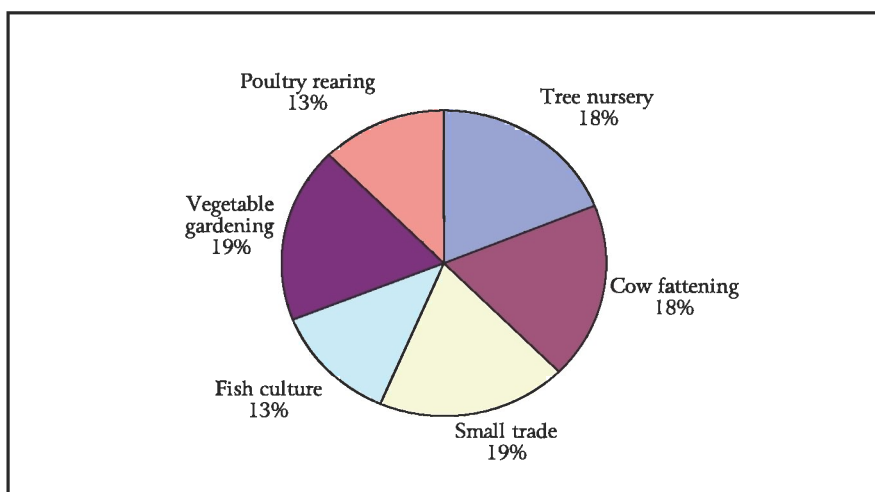


Figure 4: Different options of AIGAs distributed in TGR

**Implementation and monitoring of AIGAs: Does coordination exist between FD, NSP and CM Councils and Committees for the implementation and monitoring of AIGAs?**

Active involvement of the CMC and FD was not found at any of the three sites at TGR. Only one copy of the AIGA-supported persons list is kept in the NSP offices, but no copy has been supplied to the CMC or FD. So, the CMC and FD do not have clear ideas about who is getting what AIGAs and how their performance is. Thus, supervision from the FD and CMC has not been possible. As a result, an information gap exists between NSP, FD and CMC. This is due not only to the NSP staff, but also to the FD and CMC members who were not very interested in



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the AIGA list. It is their duty to collect the list and monitor the supported persons' performances. As a consequence of not monitoring, there is no clear idea about whether AIGAs are contributing towards reducing forest resource dependency or not. This will ultimately affect their ability to achieve project objectives for livelihood enhancement.

The AIGAs were not all distributed at the same time. The process was done step-by-step on primarily a monthly basis. Decisions regarding the timing of AIGA distribution to beneficiaries were controlled by NSP. Some sharing of AIGA distribution responsibilities among CPG members has existed. Although NSP has shared some AIGA distribution responsibilities with the CMC and FD, there has been very little information sharing with them on the distribution of AIGAs to FUGs. The subject of AIGA distribution has rarely been discussed at the monthly co-management committee meetings. The discussions that have occurred have happened at the time of distribution, when questions have been asked to the local beat officer of the FD. This is not sufficient. Thus, there remains an information gap among the CMC, FD and NSP. As a result, though they intend to contribute to the improvement of local livelihoods, a lack of coordination is hampering this effort. In all stages of distribution, AIGAs should be discussed in the co-management committee meetings with active participation from both the FD and CMC and together decisions should be made, actions taken, and monitoring carried out.

Monitoring of the AIGAs was found to be the most neglected part of the project. As AIGAs are not loans, there is no function for loan recovery and so the NSP staff and to some extent the FD and CMC members are reluctant to measure the success of the AIGAs. The NSP, CMC and FD maintain no regular progress reports on the performance of AIGAs. As a result, they do not have any data on the performance of AIGAs. These activities should be regularly monitored and reports should be kept and discussed in the co-management committee meetings. The monitoring should be done in a collective manner. The findings should be sent to decision makers in order to help them better plan for the future. A lack of communication and coordination with the FD and CMC members has resulted in insufficient monitoring of the AIGAs and poorer outcomes overall.

## Recommendations

Based on my research and findings, I can suggest the following recommendations for enhancing TGR's alternate income generating activities (AIGAs):

1. The amount that was provided through AIGAs was found to be insufficient in every case. The financial worth of the AIGAs – especially for CPGs and FUGs – should be increased.
2. Some AIGAs had higher failure rates – especially poultry rearing. The reasons behind this should be investigated further so that lessons are learned for future improvement.
3. In some cases inappropriate persons were included as members of CPGs and FUGs and received AIGAs. It should be ensured that appropriate persons receive appropriate AIGAs.
4. A lack of coordination among the FD, NSP, and CM Councils and Committees was prevalent. Coordination among NSP, FD, and CM Councils and Committees should be considerably improved.
5. In the majority of cases it was found that AIGAs were distributed without much discussion in the co-management committees. Every decision about the distribution of AIGAs should be discussed in the CMC meetings and made on a consensus basis.
6. The experience of successful AIGA supported persons and projects can be shared with others. These individuals can also be engaged as trainers for the new AIGA recipients.
7. The existing monitoring systems were found to be very weak. A strong monitoring system should be developed with the involvement of representatives from the FD, CMC and NSP.

## Conclusions

The majority of AIGAs distributed by the NSP to the CPGs and FUGs were found to be successful. Cow fattening, small trade, nursery development, fish cultivation, homestead vegetable gardening and improved chulla installation have experienced success while poultry rearing has consistently failed at all three sites. The success rate has depended, in part, on the consciousness of both distributors and recipients





of AIGAs and the monitoring of their work. The success rate is higher where a strong monitoring system exists. Timing was found to be another factor contributing to success. Some AIGAs are very time sensitive – like fish cultivation and poultry rearing. Because AIGAs on fish cultivation at Whykong were not distributed at the proper time, the project almost failed. However, in the Shilkhali area fish rearing was found to be successful.

Currently, AIGAs are playing a limited and inconsistent role in reducing forest dependence among key local stakeholders in and around TGR due to inadequate support and a lack of consistency and coordination in their implementation and monitoring. The amount provided as AIGAs was found to be insufficient in all cases. As of June 2007 (the fifth and probably final year of project implementation), only 54% of CPG members and 55% of FUG members had received AIGAs. The project is supposed to be completed in June 2008, and thus very limited time remains for project implementation. The results of this study reveal that only a little more than half of the CPG and FUG members have received AIGAs. The remaining members will probably not get AIGAs during this project period and this will have a negative impact on the non-recipients. A notable lack of coordination among the NSP, FD and CMC was also found in this study. No collective decisions between the groups were being made about the AIGAs. As a result, a communication gap exists among the people who are working for NSP and the CPGs and FUGs. Moreover, the monitoring of the overall activities of AIGAs was found to be the most neglected part of the project. NSP officials are the only ones directly involved in AIGA distribution, supervising, etc. The active participation of FD and CMC members with NSP members is urgently needed. More attention to monitoring and implementation of the project is also required from policy makers.

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