Eco-restoration nursery for the hilly areas of Bangladesh

a community based approach

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Preface

All over the world tropical forests are being degrading at a faster rate and the scenario is further complicated in the ecologically decisive hilly areas. To bring the degraded hills under vegetation coverage, initiation and research on nursery is a prerequisite.

As a part of the research and demonstration activities to restore the degraded forest and promote alternative income generation activities under the Ecological Restoration and Sustainable Management of Natural Forests in the village *mouza Hlafaikhong* program , Krykhong Para Village Development Committee (KPVDC) and IUCN Bangladesh has designed and prepared 'Eco-restoration nursery for the hilly areas' on a pilot basis. To achieve sustainability, as it is essential to ensure effective ownership of the local communities, the programme has adopted a "bottom up" approach. The pilot initiative has been proven sounds both on the technical and the social grounds.

One feature of this model is the incorporation of the demand of the ethnic communities and the hill restoration requirements. As a part of this initiative

one section of the nursery has been allowed for vegetable gardening and remainings for planting stock raising. Since the ethnic peoples are very poor, it is imperative to find out an alternative to meet their day to day requirements.

We are pleased to announce that the nursery model has been developed with full support and co-operation of the local communities and thus well accepted. Thus, this model should help as a guiding approach for others interested in working in the restoration activity in the Chittagong Hill Tracts region.

Dhaka
December, 2004

Ainun Nishat
Country Representative
IUCN Bangladesh Country Office

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Dhaka
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Background

The mountains and hills with difficult accessibility coupled with their being remote are often regarded as the rich source of flora, fauna and diverse ethnic cultures. Commonly the ethnic communities inhibit such remote areas and get adopted to live and depend mostly on the surrounding available natural resources. The hilly areas of Bangladesh located mostly at South East corner of the country. The grater Chittagong and Chittagong Hill Tracts constitutes the major hilly areas of the country. Besides these, undulated terrains with small hillocks are seen in the greater districts of Sylhet and Mymensingh. Such hilly areas accounts for about 10% of the country's land and are inhibited by over 35 ethnic communities.

Picture: *Dense forest cover removed for jhum cultivation*

These ethnic communities, basically with a primitive life style, depend entirely on the adjoining forest resources. Over the decades due to high population pressure, the ethnic communities extracted forest resources, cleared the tree covered areas continuously, over used the resources and thus caused severe degradation of the forests, depleted the resource and consequently jeopardized the biodiversity. This is the common existing scenario in the hilly areas of Bangladesh. Of late, everybody felt the necessity of restoration of the degraded forests for their own survival.

Picture:An ethnic women on her way -a common scenario in the hill region

Under such situation, IUCN Bangladesh, under the over arching Asia Region *Himal* Program, initiated a pilot activity towards the restoration of such a degraded site at Krykhon Para under the district of Bandarban, through a participatory approach in year 2001. The whole approach was to associate the local ethnic community so that, at the end of the day, they develop the ownership of the program. Committees were formed at various levels including the village development committee. IUCN Bangladesh and KPVDC (Krykhong Para Village Development Committee) the ethnic community organization initiated the program which achieved the goals. With the success of this, the activities were expanded to three more hill-villages, namely Hebron Para, Khansama Para and Milon Para of Bandarban Hill District, with the goal of Ecological restoration and sustainable management of natural resources in these villages under mouza Hlafaikhong. All the technical supports are to be provided by IUCN Bangladesh while the financial support would come from the Netherlands Committee for IUCN (NC-IUCN).

Picture: Child of today- deserve the right to live in the better environment

Keeping restoration of forest cover as its paramount objective, the project aims to have a nursery in each of the project villages. But if the nursery is focused on forest species alone, it would not be attractive. Thus as was desired by the community, nursery for the seasonal vegetables was also incorporated. Thus while the villagers grow planting stocks for reforestation will also grow some seedlings of seasonal vegetables, to be used by the community for the betterment of their livelihood. IUCN- The World Conservation Union, Bangladesh Country Office, with the help of villagers and their technical experts are proud to develop a generalized model of "Eco-restoration nursery for the hilly areas". The model has already well accepted and appreciated by the local community, district administration, academics and others concerned.

Community based eco-restoration

Picture: Small canal beside the nursery: the source of water

Concept of eco-restoration

Community based eco-restoration, as a strategy for restoring degraded ecosystem, securing support of local communities and other stakeholders, has rapidly gained ground over the last decade. However the understanding of the concept of eco-restoration has changed with time and experience. Ecological restoration is an activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability (SER, 2002). Eco-restoration can be defined as "the scientific intervention of human-facilitated recovery processes (Heekman 1997) that help to the return of an ecosystem to a close

approximation of its condition prior to disturbance (NRC 1992)". However, a frame of reference of the pre-disturbance condition almost never exists. To overcome this some approximation must be chosen, which is often difficult in areas of extreme disturbance and demands experience. Jackson and colleagues (1995) define restoration as "the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems." This places concept of ecosystem reconstruction and the judgment of ecological integrity into an applied perspective that concentrates on facilitating recovery without requiring historical comparisons. The Society of Ecological Restoration (2002) defined the term in a more political way, as "Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or changed". Initially eco-restoration was considered as scientific intervention but the situation has changed now and more emphasis was given on social process.

The theme of eco-restoration can broadly be classified under the following two headings viz. goal oriented restoration and process oriented restoration.

Picture: Community based eco-restoration nursery at the Krykhong para, Bandarban

Goal-oriented restoration: It focuses on the science of reconstructing functioning ecological systems. Reference of ecosystem characteristics and clear concept on ecosystem dynamics is prerequisite for bringing back to its original shape.

Process-oriented restoration: It deals with the integration of ecological principles and human social systems. A process-oriented definition of restoration shifts the emphasis from replication of pre-disturbance condition and allows restoration to encompass all actions necessary to ensure the return of a natural ecological state (Heekman 1997).

Community Based Eco-Restoration (CBER)

A number of definitions for eco-restoration identified that local people adjacent to the ecosystem are responsible for destruction or protection of that ecosystem and peoples adjacent to the ecosystem and dependent on that are considered as the component of the ecosystem. It will therefore be of profound interest to the local community if there are plans to alter them, not least because the communities often use the land either unofficially or officially (Hill, 1996). It has been observed that communities adjacent to areas of dereliction hold strong feelings towards such landscapes, be it childhood memories or that of previous employment. It therefore follows that involvement is essential for decision-making. Can we precede any degraded ecosystem restoration without involving those communities? Thus recently eco-restoration has taken a new shape as 'Community based eco-restoration'. The term can be defined as 'Community based eco-restoration is the process of recovery of a degraded or damaged ecosystem closer to its earlier condition through integration of ecological and social intervention by the local people'. This definition integrates both ecology and sociology. Ecological intervention is a must for ecosystem recovery. Say for example plantation or soil conservation is needed for recover of degraded hill forests. Social intervention on the other hand is necessary to sustaining the process. Say for example peoples adjacent to the forests sustain their livelihood through forests products. Extraction of forests products from degraded forests leads further degradation of it. Social interventions are sufficient to motivate them to change their resource use patterns in accordance with the restoration values of the ecosystem.

Picture: Zinger cultivation in the jhum field

The community based eco-restoration approach acknowledges, instead that the relationship of local peoples surrounding the ecosystem is an all encompassing one that permeates all aspects of their social, economic and cultural lives. It therefore attempts to link ecosystem through broader process of development as well as to the existing socio-cultural milieu. Someone may be merged with 'Community

based eco-restoration' and community development. The fundamentals of 'Community based eco-restoration' (CBER) is the restoration of degraded ecosystem, community development activity appears as associated one. Furthermore, CBER is a bottom up approach, planned and implemented with the participation of the local communities and based on their traditional ecological knowledge and resource use patterns. The approach emphasizes on the active involvement and participation local people rather of merely consultation. The significance of using this holistic approach is that it can be used to tackle multidimensional aspects such as employment, housing, training, health, truancy, social services, crime, vandalism and the environment.

Picture: Bamboo groves in the degraded hills

There is evidence that involving local people in the restoration process will bring benefits to both the implementer of the scheme and the community. Utilizing community involvement may improve the longevity of projects due to commitment gained from sharing achievements. The benefits experienced by the community such as the sense of pride as well as the emotional, physical, intellectual and social benefits are also important in restoration.

From the earlier experience it has been appeared that neither ecological intervention nor social intervention alone can lead to successfully restoration of an ecosystem. Thus the term 'community based eco-restoration' evolved and showed its success very early.

Principles of CBER

CBER realizes on the harmonious relationship between ecosystem restoration and development initiatives. The issues are often multi-thematic and cross-sectoral and encompass issues of interdependence, equity, sustainability and security. The CBER initiative relies on the following principles.

1. CBER will focus on the restoration of the degraded ecosystem and community development issues should be addressed as a solution to the underlying causes of destruction. Thus it plays a preventive and curative role rather than only preventive or curative. It will ensure sustainability of the programme.

2. The local community in association with the technical experts plans it. The role of local community should be a positive and active one.

3. The local community will implement the program and its monitoring should be done by themselves. Capacity development may be necessary for successful implementation of such programme. Technical assistance may be sought from the concerned experts in these regards.

4. Through planning a micro level area specific format "Development and conservation plan" should be prepared and all activity will resembles the plan.

Issues in the 'Community based eco-restoration'

Community based eco-restoration is complex and dynamic process, which integrate both ecological and social interventions. Therefore several issues need to be considered before stepping towards any CBER initiative. Clear concept and handling of such issues will provide better handling, planning as well as success of the programme. These issues are basically centered on where to go for CBER, level of participation of the local communities and understanding of the ecological complexities.

Picture: An ethnic man

In most of the ecosystems, there are adjacent communities. Should all the cases we go for CBER? Answer might be no. Areas where community depends on the ecosystem resources, homogeneity of the adjacent community, and there exist good relationship between various sub groups can be considered as an ideal situation for CBER initiatives. There are two broad stakeholders in community based eco-restoration viz. management body of the concerned ecosystem and the adjacent community. CBER is basically a harmonious agreement between these two.

Effective participation of the local community is very important issue in

planning CBER. Whenever one talks about participation, it appears different sound to different people (Badola et al. 2002). CBER relies on real participation of the adjacent community at all the level starting from planning, implementation and monitoring.

Picture: The villagers invites other to join the eco-restoration activities

Clear ecological understanding is a must for persons involved in eco-restoration initiatives whether involving community or not. The persons dealing with CBER should be capable to handle extension activity and ecological activity properly.

Chittagong Hill Tracts of Bangladesh is landscape, which is important for biodiversity as well as cultural diversity. More than twelve different ethnic groups live there and entirely dependent on the forest resources for sustaining their livelihoods. It is a fine ground to launch CBER.

The model of community assisted nursery for eco-restoration

The model is based on seven pillars. These are:

1. site selection
2. seed collection
3. seed bank,
4. seed treatment
5. allocation of nursery for the eco-restoration
6. water for the nursery
7. boundary hedge