

FOREST COVER

Native plantation for biodiversity restoration

Plantations are more likely to positively benefit biodiversity (particularly in terms of favouring native over exotic species) on degraded or exotic land covers rather than as a replacement of natural ecosystems, whether those systems were originally forested or not. New plantations should utilize indigenous tree species to accelerate biodiversity within plantations.

DR. MD. MIZANUR RAHMAN

TROPICAL forests are considered the most endangered due to deforestation, degradation, fragmentation, shifting cultivation, clear cut, illegal logging and other types of anthropogenic disturbances. Now these forests consist of only 10% of their former areas and 12% of their former primary vegetations. About 1.8% (in Amazonian forests, probably 2.6%) of the tropical forests is disappearing annually. These rates indicate that one Florida per year is being destroyed; one football field is logged per second. Tropical forests are also subject to destructive natural forces -- cyclones, landslides, floods, mud flows, volcanic eruptions, fire, drought, and climate change.

On the other hand, in some areas the forest and tree coverage have been increased through afforestation and reforestation. According to FAO (2006) timber plantations are being expanded at a rate of 2.6 million hectares per year. The researchers are finding low levels of biodiversity in plantation forests compared to protected natural forests. Some plantation species provide critical habitat for endangered species. It is true that they provide wildlife corridors and play an important role in sustainable development. Plantations may be a "lesser-evil" alternative to agriculture or urban development in terms of conserving species diversity.

Plantations can do little to conserve biodiversity, but they act as a carbon sink and conserve soil. In fact, environmental outcomes of plantation forests, including effects on soil carbon and biodiversity depend upon the characteristics of both the plantations and the previous land uses. Amphibians and reptiles can be easily colonized in the plantation forests. Plantation trees can work as the basis of food chain and contribute to important ecosystem services including climate regulation, water purification, and pollination.

A number of factors such as land use, plantation species, plantation age and establishment influence biodiversity. Afforestation of natural ecosystems usually alters habitat substantially for native flora and fauna. The loss of plant diversity and richness with afforestation of natural and semi-natural grasslands and shrublands is attributed to a number of factors including site prepara-

tion, exclusion of shade intolerant native species by plantation canopy cover and allelopathy. It can affect plant diversity, community structure and native species richness of grasslands. Changes in community structure are also reflected in changing proportion of exotic and native species.

Primary forests usually support higher levels of native species richness and abundance than plantation forests. Poor species richness in plantations compared to primary forests is likely due, in part, to the high level of structural complexity in natural forests that is required for seed germination in some plant species, particularly late seral and animal dispersed species, and for the paucity of seed sources.

Generally plantation forests contain a subset of primary forest species with lower levels of diversity and richness. On the other hand, plantations (particularly young plantations) also tend to favour establishment of ruderal or exotic species over large, gravity dispersed or late seral species. It is clear from the biodiversity perspective that primary forests (and other non-forested natural lands) should not be converted to plantations.

Rapid growth plantation may be beneficial for some wildlife species. Generally plantation forests have less developed understories due to tillage and intercultural operations. Very old plantations can play an important role in biodiversity conservation. Plantation forests can perform like natural forests if they are composed of locally occurring native tree species, and in some cases it may be difficult to distinguish older stands from natural forest. The species used in plantation can play a particularly important role in secondary forest to plantation conversions. Exotic species plantations support lower levels of plant diversity while native plantations support more diversity. This is important to facilitate on natural regeneration and plantation establishment; in tropical regions, the area of natural forest is converted to plantations.

Plantation forests often support intermediate levels of biodiversity, which are lower than the natural ecosystems but higher than other human-modified landscapes. Considering the economic point of view, plantations aid restoration in degraded areas where native regeneration may otherwise be inhibited, by improving soil conditions through increased organic matter and litter production, by shading out competitive grasses

and other light-demanding species, and by creating a microclimate more favourable for seed dispersal and colonisation, particularly for animal-dispersed species.

Effective restoration of biodiversity depends on past land use pattern, distance to native seed sources, persistence of root stocks and seed bank, and presence of seed dispersing wildlife, as well as plantation species, age, and management. Native plantations may be a better choice for the restoration of degraded or exotic grasslands as well.

In many cases plantation is the only economic means to overcome large scale degradation. In this condition the issue is not whether to establish plantations but, rather, what kind of plantation to establish. Native species plantations may create better canopy cover and soil chemistry conditions that favours native over exotic species to be colonized.

Exotic plantations are less species rich than natural and semi-natural ecosystems, and support a less diverse flora and fauna. Native plantations if increase floral diversity or not, but have extra value for faunal diversity due to mating cycles and fruit and nectar quality. Plantations with native species are important for the endangered faunal species providing an important restoration tool that balances environmental and economic goals. A vast number of invertebrates and microorganisms only survive in native plant species.

Native plantations are also important from landscape perspectives as they preclude the risk of exotic trees associated with exotic plantations. Nevertheless, native species are increasingly recognized as valuable timber species in many countries like China and USA.

Older plantations established on previously forested lands support the higher levels of diversity and developed structural complexity. It creates congenial microclimates and litter and humus layers that are favourable for native plant colonization. Contrarily, plantations established on natural or semi-natural shrublands and grasslands have a negative effect on native species with age, increasing canopy cover, and with multiple rotations.

Biodiversity in the plantation forests can be enhanced through (1) conserving remnant native trees, snags, and cavity trees during harvest, (2) planting long rotational tree species, (3) utilizing native species over exotics and polycultures over monocultures, (4) avoiding intensive site preparation, and (5) thinning some plantations heavily and others not to maintain a mosaic of open to non-open areas to encourage native species colonization.

In many cases regeneration of native species in plantations may depend on colonization from adjacent or nearby native ecosystems. Canopy closure is also an important factor for influencing understory richness. But thinning may facilitate establishment of shrubs and herbaceous flora. It can also favour primarily generalist and exotic species which thrive with increased light and space. Medium level of human disturbances can be somehow beneficial for biodiversity, but severe disturbance creates conditions few plants can tolerate. The short rotational plantations discriminate against old forest succession species, decreasing the value of plantations as compared to natural forests.

The plantations are more likely to positively benefit biodiversity (particularly in terms of favouring native over exotic species) on degraded or exotic land covers rather than as a replacement of natural ecosystems, whether those systems were originally forested or not. New plantations should utilize indigenous tree species to accelerate biodiversity within plantations. Plantations can play an important role in biodiversity conservation and recuperation, particularly at the landscape level.

Dr. Md. Mizanur Rahman, a biodiversity specialist, is Senior Assistant Commissioner, Jhalakathi Collectorate (mizan_peraj@yahoo.com).

Women and climate change

OXFAM REPORT

WHEN natural disasters strike, they hit poor communities first and worst. And since women make up an estimated 70 percent of those living below the poverty line, they are most likely to bear the heaviest burdens. Additionally, women are responsible for the majority of food production in many developing countries despite typically having restricted access to markets, land and credit. This lack of access means they face a double whammy: they are more dependent on the natural resources, that are under threat from climate change, but they are limited in what they can do to cope.

Women are also often left out of planning and management processes regarding global climate institutions and finance, even though they are at times in the best position to provide solutions.

COP decisions in Cancun can directly address these inequalities and engage women as critical agents of change.



State of play

- Key negotiating texts in the long-term cooperative action track (LCA) have retained references to women and gender equality in areas such as shared vision, adaptation, and technology transfer. These references were originally added to the text by countries in negotiating sessions leading up to COP 15 in Copenhagen.
- In other key negotiating texts particularly Finance there are no references to gender. It is critical to address this gap, especially taking gender into consideration in the policies and programs of a Global Climate Fund, including equal access to financing, and ensuring equitable gender representation on the board of that Fund.

Gender equality at Cancun and beyond

Gender equality is integral to meeting global goals on poverty eradication and sustainable development. A gender perspective should be explicitly included in any texts on climate change adaptation, mitigation, technology, and finance, recognizing gender-differentiated impacts, as well as women's and men's capacity to participate and act as agents for change in climate change solutions. Specifically, parties in Cancun must ensure that:

- Language in key sections of the LCA text are retained pertaining to shared vision, adaptation, capacity building, and development and transfer of technologies. These references recognize the differentiated impacts of climate change on vulnerable populations, groups and communities, prioritize the most vulnerable in channelling resources, and promote the active participation of

women in decision-making, planning, implementation and evaluation measures.

- A Global Climate Fund must be established that reflects principles of gender equality at all levels. The Fund should have equality of gender representation on its Board and should ensure accessibility of its financing to women and other marginalised groups. Resources from the climate finance mechanism need to be delivered in a way that is accessible and driven by the engagement of developing country governments and citizens, particularly women. Such a Fund should have separate windows or sub-funds for adaptation and mitigation. In addition, the Global Climate Fund should specifically provide for:

- full participation of affected communities and populations, including women, in the design and implementation of programs and activities, and mechanisms to ensure accountability to these populations; and
 - take gender into account in all policies and programs, including ensuring equal access to financing.
- Developed countries must follow-through on the delivery of fast-start and long-term finance to developing countries to support adaptation and mitigation actions in developing countries. All of the finance delivered for adaptation needs must come from public sources in the form of grants to ensure that resources are available to and effectively directed toward women and other marginalized communities.

Contacts: www.oxfam.org

Key reasons why gender equality must be incorporated into a global climate agreement

- Women are often the linchpins of communities, families, and local economies. They are the key providers for the household, and raise the children, care for the old and the sick. As a result, they are on the front lines of the devastating effects of climate change, and largely define the community's ability to adapt or recover from a disaster.
- Women produce up to 60 to 80 percent of the food in most developing countries. They regularly do the jobs, such as cultivating crops, and collecting water and fuel, which are most affected by climate change. Women's entrepreneurship in agriculture could make significant contributions to both climate adaptation.
- Women are disproportionately represented among the poor, making up roughly 70% of those living below the poverty line. They often have less access to resources and essential services before and after disaster strikes, and are more likely to die during natural disasters than men. Women often struggle to get their voices heard in the climate debate. Given their central role in the family and community, women have invaluable knowledge about creating and implementing innovative ways to adapt to a changing climate, yet their opinions and experience are all too often overlooked.
- Other international agreements specifically address gender. Of the legally binding agreements that resulted from the 1992 Earth Summit, the UNFCCC is the only convention not to incorporate gender issues. The Convention on Biological Diversity has incorporated a gender plan of action that recognizes women's traditional knowledge and access to land assets.



New plantations should utilize indigenous species to accelerate biodiversity.

এসেনসিয়াল ড্রাগস কোম্পানী লিমিটেড
৩৯৫-৩৯৭, তেজগাঁও শিল্প এলাকা
ঢাকা-১২০৮।

সংক্ষিপ্ত স্থানীয় দরপত্র বিজ্ঞপ্তি

ইডিসিএল নিম্নোক্ত আইটেম সমূহ প্রকৃত প্রস্তুতকারী / সরবরাহকারীদের (সংশ্লিষ্ট ব্যবসার সহিত জড়িত) নিকট হইতে সীলমোহরকৃত খামে দরপত্র আহবান করছেঃ-

ক্রমিক নং	দরপত্র নং ও তারিখ	বিবরণ	পরিমাণ
০১।	ইডিসিএল/ক্রয়/লোকাল/টেভার/২০১০/৩৭৪ তারিখঃ ৩০/১১/২০১০ইং	৫ এমএল প্লাস্টিক কাপ (5ml Plastic Cup) ২৫ এমএম পলি প্লাগ (25mg Poly Plug) ২২ এমএম পলি প্লাগ (22mg Poly Plug) ১.২৫ এমএল প্লাস্টিক ড্রপার (1.25 ml Plastic Dropper) (সিডিউল মোতাবেক)	২০,০০,০০০ পিস ১০,০০,০০০ পিস ১,৬০,০০০ পিস ২,০০,০০০ পিস

সিকিউরিটি/ আর্গেন্ট মানি	দরপত্র শিডিউলের মূল্য (অফেরৎযোগ্য)	দরপত্র গ্রহণের শেষ তারিখ ও সময়	দরপত্র খোলার তারিখ ও সময়
২.৫%	টাকা ১০০০.০০ (এক হাজার) মাত্র	১৩/১২/২০১০ইং বেলা ১২-০০ ঘটিকা	১৩/১২/২০১০ইং বেলা ১২-১৫ ঘটিকা

সকল কার্যদিবসে অফিস চলাকালীন সময়ে উপরোক্ত কার্যালয় হইতে শর্ত ও নিয়মাবলীসহ দরপত্র শিডিউল ক্রয় করা যাইবে। উল্লেখ্য যে, যাহাদের ভ্যাট রেজিস্ট্রেশন নাই তাহাদের দরপত্রে অংশগ্রহণ করার প্রয়োজন নাই।

দরপত্র খোলার দিনে কোন দরপত্র শিডিউল বিক্রয় করা হইবে না।

(মোঃ আলী মোকাররম)
ব্যবস্থাপক
প্লানিং এন্ড প্রকিউরমেন্ট বিভাগ
পক্ষেঃ ব্যবস্থাপনা পরিচালক।

Bakhrabad Gas Systems Limited
(A Company of Petrobangla)
Comilla, Bangladesh

শিল্পে প্রাকৃতিক গ্যাস ও পৃথিবীতে বিকল্প জ্বালানী

Time Extension Notice
(International Tender No. 150MW(BGSL)/FP/Fittings/CFE-04/2010 dated 14-10-2010)

At the request of interested tenderers, the selling, closing and opening date of International Tender No 150MW (BGSL) /FP/Fittings/CFE-04/2010 dated 14-10-2010 for procurement of different sizes Pipe Fittings, Pig Launcher and Receiver published in the Daily Janakantha on 17-10-2010, The Financial Express on 18-10-2010, The New Nation on 19-10-2010 and The Daily Star on 20-10-2010 is hereby extended as under:

Last date for selling : Up to 21-12-2010.
Tender Closing date and : 22-12-2010 at 12:00 noon time
Opening date and : 22-12-2010 at 12:15 pm time

All other terms and conditions of the tender shall remain unchanged. This extension notice will be treated as a part of the tender documents.

বিজি-১০৫৮/নভেম্বর, ২০১০
GD-5208

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সিকিউরিটি/ আর্গেন্ট মানি	দরপত্র শিডিউলের মূল্য (অফেরৎযোগ্য)	দরপত্র গ্রহণের শেষ তারিখ ও সময়	দরপত্র খোলার তারিখ ও সময়
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(মোঃ আলী মোকাররম)
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