Reforestation, Afforestation, Deforestation, Climate Change and Gender

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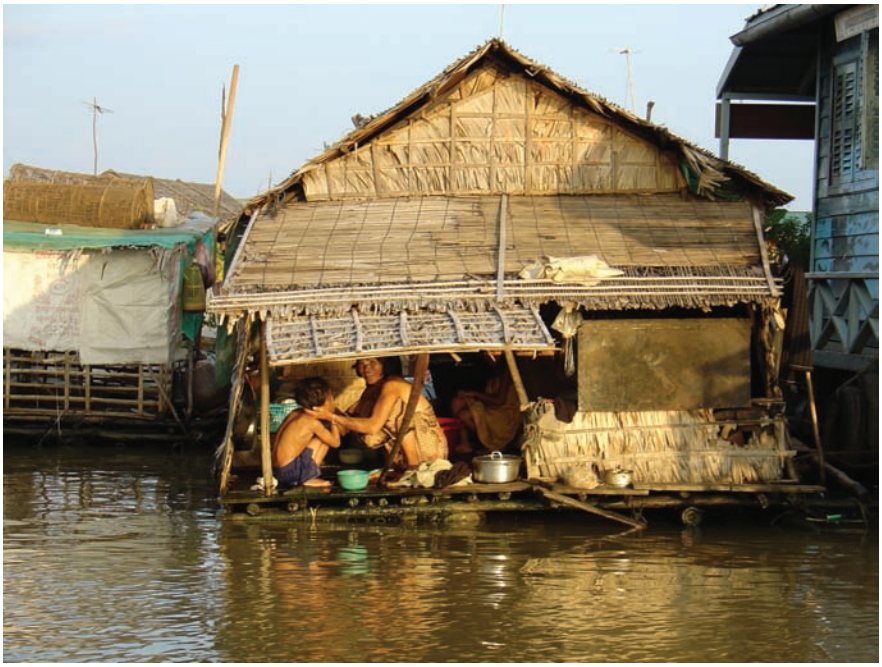
- Deforestation affects climate change because it releases the carbon stored in the plants and soils and alters the physical properties of the surface (Bala *et al.,* 2007). Tropical ecosystems are the most productive, and changes to them are likely to have the greatest impact on climate change. Models predict that their loss will have a global warming effect and experiments suggest that afforestation projects in the tropics could help mitigate global warming since they are the most effective carbon sinks in the short term (Bala *et al*., 2007; Malhi *et al.,* 2002). Worldwide, women have played an important role in preserving tropical forests. For example, in Zimbabwe, women's groups (over half of the 800,000 families living in communal areas are headed by women) manage forest resource and development projects through woodlot ownership, tree planting and nursery development.
- Men and women often have different productive and reproductive roles with regard to forest resource management. They play different parts in planting, protecting or caring for seedlings and small trees, as well as in planting and maintaining homestead woodlots and plantations on public lands. Men are more likely to be involved in extracting timber and non-timber forest products (NTFPs) for commercial purposes. Women typically gather forest products for fuel, fencing, food for the family, fodder for livestock and raw materials to produce natural medicines, all of which help to increase family income.

IUCN
The World Conservation Union



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- Since 2001, under the Maya Nut Program supported by The Equilibrium Fund, women in Guatemala, Nicaragua, El Salvador and Honduras have planted 400,000 Maya Nut trees (Brosimum aliscastrum). The Equilibrium Fund is trying to participate in carbon trading with the USA and Europe to show how specific projects could help improve women's lives, adapt to changes caused by climate change and reduce greenhouse gases (The Equilibrium Fund, 2007).
- The Mama Watoto Women's group in Kenya was formed in 1990 to address the scarcity of fuelwood and poverty of rural women. This scarcity forced women to collect wood from forest reserves, thereby exposing them to legal penalties. In response, the women established "women-made forests" in sections within their own farms. The afforestation programme improved soil fertility, reduced illegal harvesting, and increased the vegetation cover in the Kambiri region that could sequester carbon (FAO, 1994).
- In the Uttarakhand region of the Himalayas, the Chipko Movement comprises hundreds of decentralized and locally autonomous initiatives. Its leaders and activists are primarily village women. The Movement demonstrated that women can make a difference when protecting forests and developing afforestation projects. Their afforestation programme not only reduced landslides, but also solved the problem of fuel and fodder. Women looked after the trees so carefully that the survival rate was between 60–80% (Joshi, 2007). Some of the other major achievements of the Chipko Movement have been: a 15-year ban on green felling in the Himalayan forests in Uttar Pradesh; a ban on clear felling in the Western Ghats and the Vindhyas; and greater pressure for a natural resource

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policy that is more sensitive to people's needs and ecological requirements.

- In Sudan, with the support of UNHCR, IUCN and FNC (Forest National Corporation) women are planting gardens and trees around their houses. These provide them with shade, windbreaks, fuelwood and fruit. At the same time, it gives them more security, as they don't need to go so far to get their fuelwood anymore. Very often women are victims of assault when they have to go far away from their village or refugee camps in Sudan, and having the trees close by, makes their lives both easier and safer.
- In South-East Cameroon, when the Baka people discussed their vision of the future, men and women turned out to have different visions. Women would like to have bigger community forests so they can manage their own forests and harvest NTFPs – they are the ones who regularly go and gather food, wild fruits, roots, wild yams and also raw materials for making crafts/baskets/mats (all essential for their livelihoods).
- The distribution of economic incentives achieved through REDD (reduce emissions from deforestation and land degradation) or payments for ecosystem services (PES) for carbon storage and new carbon sinks should be equitable among men and women. An analysis of several India and Nepal community forest groups highlighted the fact that, in most cases, cash is not distributed equally and funds are commonly invested in resources or activities from which women were unlikely to benefit, such as club repair, purchasing community utensils, rugs, drums, etc. (Agarwal, 2002).

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- In many cases, the market price for a hectare of sequestered carbon offset is 50 times more than the price obtained from converting that hectare to other land uses (Chomitz *et al*. 2006). Informing women about such resources could help improve their household incomes and allow them to decide which strategies are most favourable for their environment and for themselves.
- Women's empowerment is now being linked to climate change solutions. In November 2006, Kenya's Greenbelt Movement, founded by Nobel Peace Laureate Wangari Maathai, and the World Bank's Community Development Carbon Fund,

signed an emissions reductions purchase agreement to reforest two mountain areas in Kenya. Women's groups will plant thousands of trees, an activity that will also provide poor rural women with a small income and some economic independence. Women's empowerment through this process will also capture 350,000 tons of carbon dioxide, restore soil lost to erosion, and support regular rainfall essential to Kenya's farmers and hydro-electric power plants.

- The lack of women's participation in the forestry industry has proven to have detrimental effects. Reforestation projects in India and Nepal without a gender perspective faced problems when replanting, protecting the forests and implementing rules that protect the reserves (Agarwal, 2002). Another project that faced similar problems was the Noel Kempff Climate Action Project. This project aimed to meet conservation needs and earn carbon credits. However, most of their goals were not achieved because the benefits were inequitable and there was little or no participation at all of women in the forestry team, conservation team, government technical support, or community councils (Boyd, 2002).

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Forests are home to 300 million people around the world and they contribute to the livelihoods of many of the 1.2 billion people living in extreme poverty (women constitute 70% of the poor worldwide). Forests provide global food security and resources, food, fodder, fuel and medicine. However, the way people use and manage forests depends on the socio-economic and socio-cultural environment, age and gender (FAO, 1989).

Forest ecosystems play an important role in the global carbon cycle. For example, reforestation and afforestation have both been integrated as forestry-based mitigation schemes into the international climate change regime (i.e. the Kyoto Protocol). Both practices entail converting non-forested land to forested land through planting, seeding and/or the promotion of seed banks and sources. Afforestation applies to areas that have not been forested for at least 50 years while reforestation applies to land that used to be forested but was turned over to another land use. Nowadays, there is a debate on the importance of addressing the reduction of emissions from deforestation and land degradation (REDD). Because it is estimated that close to one quarter of all greenhouse

gas emissions are due to deforestation and similar types of land degradation, effective REDD strategies could be used to promote the protection of current forests.

Within the complexity of the services that forests provide for climate change mitigation, it is crucial to understand women's role in these processes. Strategies are now turning to: understanding and taking into account the different benefits that women and men derive from forestry services; recognising gender differences in access to, control and knowledge of forest resources; and identifying the significant differences in access of women and men to forest-related decision making, institutions, and economic opportunities.

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When half of the population is not included or is prevented from participating in decisions, institutions, and programmes relating to climate change mitigation, they are unlikely to feel "ownership" of forestry sector policies. Mitigation strategies represent a unique opportunity to include women in forestry programmes and acknowledge that gender relations will influence many aspects of forest management and governance proposed for reducing greenhouse gases.

Recommendations

- International negotiations or regimes in relation to REDD must ensure compliance with international and national commitments on gender equality and equity, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).
- From the onset, ensure full participation and integration of women, from local and indigenous communities, in policy design processes (international and national) as well as in the broad-scale implementation of REDD.
- Forestry projects used to mitigate and adapt to climate change require a gender-based approach that captures the socially-defined differences between women and men, i.e. gender-based differences in roles and responsibilities, problems, needs and priorities, and knowledge of, and access to and control over forest and tree resources.
- Promote systematic attention to the participation of women in forestry development in policies, strategies and capacity-building efforts related to the conservation and sustainable development of forests and trees and their use.
- There should be equitable access to, and distribution of, the economic benefits derived from forest services provided to mitigate climate change. Programmes should also promote equal access of women to land ownership and other resources

necessary for effective socio-economic participation in forest management and climate mitigation strategies (e.g., land, capital, technical assistance, technology, tools, equipment, markets and time).

- Afforestation, reforestation, or forest preservation projects that receive payment for ecosystem services, such as carbon sequestration, should mainstream gender. Women should be included in the design and implementation of the projects, as well as in the distribution of benefits.
- Both women and men must be trained in methods to increase carbon sequestration through new forestry technologies, including nursery techniques, site selection, and selection of species, land preparation, planting, weeding, and maintenance.
- Responses to global climate changes should avoid a narrow criterion that leads to environmentally and socially harmful consequences. These responses should have broad goals that aim to reduce climatic change, protect natural resources, improve social well-being, promote equality, and recognise that women are key agents in climate change processes.

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