Biodiversity, Climate Change, and the Millennium Development Goals (MDGs)

BIODIVERSITY AND CLIMATE CHANGE: LINKS WITH EDUCATION AND GENDER

Climate change is threatening biodiversity, compromising the achievement of the United Nations Millennium Development Goals (MDGs). Biodiversity conservation and maintenance of ecosystem integrity are essential to the reduction of people's vulnerability to climate change and to the achievement of the MDGs.

MDG 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION

The second Millennium Development Goal is to ensure that by 2015, all boys and girls are able to complete a full course of primary schooling.

MDG 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

The third Millennium Development Goal aims to eliminate gender disparity in primary and secondary education by 2015.

Role of biodiversity in ensuring universal primary education and gender equality

Biodiversity affects access to education and gender equality by increasing the time spent by women and children to perform certain household tasks, and thus the time available for education and other activities. Ecosystem degradation, and the associated loss of biodiversity, often results in more time being spent collecting resources such as fuel and potable water[1]. Biodiversity also has a critical role to play in enhancing food security which is directly linked to both rates of education and quality of learning[2].

Photo courtesy of Tris Clements.

Women farmers currently account for 60-80% of food production in developing countries, according to FAO.

Furthermore, the conservation and sustainable use of biodiversity resources have been closely linked to enhanced production in agricultural lands. This is particularly important amongst women farmers, who currently account for 60 – 80% of all food production in

1 Pisupati, B. and E. Warner, 2003. Biodiversity and the Millennium Development Goals. IUCN/UNDP.

2 UNESCO, 2000. Thematic Study on School Health and Nutrition. World Education Forum. Education for All 2000 Assessment.

developing countries[3]. However, these women often remain overlooked in decision-making on access to and the use of biodiversity resources critical to their livelihoods[4].

Impacts of climate change on the achievement of MDGs 2 and 3

Extreme weather events threaten educational infrastructure, making it physically impossible for children to attend school. Such events can also lead to displacement and migration, reducing access to educational opportunities. Education levels may also decline due to climate-induced changes in income and health conditions. Deteriorating health conditions could affect a child's learning abilities and school attendance. As income, assests, and employment opportunities are affected by climate change, schooling may become less affordable and accessible[5].

As climate change will likely cause significant biodiversity loss[6], the workloads of women and children will grow and become more time consuming. This reduces the amount of time available for education and other empowering activities.

School children in Laos. Photo courtesy of Claudio Ramirez.

Biodiversity and climate change considerations for the achievement of MDGs 2 and 3

Taking into account climate change threats to education and gender equality, protection against extreme weather events represents an important measure to ensure that

School children from Myanmar. Photo courtesy of Anna Fabro.

MDGs 2 and 3 are met. Biodiversity has formed the basis of many traditional disaster mitigation strategies. Coral reefs and mangroves provide natural coastal protection against floods and storm surges. Their conservation therefore can be highly beneficial. As climate conditions change, these strategies become even more important.

A pilot farm project in Senegal provides an example of how climate change mitigation and adaptation can be combined in a way that enhances incomes and diversifies livelihoods, while also securing benefits for biodiversity, gender equality, and carbon sequestration[7]. The pilot farm in Niayes, Senegal, launched in the 1970s, has evolved over time to address climate variations such as successive droughts. Dense hedges were planted to act as windbreaks to help generate an agriculturally conducive microclimate. The windbreaks fight wind-related soil erosion and crop desiccation.

Schoolgirl from the Sahara. Photo courtesy of lurdesim/www.flickr.com .

They also provide valuable fuelwood for cooking, lessening the burden on girls and women to collect wood. The use of windbreaks also led to increased production of fruits and vegetables for commercial sale.

3 FAO FOCUS: Women and Food Security. Online at www.fao.org/FOCUS/E/Women/Sustine.htm
4 FAO FOCUS: Women and Food Security. Online at www.fao.org/FOCUS/E/Women/Sustine.htm
5 Stern, N., 2006. Stern Review on the Economics of Climate Change.
6 Millennium Ecosystem Assessment. Biodiversity Synthesis. 2005
7 Seck, M., Mamouda, M.N.A. and S. Wade, 2005. Vulnerability, adaptation and climate disasters: Case study 4: Adaptation and mitigation through "produced environments": the case for agriculture intensification in Senegal. Institute of Development Studies. IDS Bulletin, Vol. 36, No. 4.