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ECOAGRICULTURE:

Integrating Strategies to Achieve the Millennium Development Goals

The Millennium Development Goals will not be reached without securing the ability of the rural poor to feed their families and supply growing markets while also protecting the biodiversity and ecosystem services that sustain their livelihoods. Of the estimated 800 million people who do not have access to sufficient food, half are smallholder farmers, a fifth are rural landless and a tenth are principally dependent on rangelands, forests and fisheries. For most of them, reducing poverty and hunger will depend centrally on their ability to sustain and increase crop, livestock, forest and fishery production. Yet widespread land and water degradation affect production on at least half of all croplands and threaten resource-dependent livelihoods. Moreover, the Millennium Ecosystem Assessment has confirmed that agriculture is now the dominant terrestrial land use. Agricultural expansion and intensification have become the main drivers of biodiversity loss and ecosystem degradation. Without urgent action, agriculture-environment conflicts will prevent achievement of the Millennium Development Goals, particularly those for poverty reduction, hunger, water, health and environmental sustainability.

A key opportunity to put the Millennium Development Goals on the fast track they deserve is to ***invest in approaches that build upon synergies between rural livelihoods, environmental sustainability and food security****. Ecoagriculture provides a framework for landscape management that enables this integrated approach—putting food security at the heart of conservation, and conservation at the heart of food security. Many communities are actively struggling to protect or create ecoagriculture landscapes, and many cost-effective ecoagriculture strategies already exist. Now is the time for national and international investment programs to support ecoagriculture solutions.*

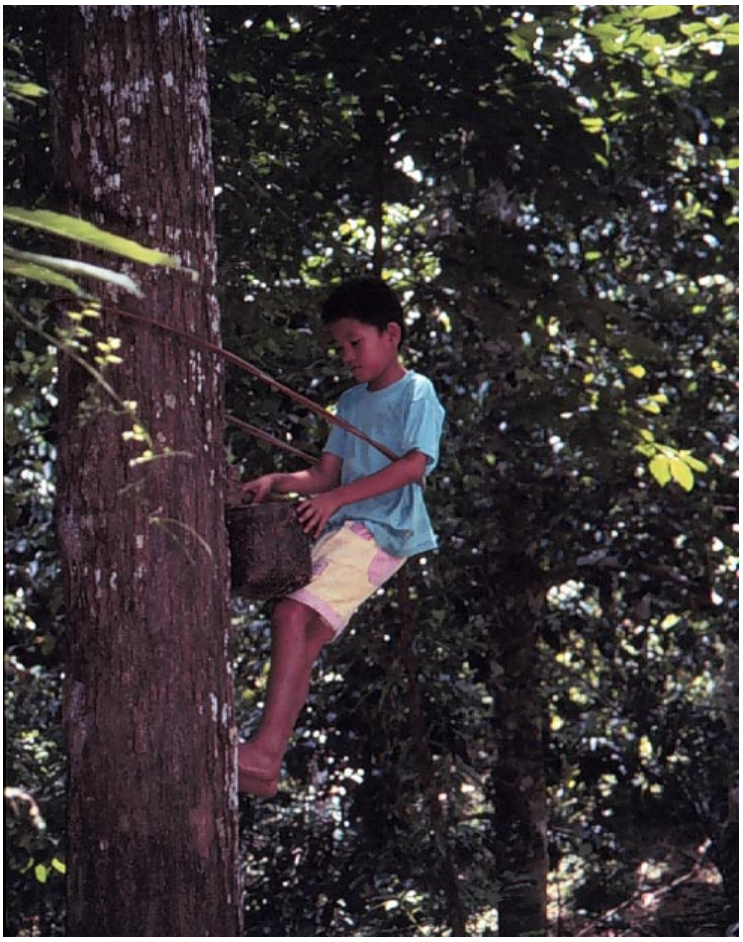
The Opportunity of Ecoagriculture

"Ecoagriculture" approaches seek to jointly achieve—at a landscape scale—three critical elements:

- Enhanced rural livelihoods;
- More productive and sustainable agricultural system (crops, livestock, forests, fisheries); and
- Protected or enhanced biodiversity, including genetic resources, ecological communities, ecosystem services, wild flora and fauna.

There is significant scope to mobilize synergies among these at the local level. At least 370 million hectares of forest and forest-agriculture landscapes outside Protected Areas are already under local conservation management. Half of the world's 102,000 Protected Areas are in ancestral lands of indigenous and other communities who rely on them for food and materials.

To achieve ecoagriculture landscapes, local communities are collaborating with NGOs, government agencies, the food industry and other groups to coordinate management of wildlife habitat, watersheds and Protected Areas, with ecologically-compatible agricultural production systems that achieve production, livelihood and market needs. But scaling up ecoagriculture initiatives to achieve the Millennium Development Goals will require far more strategic investment than is currently being provided.



An Indonesian child harvests sap in a damar forest. By Bruno Verbist. ICRAF © 1999.

Sustainable Indigenous Peoples Agricultural Technology, Philippines

For centuries, the Sustainable Indigenous Peoples Agricultural Technology (SIPAT) of the Kalinga Indigenous Peoples, Philippines, has supported local livelihoods and conserved mountain biodiversity through an integrated landscape-level approach. Local communities manage their watersheds to ensure a continual supply of water to communal irrigation systems (PINAGWA system). Fish and vegetable production is integrated into the management of irrigated rice terraces. The work of the Kalinga Indigenous Peoples has resulted in the creation and rehabilitation of over 150 hectares of integrated rice terraces. Additional protein is derived from an indigenous forest management system that explicitly relies upon forest conservation as a prerequisite for the sustainable trapping of wild animals. On-site forest protection, reforestation and maintenance have ensured an 81% rate of intact forest in Kalinga Province and a 72% rate in the Cordillera Administrative Region, Philippines. Outreach and learning opportunities are strengthened through networking and policy advocacy, catalyzing further co-operation between local communities, government and the private sector.

Transboundary Co-Management: Talamanca Initiative, Costa Rica and Panama

The Gandoca-Manzanillo National Wildlife Refuge spans 30km along Costa Rica's Caribbean coast, connecting with Panama's San Pondsak National Wildlife Refuge. This 25,000-acre Refuge is co-managed by local communities, NGOs and government representatives, protecting diverse lowland tropical ecosystems. Small farm agro-ecosystems are integral to this regional biodiversity conservation strategy, with over 300 farmers holding secure land titles in the Refuge's buffer zone. Rural communities maximize environmental, economic and production benefits through sustainable agriculture and forestry, ecotourism and additional biodiversity conservation enterprises. The Asociación de Pequeños Productores de Talamanca (APPTA), a regional organic small farmers' cooperative, supports over 1500 small farmers to be successful in a competitive market, becoming Central America's largest volume organic producer and exporter. Local processing infrastructure has been developed for organic cacao and bananas, supported by marketing and certification programs. Product diversification and certification price premiums generate 15-60% increases in small-farmer revenue. Furthermore, conservation-based carbon offset schemes are providing additional revenue for stewardship-focused farming.

Dryland Restoration: Community Water Harvesting in Rajasthan, India

Until recently, drought and environmental degradation severely impaired the livelihood security of local communities within Rajasthan's Arvari Basin. Crop failure, soil erosion and watershed degradation were widespread, with communities facing a continual challenge to meet water needs. Twenty years ago, the Tarun Bharat Sangh – a voluntary organization based in Jaipur, India – initiated a community-led watershed restoration program. The response was based upon re-instating *johads,* a traditional indigenous technology. Johads are simple concave mud barriers, built across small, uphill river tributaries to collect water. As water drains through the catchment area, johads encourage groundwater re-charge and improved hillside forest growth, while providing water for irrigation, wildlife, livestock and domestic use. Over 5000 johads now serve around 1058 villages in the region. Community leadership over watershed management is co-ordinated through purposefully established village councils. The transformation in Rajasthan's social, economic and biophysical landscape is evident, most notably in the restoration of the Avari river, which had not flowed since the 1940s. In turn, enhanced water availability has resulted in more sustainable agricultural practices, improved livelihood security and, overall, strengthened emphasis on community-led natural resources management within the region.

Before and after shots of an ecoagriculture restoration project in the Arvari River Basin, India. The two shots were taken from the exact same location ten years apart. Rajendra Singh © 1997.

The diverse knowledge and management approaches of local producers and community organizations provide the foundation for ecoagriculture. But to achieve outcomes at landscape scale requires support and collaboration from other stakeholders.

Build Upon Existing Landscape Management Expertise

- Prioritize investment to support community-driven ecoagriculture approaches, including traditional and indigenous practices that contribute to food security (watersheds, forests, pastures) and biodiversity conservation.
- Place local leaders at the center of capacity-development initiatives. Community-based leaders are often the most effective 'extension agents' and catalysts of peer-to-peer knowledge exchange.
- Invest in institutions that facilitate cross-sectoral collaboration and support diverse stakeholders to manage landscapes. Create incentives for collaboration between diverse stakeholders who are collectively responsible for managing a landscape. Provide integrated support services for agricultural production, conservation, local enterprise development and landscape planning.
- Invest in strategic partnerships between diverse convervation and agriculture stakeholders to enhance holistic, inter-sectoral decision-making and implementation.

"Ecoagriculture hotspots" —agricultural landscapes where ecoagriculture is essential to meet the MDGs

- Landscapes used for either low-or high-output agricultural production that are also critical for biodiversity and watershed services.
- Highly degraded landscapes where improved agriculture, livelihoods and biodiversity all depend on ecosystem restoration.
- Landscapes in and around Protected Areas where local livelihoods depend upon agricultural activities.

Provide Supportive Policy Frameworks and Market Systems

- Institutionalize processes that enable local communities and rural producers to engage in policy development at regional, national and international levels.
- Enhance pro-poor market incentives, including product markets and payments for ecosystem services that reward conservation stewardship by farmers, pastoralists, forest dwellers and fishers.
- Legitimize community tenure security and communal access to, as well as control over, land, forest, and fishery resources essential to their livelihoods.
- Upscale investment in integrated research and development. Agricultural systems should be a focus of conservation research initiatives, while ecosystem conservation objectives should be explicit within agricultural research. Research and development strategies must pay more attention to existing local knowledge, capacity and innovation in areas of health, agriculture, natural resources and environmental management.

This Costa Rican farm in the Monte Verde Nature Preserve uses strategic natural forest stands for fencing, windbreaks, and errosion control. By Nathan Dappen © 2005.

International Endorsement of Ecoagriculture

The integrated ecoagriculture approach has received growing recognition from the agriculture, conservation and rural development sectors, and has been endorsed by a number of international policy processes and dialogues as a valuable strategy for achieving the Millennium Development Goals:

- United Nations Millennium Project (Task Forces on Hunger, Water & Sanitation, Environment, 2005)
- Millennium Ecosystem Assessment (2005)
- Nairobi Declaration on Ecoagriculture (2004)
- Community Shamba Recommendations on Mobilizing Ecoagriculture (Nairobi, 2004)
- International Biodiversity Conference: Science and Governance (Paris, 2005)
- 1st World Congress of Agroforestry (Florida, 2004)
- Community Commons Declaration (New York, 2005)

A Growing Movement for Ecoagriculture

"We believe that mobilizing a movement of diverse stakeholders inspired and committed to ecoagriculture and the improvement of rural livelihoods together with preservation and restoration of ecosystem services will build synergies and achieve globally significant benefits for food security, human health and nutrition, poverty alleviation and environmental sustainability."

Nairobi Declaration on Ecoagriculture, 1 October 2004

Ecoagriculture Partners was formed to catalyze strategic connections, dialogue and joint action among key actors at local, national and international levels whose work is essential to develop and scale up ecoagriculture systems. These include: community-based organizations, farmers' organizations, conservation and agricultural NGOs, international research organizations, universities, private sector companies, inter-governmental organizations and public agencies.

Natural pest control: A P-14 Ladybug eats invading pea-aphids. By Scott Bauer © 2004.

The goal of Ecoagriculture Partners, an international NGO, is to lay the institutional foundations for scaling up ecoagriculture. Our work program responds to recommendations made by ecoagriculture innovators from 46 countries who participated in the International Ecoagriculture Conference and Practitioners' Fair in Nairobi, Kenya in 2004.

Collaborative activities aim to enhance understanding of ecoagriculture through research and documenting practice; build the capacity of ecoagriculture innovators by linking communities and institutions worldwide; and promote strategic institutional, policy and market changes at national and international levels that support ecoagriculture.

For Further Information:

Ecoagriculture: Strategies to Feed the World and Save Wild Biodiversity (J.A. McNeely and S.J.Scherr, 2003, Island Press)
The Nairobi Declaration on Ecoagriculture, www.ecoagriculturepartners.org/whatis/nairobideclaration.htm
"Farming with Nature," Special Issue of *LEISA Magazine on Low External Input and Sustainable Agriculture* - December 2004, Volume 20, Number 4, www.leisa.info/index.php?url=magazine-list.tpl&p[source]=ILEIA

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