

Avoided deforestation with the inhabitants of Manú

Human Development is key to the success of conserving biodiversity anywhere on earth. The inhabitants of the rainforest and its surrounding areas have the knowledge and skills required to protect biodiversity. Environmentally and people-friendly projects are being fostered in the Manú Biosphere Reserve (MBR) and its Buffer Area (BA), in south western Peru.

Avoided Deforestation (AD) is a social, ecological, political, economic, territorial and technical process that seeks to prevent or mitigate the loss of forests within a specific territory and reduce greenhouse gases (GHG) that cause global warming. Social actors, the men and women who inhabit the rainforest and its surroundings, are aware of the circumstances and are the only people able to halt deforestation. The AD process must be *integrated and social*; otherwise it will not be able to mitigate carbon emissions and global warming.

Manú: A jewel of biodiversity and of numerous cultures

The Manú National Park (MNP) located in the southern jungle of Peru between the Departments of Cuzco and Madre de Dios (see map) is one of the largest mega bio-diverse places on our planet, a top priority ecological reserve, a melting pot of cultures, history and myths; a highly appreciated eco-tourist destination, home to several agro-ecological habitats and an important carbon sink that helps to lower greenhouse gases.

This park spreads over more than 1.7 million hectares and incorporates eco-

systems that begin on the eastern slopes of the Andes (4,000 m above sea level) and extend all the way down to the Amazon Basin of Peru (200 m above sea level). In 1973 it was declared a National Park with the purpose of protecting the unique biodiversity of flora and fauna. 52 percent of the bird species of Peru and 15 percent of those of the world are found in Manú. Moreover, there are at least 13 endangered wild animal species such as the black alligator, the giant otter, and the ocelot. In 1997, UNESCO declared the park a Natural Heritage Site of Humanity. The 2001 MNP Management Plan includes 14 different types of forest.

Four indigenous Amazon peoples, the Matsiguenga, Mashco-Piro, Yora-Nahua and Amahuac ethnic groups,

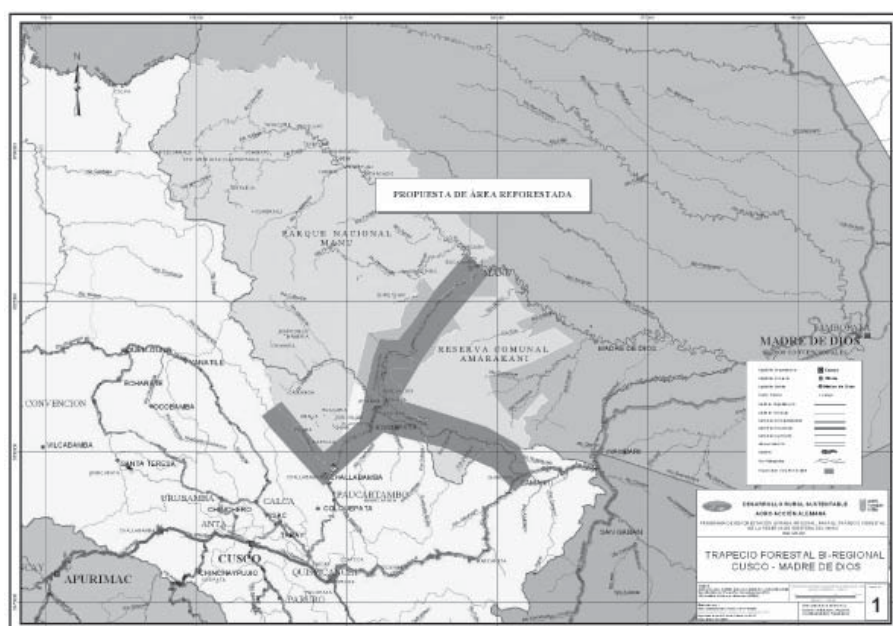
live in voluntary isolation in the park and represent its multiple cultures. The low and medium buffer zones (400 m to 2,500 m above sea level) are inhabited by Quechua and mestizo settlers from the coast and highlands who live side by side with indigenous people, mainly Matsiguenga, Huachipaeri, Arakmbut and Yeni. The high Andean area (2,500 m to 3,500 m above sea level) is inhabited by Andean Quechua peasants.

Manú buffer zone and deforestation

In general, Protected Natural Areas (PNA) have three zones:

1. the **nucleus** or **reserve** is strictly protected, and incorporates typi-

The Manú National Park (MNP) and the Bi-Regional Forestry Trapezoid



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Photo: Welthungerhilfe

Training in a tree nursery in Santa Alicia, Kcosñipata-Cuzco.

Human development in the Manú

Under such complex circumstances, the DRIS/ZA-MANU Programme (see Box) aims at generating adequate conditions for human development that will lower pressure on flora and fauna, through a programme that has four main axes:

1. agro-forestry and reforestation by means of organic agriculture;
2. food and nutrition sustainability by means of vegetable gardens and small scale animal husbandry;
3. sale and post harvest treatment of agro-forestry and garden produce;
4. and strengthening local management skills of producers associations, communities and local governments.

Since the beginning of 2006, the programme has fostered activities that are compatible with an organic farming strategy, incorporating natural resource management (soil, climate, etc.) and social management (land tenure, technology, economy, culture, etc.) in order to maximise local potential. The programme works with 540 families in 35 communities and sectors – an estimated 20 percent of the families of the buffer zone – and up

cal examples of natural ecosystems or minimally disturbed ecosystems whose exclusive function is conservation;

2. the **buffer zone** that surrounds the nucleus, and where only traditional human activities, and also research, education and training are allowed;
3. the **transition or cooperation zone** where activities focus on sustainable development by encouraging productive and economic livelihood activities.

However, these are often not well defined and cover bio-geographical areas rather than administrative units. Concerning the use of soil, two zones have been determined:

1. **indirect use** for non-manipulative scientific research and tourism in specific areas and where the extraction of natural resources or the transformation of the environment are not allowed;
2. **direct use** where natural resources can be harvested, especially by local dwellers.

The Manú Biosphere Reserve (MBR) has a nucleus, a transition area and a

buffer zone, covers an estimated 6.3 million hectares (63,000 km²) and is located in three departments or regions of the country: Madre de Dios, Ucayali and Cuzco. The nucleus covers 1.9 million hectares and the buffer zone 1.1 million hectares. This area helps to mitigate the damage of social and productive activities by local inhabitants that put pressure on the MNP and consequently on the Manú Biosphere Reserve.

The current deforestation activities and non-sustainable use of the soil, promoted by anti-rural public policies and driven by the poverty in the highlands, is generating a rural exodus and threatening the integrity of the nucleus zone of the Manú National Park. Between 2000 and 2005 more than 8,000 hectares of virgin tropical forests have been lost in the buffer zone and an estimated 3,500 hectares in the nucleus of the park. Up to 2005, 63,500 hectares had been deforested between the buffer zone and the nucleus of the park, an estimated 4 percent of the total of both areas. If deforestation activities continue they will become a serious threat to this Natural Heritage Site of the planet.

DRIS/ZA-MANU

Title: “Integrated Programme to Strengthen the Local Capacity of Small Farmers of the Manú Biosphere Reserve Buffer Zone of Peru” (DRIS/ZA-MANU).

Implementation: Sustainable Rural Development DRIS.

Participants: 35 communities and 560 families in Challanamba, Kcosñipata and Manú.

Funds: European Commission (75 %), Welthungerhilfe – WHH (15 %) and CESVI-Italia (10 %).

to now has accomplished promising, albeit unequal, results in its four components, particularly concerning the proposed methodology for sustainable organic agriculture, appropriate natural resource management, respect for the different cultures in the area and democratic participation.

Achievements ...

The results of the DRIS/ZA-MANU Programme's actions up to mid 2008 are:

1. with respect to organic agriculture 35 communities and 530 families have helped to cultivate 258 hectares and reforest 151 hectares mostly with native species;
2. with respect to food, 250 vegetable gardens have been organised as well as 387 small scale farms (to breed guinea pigs and fowl) and the food intake of each family has increased since they have included at least four vegetables and one animal per week;
3. with respect to sales, most of the products are sold in local and regional markets – Cuzco and APC-Conirsa, the constructor of the Trans Oceanic Highway; farmers fetch up to 30–40 percent more for their plantains, pineapples, tropical fruits, apples, potatoes, and certain vegetables compared to the price formerly paid by intermediaries;
4. with respect to the capacity building of local inhabitants and organisations, the programme has promoted the creation of a municipal company to market and manage the post harvest treatment of farm produce and has also supported the drafting of the municipality's strategic plan; has entered into ten agreements with local institutions and helped to train 64 grassroots leaders.

Biological pest control in a community vegetable garden in Sabaluyoc, Kcosñipata-Cuzco.

Up to now the programme has been relatively successful due to the fact that:

1. it approached the area by knocking on doors and asking for permission and informing local authorities and community leaders;
2. it sought support from native knowledge and diagnosis but also fell back on validated experiences from other zones;
3. it contracted local engineers and technicians, prior inquiries were made with mayors and leaders and a gender-based approach – sex and age – was attempted, although this was not always achieved;
4. it worked with families and promoters chosen by members of the communities;
5. it matched synergies between former and current experiences in the area.

... and difficulties

Obviously, we have had to deal with difficulties which have basically been related to:

1. the physical, agro-ecological and sociocultural complexities of the zone;
2. the isolation of the regional capitals – Cuzco and Puerto Maldonado – that are difficult to access by road or river;

3. the low presence of State agencies and the private sector – although there are seven tourist operators that hardly share benefits with the local inhabitants –, no rural credit or technical assistance;
4. the weak social organisation of agro-forestry producers which affects the programme's sustainability;
5. the “top down and out” creation of the MNP which has sparked conflict between Andean peasant communities and Amazon indigenous communities over the use of their resources;
6. the past and present extraction model of the state and the private sector associated with a lack of reforestation and conservation practices.

Towards a DEI-MANU Programme

In view of the fact that the programme we support will end in April 2009, we have presented three alternatives:

1. to add more components and secure additional funds for the extra year, although the term is too short to accomplish results;
2. to design a typical MDL Forestry Project under the framework of the Kyoto Protocol, but this is very



Photo: Welthungerhilfe

DEI-MANU Programme

Implementation: the WHH/DRIS alliance, the Association of Municipalities and the Manú National Park Management Committee.

Participants: Quechua peasant communities (in the highlands), indigenous communities of six ethnic groups (in the jungle), settlers, producer's associations, specialised public entities and NGOs that are involved in the area.

Funds: Cuzco and Madre de Dios Regional Governments, local municipalities (Paucartamo, Challabamba, Kcosñipata, Manú and Camanti), Welthungerhilfe (WHH, formerly known as German Agro-Action) and contributions from companies of the Voluntary Carbon Market (VCM).

complex and non-transparent for the local communities and municipalities;

3. to draw up an Avoided Deforestation Programme in the jungle to use the funds of the Voluntary Carbon Market (VCM) together with a typical reforestation Forestry Project in the Andean area, respecting minutely the details involved in the following order: social, institutional, territorial, technical and financial.

We have chosen the last option and are aiming at fostering sustainable human development in the buffer zone of the Manú Biosphere Reserve by strengthening the local organisation and management skills of 40 communities and 700 families organised as small agro-forestry producers. This will enable them to reforest 25,000 hectares in 15 years and thus avoid the deforestation of the Manú Biosphere Reserve.

Bearing this in mind, since mid 2007 the programme has promoted a social construction process which involves a long term Integrated Avoided Deforestation Programme (DEI-MANU) in the Bi-Regional Forestry Trapezoid. This process is being fostered with the citizens who live in the rural areas – Quechua ethnic groups, settlers and indigenous peoples –, that is, with human beings as the main actors.

This programme (see Box) aims at providing:

1. technical assistance and logistics with a view to strengthening the Manú National Park Management Committee;
2. scientific assistance to estimate and monitor carbon capture, carbon sink credit prices, the financial structure and other social and eco-

nomical and environmental impacts/benefits of the project;

3. technical assistance for:
 - a) agro-forestry and fair crops to be sold in the local and regional markets;
 - b) sustainable reforestation with native species;
 - c) food sustainability by developing vegetable gardens, small scale farms, fish farms, and small animal breeding;
 - d) marketing and post harvest treatment of crops and vegetables;
 - e) strengthening local skills of municipalities, producers' associations, communities and grassroots organizations.

This new programme will be implemented over a 15 year horizon, that may be extended, and initially generate an estimated 650 tons CO₂ equivalent per hectare and year (tCO₂e ha/a) of emissions reductions. Reforesting 25,000 hectares involves 16.2 million tCO₂e in the 15 years of the DEI MANU Programme's life span.

A full list of references can be obtained from the author.

Zusammenfassung

Der Nationalpark Manú im Südosten Perus ist seit 1997 Weltnaturerbe. Doch bedrohen Abholzung und unangepasste Bodennutzung nicht nur die Artenvielfalt, sondern auch die Lebensgrundlage der lokalen Bevölkerung. Für eine nachhaltige Entwicklung sorgt seit 2006 das Programm DRIS/ZA-MANU. Es soll den Druck auf die natürlichen Ressourcen senken und gleichzeitig Ernährung und Einkommen der indigenen Bevölkerung sichern. Basis des Programms sind Agroforst- und Aufforstungssysteme in Verbindung mit ökologischem Landbau, die Ernährungssicherung durch ökologischen Gemüseanbau und Kleintierhaltung, die Vermarktung und Nacherntebehandlung der Produkte aus Agroforst-

produktion und Gemüseanbau und die Stärkung der Managementfähigkeiten von Bauernorganisationen, Gemeinden und lokalen Regierungen. Mit einem zweiten, langfristig angelegten Projekt zur integrierten vermiedenen Entwaldung sollen außerdem die CO₂-Emissionen drastisch gesenkt werden.

Resumen

El Parque Nacional del Manú en el suroriente peruano ha sido declarado patrimonio natural de la humanidad en 1997. Sin embargo, la depredación de los bosques y el uso inadecuado de los suelos amenazan no sólo la diversidad de las especies sino también las bases de vida de la población local. Desde 2006, el programa DRIS/ZA-MANU busca el desarrollo humano sostenible. La idea

es reducir la presión sobre los recursos naturales y al mismo tiempo asegurar la alimentación y los ingresos de la población rural. La base del programa son los sistemas de agroforestería y reforestación combinados con la agricultura orgánica, la sostenibilidad alimentaria y la nutrición a través de biohuertos y minigranjas, al igual que la comercialización y el procesamiento post-cosecha de productos de la agroforestería y los biohuertos. Al mismo tiempo, se trata de lograr el fortalecimiento de las capacidades de gestión de las asociaciones de productores, las comunidades y los gobiernos locales. En un segundo proyecto de largo plazo, dirigido a la Deforestación Evitada Integral, se aspirará además a reducir drásticamente las emisiones de CO₂.