

**IES Prototype EnviroSecurity Assessments
Promoting Environmental Security and Poverty Alleviation
in Three Case Study Areas**

Recommendations

October 2005 - Updated June 2006

[Kalimantan, Indonesia](#)

[Virunga-Bwindi, African Great Lakes region](#)

[Matavén, Colombia](#)

I. Recommendations from the Kalimantan, Indonesia Case Study

A. On Monitoring and Mapping Ecosystem Services and Threats

1. As a component of ensuring environmental security monitoring is essential. Both the monitoring of biophysical and man made aspects of the region as well as monitoring of the administration and effectiveness of projects is important. Regarding the former, we recommend the implementation of a permanent monitoring system aimed at detecting land use and land cover changes. The existing radar-based monitoring system for the Mawas area should be extended to the Sebangau area and to the other peat swamp and peat forest areas of Kalimantan in order to be used to detect illegal logging; illegal canals and roads; illegal deforestation for plantations; fires; and, to help enforce existing legislation and regulation. Results can be used to prevent further peat swamp forest destruction or to monitor parameters that need to be regulated as part of contractual agreements. These contractual agreements can be, for instance, between local forest owners and outside buyers of forest conservation or restoration based carbon credits; or, between local forest owners and outside parties interested in the maintenance of forest-based biodiversity. A crucial part of monitoring is being able to compare new findings with the past or with other types of data, thus a compilation of baseline data is important. Other data types can include cadastral boundaries, land use zoning plans, and maps of land suitability assessment.
2. The local communities, authorities and executing agencies should be fully involved in operating the system and the juridical follow-up of the data received and interpreted. Adequate training courses should be developed and conducted.
3. Since the system is of great importance also for other parts of Indonesia (Sumatra!), it should be embraced by the relevant ministries and national authorities and used for the obligatory reporting by Indonesia as Party to the Convention on Biological Diversity (CBD) to the Conference of the Parties.
4. The system should also be used in the preparation of meetings of the Parties to the ASEAN Haze Agreement, both to assess the performance of the Parties in preventing haze pollution in the region and to prepare effective programmes for the future.

5. Maps - updated by the monitoring system and applying GIS - should be made showing the ecological state of affairs, the threats and the (potential) conflicts. A very important purpose of these maps would be to demonstrate where certain activities can take place and where not. This is especially relevant for the concession policy in the field of logging and plantations.

B. On the Legal Aspects

6. As Party to the Convention on Biological Diversity, Indonesia - one of the "mega-biodiversity" countries in the world - is required to adopt and apply the ecosystem approach. Its National Biodiversity and Strategy and Action Plan should be made legally binding and should be implemented in practice.

7. Indonesia is Party to the Climate Convention and the Kyoto Protocol. Although it has no reduction obligations under the Protocol, it is bound by the objectives of the Convention and should refrain from activities aggravating the global climate problematique. From this legal perspective it should be encouraged to adopt effective policies to combat illegal logging and fires; during the burning season the fires make Indonesia one of the major emitters of greenhouse gases in the world.

8. The ASEAN Agreement on Transboundary Haze Pollution of 2002 has not yet been ratified by Indonesia. It is urgent to do so.

9. A thorough analysis should be made of the de facto situation with respect to the local rights of access to natural resources in the case-study area in the face of outside threats.

10. Environmental Impact Assessments should be used not only as technical reports, but also as a process to promote participation and good governance.

C. On Economics and Finance

11. Payments for ecosystem services should provide alternatives for ecologically detrimental activities such as illegal logging and the conversion of High Conservation Value forests into plantations. The proposed contract between Mawas and an outside energy industry to pay for a long-term carbon credit scheme can be a model for those areas with still existing forests.

12. Since under the Kyoto Protocol's Clean Development Mechanism (CDM) in the field of forest management it is only possible to sell credits by re- or afforestation, those situations where this is possible should be inventoried and submitted to the (difficult) CDM procedure, with the help of outside technical assistance.

13. Now that "avoided deforestation" has been accepted as eligible for compensation under the Climate Change Convention, Indonesia should promote the operationalisation of a compensation mechanism, as soon as possible.

14. Commercial alternatives in the field of agriculture, certified timber and palm oil production and eco-tourism should be encouraged with the assistance of international NGOs working in these fields. (A promising initiative is the Roundtable on Sustainable Palm Oil.)

15. Long-term financial security is essential for the management of ecosystems. It is recommended to use a multi-donor trust fund construction as now proposed for the protected

areas in Colombia by the GEF/World Bank also for the peat swamp forests on Kalimantan and use this as a model for the other parts of Indonesia. A key component of this construction is an endowment, the proceeds of which are to be used for recurrent costs. The filling of such an endowment could typically come from a debt-for-nature swap. The existing options within the Indonesian context in this respect should be considered.

D. On Empowerment and Training

16. As mentioned above, training in using modern monitoring techniques is important to protect the local communities and the ecology against the threats of logging and fires. This training should especially assist the local police and judiciary in enforcing the law. Also, training in preventing and combating fires and in economic alternatives is essential.

17. The Indonesian military and diplomacy have to be made aware that the logging and fires on Kalimantan and increasingly now also on Sumatra pose a serious environmental security threat to their neighbours and to the rest of the world and constitute a violation of binding international agreements. They should be encouraged to make a paradigm shift here and become a country that is leading on the international environmental scene and earn a large part of their foreign exchange by selling carbon credits, making their unique biodiversity available to tourists and the pharmaceutical industry, and by exporting certified commodities such as timber and palm oil.

II. Recommendations from the Virunga-Bwindi region Case Study

A. On Mapping and Monitoring Ecosystem Services and Threats

1. While the focus of these recommendations is to strengthen the peace park functions of especially the tri-national Virunga parks complex, the first recommendation is to have a full analysis of all ecological values of the region and to determine the whole set of ecosystem services (as defined by the Millennium Ecosystem Assessment) the region is providing to its immediate surroundings, the wider region and river basins of which it is a part, and the global community. Apart from being the habitat for the last population of mountain gorillas, which is a global environmental benefit, there is other unique biodiversity, but from the perspective of environmental security the strategic hydrological role of the Virunga Massive comes to mind. The analysis of the USDA Forest Service and of the GEF-funded Global International Waters Assessment (and any others) should be continued, also with special attention to the relevance for the Nile Basin Initiative.

2. The threats to the maintenance and delivery of these ecosystem services should be identified on the various levels:

- local (e.g. population pressure)
- regional (violent conflicts, migration, et.al., to be identified in collaboration with, for example, the International Crisis Group and on the basis of the findings of the Peace and Conflict Impact Analysis as conducted by the International Institute for Sustainable Development)
- international (mining and logging for export markets)
- global (climate change: IPCC: impact of climate change is highest in Africa "where poverty limits options for adaptation.")

3. Ecological values and services and threats should be laid down on maps as produced for the UNEP/UNDP/OSCE programme on environment and security in Central Asia, the Caucasus and South-East Europe so as to give policy-makers on the various levels a direct and integrated view of the issues to be addressed.

4. A system of continuous monitoring of the ecology and the threats there-to based upon (radar) remote sensing with systematic ground-truthing by local authorities and counterparts such as IGCP - should be set up. There should be periodic reporting of this monitoring, for example, on the occasion and for the benefit of the quarterly tripartite meetings of the park authorities to discuss the joint management of the parks. Of course the results of the monitoring should also be made available to the governments and all other relevant decision-makers in order to allow them to take adequate action in time.

It is proposed that IES partners utilising radar methodology take the lead in setting up this monitoring system from the remote sensing side. Included in setting up the system should be modules for training to read and interpret the remote sensing data by the (local) authorities and counterparts, where necessary, based upon a needs assessment.

B. On the Legal Aspects

5. Considering the fact that one of the major threats to the ecological integrity of the Virunga Massive still is the instability on the Congolese side, it is recommended - if this is not yet already arranged - to establish (informal) channels of communication with MONUC to prevent invasions of the parks or using them as shelter and to strengthen park protection if needed. (See also the recommendations by International Crisis Group of 14 September 2005 to deal with the threats as posed especially by the FDLR - Forces Démocratiques de la Libération du Rwanda - directed to the meeting in New York on 16 September of the governments of Rwanda and the DR Congo, the African Union, the European Union, the UN and the U.S. and separately to the same governments and to MONUC - the United Nations Mission to the Democratic Republic of the Congo - and the renewed call for action of 19 October 2005.)

6. On or in association with the maps the pertinent international legal regimes should be identified so as to define the responsibilities, obligations and rights of the various actors in and relevant for the region. It is recommended strongly to take the responsibilities and obligations of the countries in the Virunga-Bwindi region under the international environmental conventions seriously and work together as Parties to these binding law agreements. These countries wish to be treated as equal partners in a common endeavour to preserve the regional and global ecology, but there is great need for adequate capacity to translate the international obligations into national, enforceable, law and to fully participate in the meetings of the international conventions. It is recommended that the IUCN Environmental Law Centre in Bonn carries out a needs assessment of the countries in relation to the implementation of these conventions on the national, regional and international level.

7. The key element of the management of the Virunga Massive as a peace park is formed by the quarterly meetings of the rangers and (park) authorities as facilitated by the IGCP. As is suggested under point 5 these tripartite consultations may benefit from updated remote sensing monitoring reports. Also one may think of upgrading the Trilateral Declaration on the Transboundary Resources Management between the three States of October 2005 to a "Legal Framework for a Transboundary Area", as is proposed in the report by IES Legal Advisor Serge Bronkhorst *"The Virunga Volcanoes and the Bwindi Impenetrable National Park: Co-*

operation in the management of shared natural resources and the concept of Transboundary Protected Areas". This would imply a binding treaty between the three states. While this should be considered a desirable end goal to legally "cement" the necessary cooperation, the steps towards such an arrangement should be very carefully planned and built upon concrete progress of the on-going consultations between the three park authorities.

C. On Economics and Finance

8. Whatever the exact legal arrangement, adequate financing for monitoring and management is an absolute requirement for the Virunga-Bwindi area to be successful as a peace park, as habitat for unique biodiversity and as "water tower" for the surrounding regions and the connected river basins. Contributing to regional peace, to the protection of globally unique biodiversity and to the protection of a strategic regional watershed, warrants long term funding from regional and global sources. It is therefore recommended to critically review the performance of the Mgahinga and Bwindi Impenetrable Forest Conservation Trust Fund (MBIFCT) and to design a mechanism which would also include the Rwandan and DRC parts of the peace park area. MBIFCT was set up to finance the global biodiversity benefit as defined by the Global Environment Facility (GEF). To the geographically extended Trust Fund could be added the hydrological component, mentioned under point 1, which could generate funding under the International Waters window of the GEF. An initial GEF grant can of course leverage other sources of funding. A model for a new multi-donor trust fund construction can be found in the World Bank/GEF trust fund construction proposed for the protected areas in Colombia and to be approved at the GEF Council meeting of November 2005.

9. The format of this fund construction includes an endowment to finance recurrent costs. Added is a sinking fund component and one can also think of adding a revolving fund component. The sinking component could, for example, finance a programme of training and capacity enhancement for the park management and for development of economic alternatives for the neighbouring communities. The revolving component could be used to give credits to starting businesses under, for example, the IGCP Enterprise Programme, to be paid back if the business is successful. The fund also could be the vehicle for the revenue sharing mechanism, as is being set up by the Rwanda Office for Tourism and National Parks (ORTPN) to transfer a certain percentage of the income generated by the parks to the surrounding communities. It is also recommended to look at the possibilities for debt conversion (Paris Club, HIPC, or bilateral) to mobilize resources for the trust fund.

10. In order to maintain the Virunga Volcanoes park complex as a peace park and to provide sustainable livelihoods for the surrounding populations as a whole - especially in densely populated Rwanda - the highest priority has to be given to generate sources of income and employment outside the subsistence agriculture in which 90% of the population is working. If one would look at small to medium industries and to the ICT sector, energy (in the form of electricity) is an absolute requirement. Here there is a dilemma for a country like Rwanda, where water used for hydropower is diverted towards agriculture, thus increasing the need to use "dirty diesel" to produce electricity. This is exactly the opposite of what should be done to make the country earn income from producing carbon credits under the Clean Development Mechanism (CDM) of the Kyoto Protocol.

Building on existing (UNIDO/GEF) initiatives the Dutch development cooperation through its bilateral and multilateral channels should strongly support a clean energy strategy for the countries sharing the Virunga Massive, including creating options for CDM projects.

Reforestation to prevent erosion and sedimentation of water bodies suitable for hydropower could at the same time qualify for the CDM. The Dutch CDM office at the ministry of VROM should be consulted to see whether now or in the future the obligatory Dutch greenhouse gas emission reductions via the CDM could be realized, for example, through energy and/or forestry projects in Rwanda.

11. Within the energy mix for Rwanda a special role can be played by the methane gas from Lake Kivu. Considering the risks associated with exploiting this gas a thorough Environmental Impact Assessment (EIA) of any project to indeed exploit this gas has to be conducted. The Dutch expertise can be very helpful to assist the Rwandan authorities in preparing the necessary EIAs. The contacts established after the visit of the IES team to Rwanda in July 2005 between the Rwanda Environmental Management Authority and the Dutch EIA Commission should therefore be extended and strengthened.

12. Special attention should be given to the integration of the environmental management needs in the Poverty Reduction Strategy Papers (PRSP). With further deterioration of the environment poverty and conflicts will increase. Here both the embassies in the region and the Executive Directors of the Netherlands at the World Bank and the IMF will have to scrutinize the PRSPs when they come up for decision-making.

D. On Empowerment and Training

13. After demobilisation and repatriation, the rebels, militias and refugees need to be trained in skills outside subsistence agriculture, such as for example environmental restoration and protection, wildlife and park management and as tourist guides, managers of lodges, etc. The international donor community should assist with providing incentives and training modules.

14. Empowerment of women is key to the necessary demographic transition. To provisions like in Rwanda where a minimum percentage of civil servants should consist of women, the promotion of educational, health and credit facilities relevant for women in the rural areas should be added.

III. Recommendations from the Matavén area of Colombia Case Study

A. On Monitoring and Mapping Ecosystem Services and Threats

1. A continuous, radar-based monitoring system has to be developed and installed so as to assist the local (indigenous) authorities in the management of their territories and to effectively relate to the outside forces which impact on these territories and the management there-of or which may do so in the future.

2. The development of the system has to be done in close consultation with the local authorities, using their own cartography and ecological calendar and the cartography developed by the GEF project 2001-2004, so as to programme the monitoring also in conformity with the local needs in space and time.

3. The local communities and authorities have to be trained and empowered to make optimal use of the monitoring data and to act as "groundtruthers" for these data. This training can best be done by NGOs with permanent field presence in the region and with full knowledge of the

local cultures and with intimate sensitivity for the timing of the various activities (the "rhythm of the region").

4. Consultations have to be set up about who, in the Colombian context, can best manage such a monitoring system, and with whom, in what form and at what time the data have to be shared. While data concerning the Matavén area itself obviously have to be shared with the local authorities, data about relevant outside forces may also have to be shared with higher levels of policy and authority.

5. Since the Matavén area is part of the wider Guiana Shield ecoregion, stretching from Colombia into Venezuela, Brazil and the three Guianas, the monitoring should be part of the monitoring system proposed by the [Guiana Shield Initiative](#) (GSI), in which an important role is to be played by the Brazilian SIVAM programme (Sistema da Vigilância da Amazonia), which is also a radar-based system. In this respect the system should contribute to address problematic transboundary issues between that part of Colombia, Venezuela and Brazil.

6. Periodically the maps as produced for this case-study for Colombia will have to be updated. It is proposed to do this as part of the updating of the interactive maps recommended by IES to the Amazon Programme of the Dutch Embassy in Bogotá.

B. On the Legal Aspects

7. Colombia has one of the most advanced legal systems in the world. This holds especially for the constitutional provisions and legislation regarding indigenous communities. Also, Colombia has ratified the ILO 169 Convention, the most important international legal instrument for indigenous rights. Furthermore, Colombia is Party to the Convention on Biological Diversity (CBD) and it was under Colombian political leadership that the Cartagena Protocol on Biosafety was negotiated. As international agreements have pre-eminence in the hierarchy of Colombian law, it is important that the compatibility of proposed national legislation with these international arrangements is on the agenda of the consultations of the international donor community and diplomacy with the national government.

8. There is obviously serious incompatibility between the proposed Forest Law (Ley Forestal) and the under point 7 mentioned international agreements - for an extended analysis see the report "Contribución al análisis de la problemática en el resguardo de Matavén, Colombia: perspectivas nacionales e internacionales" by Fundación Gaia Amazonas as commissioned by IES. It is recommended that the donor community investing in programmes to strengthen indigenous rights and conservation of biodiversity expresses its concern about this incompatibility to the national government of Colombia. In general, internationally induced forces to privatise and commercialise biologically and resource rich natural environments undermining existing legislation protecting biological and cultural diversity should be scrutinised carefully by the donor community.

9. As has been extensively discussed in the report mentioned under 8., further ratification and implementation of ILO 169 is of the utmost importance for the future of the Matavén region in particular and of the indigenous(territorial) rights in general. It is recommended to the international human rights diplomacy to take note of the conclusions of this part of the report and to promote the further ratification and implementation of ILO 169 at the appropriate fora.

10. Idem for the recommendations and the conclusions of the visit of UN Special Rapporteur Rodolfo Stavenhagen in March 2004 to Colombia - see also the analysis of the Stavenhagen report for the Amazon Programme of the Dutch Embassy of October 2005.

11. On 16 August 2005 an agreement (convenio) was concluded between ACATISEMA, the association of traditional indigenous authorities in Matavén and their Venezuelan counterparts at the other side of the Orinoco, the Asociación Comunitaria Cano Grulla, to regulate fishing in their section of the Orinoco. It is recommended to highlight this as a success of indigenous transboundary diplomacy and as further justification to strengthen indigenous authority and management in law and practice.

C. On Economics and Finance

12. The Matavén area is extremely rich in biodiversity. It is an important part of the Orinoco basin and its forests store and sequester large amounts of carbon and thus play a key role in the climate stabilisation. It is recommended to start the process of valuation of these ecosystem services and to develop systems of actual payments for these services. This should be done in close cooperation with the Guiana Shield Initiative which has applied to the European Union to set up pilot projects for payment mechanisms in the Guiana Shield eco-region, one of them in the Matavén region, and with the Nature Valuation and Financing-Network based at the Wageningen University. These services should remain in the public domain and not be privatised!

13. The proposed trust fund construction for the "Mosaique of protected areas in Colombia" could be a model or even the actual vehicle for the long-term financing of the management of the Matavén region. It is recommended to carefully study this construction from this perspective.

14. Now that "avoided deforestation" has been accepted as eligible for compensation under the Climate Change Convention, Colombia should promote the operationalisation of a compensation mechanism, as soon as possible.