

Ecosystem based adaptation

An innovative river-basin scheme is strengthening climate resilience and addressing biodiversity loss by encouraging businesses to reward indigenous peoples for conserving vital ecosystem services. This initiative is a model for cooperative resources management that offers long-term security for the most vulnerable.



THRIVING ECONOMIES



IMPROVED LIVELIHOODS



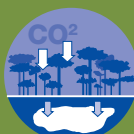
FOOD SECURITY



WATER SECURITY



HEALTHY BIODIVERSITY



CLIMATE RESILIENCE



SUSTAINABLE DEVELOPMENT

Climate adaptation through 'payment for ecosystem services' in the Philippines

Context and challenge

The Cagayan de Oro River drains the northern central part of the island of Mindanao in the Philippines. From its headwaters in the biodiversity-rich forest areas of the Kalatungan and Kitanglad mountains, and across its 137,000-hectare catchment, protected areas overlap with the ancestral domains of indigenous peoples. Tensions have flared between industry – including logging, mining and agribusiness – and indigenous communities in the mountains who rely on subsistence and seasonal cash crops for survival, and who are alarmed by persistent encroachment into their forests.¹

On the fertile mountainsides of the province of Bukidnon, flourishing agribusinesses such as pineapple and banana plantations are boosting the economy and providing employment for thousands of Mindanao 'lowlanders'. Meanwhile, indigenous people are experiencing the loss of ancestral lands and facing threats to their culture, but are not receiving benefits such as new jobs or services. Agriculture is also causing sedimentation and chemical pollution that severely affect downstream ecosystems.

Alongside these land-use conflicts, there have been radical changes in weather patterns. Mindanao has traditionally been 'typhoon free', but in recent years the island has been subjected to a series of tropical storms, or (super)typhoons. These have caused extreme floods, numerous casualties, and considerable economic losses, soil erosion and siltation. Climate change models predicted this southward movement of the typhoon belt, and experts now agree that the recent disasters are likely to have been as a result of this shift.

These natural disasters jeopardise the ecosystem goods and services that have been freely provided to local communities for millennia. The impact of the typhoons was made even more devastating, in terms of both lives lost and damage, due to a perilous combination of the pre-existing ecosystem degradation caused by irresponsible land use by industries –

including agri-plantations on steep slopes and mining – and the non-preparedness of the population.² Action is needed to protect people in the face of these mounting threats.

Taking an ecosystem approach

The ecosystem approach promotes the integrated management of land, water and living resources in a way that achieves mutually compatible conservation and sustainable use, and delivers equitable benefits for people and nature.³ In this case, the region's growing vulnerability reinforces the urgent need for sustainable land-use management and ecosystem-based adaptation (EbA) to mitigate the impacts of future climate change-related disasters.

On Mindanao, achieving this means building-up the resilience of upland ecosystems while ensuring the delivery of the range of ecological services that people and nature rely on. This requires: (i) reforestation of barren grasslands in the degraded headwaters; (ii) protection of remaining healthy rainforest; (iii) promoting sustainable agricultural practices in the mid-slopes; (iv) addressing mining practices and other land-uses that are weakening ecosystem resilience and increasing disaster vulnerability; and (v) relocating settlements from the flood-prone areas along the river to higher grounds to create 'room for the river'.

Adopting a river basin-wide system of payment for ecosystem services (PES) offers a strategic way to realise these goals while rehabilitating landscape and community integrity. With Ecosystem Alliance support, local civil society has already put in place several critical enabling conditions to set the stage for an effective PES:

- **Governance** – Project partner, the Xavier University-McKeough Marine Center, supported the re-establishment of the Cagayan de Oro River Basin Management Council, which consists of local governments, NGOs, academics, the church and the private sector. The Council has now formulated an integrated river basin management master plan and carried out a climate change vulnerability assessment and GIS mapping. The Council is key to implementing EbA and piloting PES in the basin, and provides a model for civil society organisations across the country.⁴
- **Community engagement** – Kitanglad Integrated NGOs, another project partner, has mobilised local indigenous peoples and is now working with them to design new approaches to managing their natural resource base and create new sources of income.
- **Policy Advocacy** – Xavier University is working with the Office of the Presidential Adviser for Environmental Protection, who is championing private sector engagement on PES through policy legislation. Advocacy is also being targeted at the municipal level, with a view to streamlining PES in Local Government Units and ensuring that it will survive well beyond the timeframe of the Ecosystem Alliance project. This initiative includes help to develop new PES/EbA-related legislation.



Datu Dungkuan Rio Besto by ANTHONY JACOB C. KARAGDAG





CDOREBMC SECRETARIAT



“We live here. Our ancestors lived here. All our actions will affect the future generations. That is why we need to take care of our forest. What is there to life when the forests will be taken away from us? The success of this ecological undertaking lies in the synergy among the communities of Northern Mindanao.”
 Datu Dungkuan Rio Besto, chairman of the Miarayon-Lapok-Lirongan-Tinaytayan Tribal Association (MILALITTRA) in Talakag, Bukidnon

- **Awareness raising** – Valuing Ecosystem Services Together (VEST) is a Xavier University social marketing movement aimed at propelling communities, local governments and the private sector towards the sustainable management of ecosystems and ecosystem services in Northern Mindanao.

Thanks to these collaborative actions, the groundwork has been laid to implement PES in Mt. Kalatungan, with sustainable water supply and flood control as the main ecosystem services and indigenous communities identified as the ‘sellers’. Key to success will be the readiness of potential beneficiaries to recognise and reward the efforts of upstream communities to conserve the upstream environment. Mindanao Development Authority and Oro Savings and Sharing Cooperative were the first two buyers. Xavier University is now recruiting more ‘buyers’ among the private sector – such as agri-businesses like Del Monte and Unifrutti, water and electric providers – and segments of the public, ready to pay for ecosystem restoration and protection.

To scale-up these activities, Kitanglad Integrated NGOs is now developing a similar PES initiative for Mt. Kitanglad, where an indigenous-owned Talama trust fund is in place to manage the finances.

Impacts on communities, nature and policy

- PES agreements have been successfully implemented in Mt. Kalatungan and are now being closely monitored, with semi-quasi government and cooperatives among the first buyers of ecosystem services.
- PES mechanisms are being put in place in the adjacent Mt. Kitanglad region.
- Local communities across the river basin will benefit long-term from a decreased vulnerability to climate change impacts as a result of improved ecosystem management and adaptation.
- EbA and PES have been integrated in the new Cagayan de Oro River Basin master plan, covering 137,000 hectares of land, one city, three municipalities and 120 communities.
- PES-EbA-related ordinances have been drafted at the request of the local government, with assistance from Xavier University. An inter-Local Government Unit alliance memorandum has been signed, pledging cooperation to improve management of the entire watershed.

- The Kalatungan initiative has set a new precedent, and is now being regarded with interest by many environmental organisations, academic institutions and government agencies with a view to its replication in different arenas. These include public-private partnerships, ‘reef-to-ridge’ engagement, indigenous peoples participatory development, watershed and ecosystem restoration, and even potentially for REDD+ negotiations.

Looking to the future

Securing firm commitments from agribusinesses, municipalities and other stakeholders is the biggest challenge ahead. A carefully targeted marketing strategy is emphasising that a river basin-wide PES system is critical to the climate resilience of this vulnerable, disaster-prone region. This message is being relayed to a select audience, including corporations and cooperatives, governments and municipalities, and members of the public. Local civil society partners will continue to actively engage and the project will ensure that they have more support and a stronger voice in negotiations.

A second challenge is to consolidate and upscale PES and EbA across the Cagayan de Oro basin, expanding the scope of the project to include mid- and downstream regions. To achieve this it is vital that regional and local government authorities continue to integrate these processes in their policy and legislation. Further replication opportunities may come from developing this initiative as a showcase for applying PES and EbA in many river-basin contexts.

Given the innovative nature of this PES approach, participating businesses could be considered global trendsetters and environmental champions. A wider outreach strategy will be required to communicate this emerging success story at relevant regional and international fora.

Most important for all the people of the Cagayan de Oro river basin will be the ongoing bolstering of climate resilience and restoration of national capital that will help them to face future threats and challenges.

For more information, please contact:
IUCN NL: Maartje Hilterman, maartje.hilterman@iucn.nl
Twitter: @vestogether

Further reading

1. Valuing Ecosystem Services Together (VEST) campaign
2. <http://www.mark.com.ph/2014/09/northern-mindanao-values-ecosystem-services-together/>
3. <http://www.rappler.com/move-ph/issues/environment/62835-protecting-mt-kalatungan-cdo>

REFERENCES

1. *Legislated Protected Area Management in the eyes of indigenous peoples of Mount Kitanglad, The Philippines*, by Stella A. Estremera, 2011. www.growingforestpartnerships.org/sites/growingforestpartnerships.org/files/Philippines%20PA%20report%20received%2029Nov11.pdf
2. www.irinnews.org/report/94493/philippines-hundreds-dead-in-mindanao-storm-as-authorities-caught-off-guard
3. <http://www.cbd.int/ecosystem/>
4. www.xu.edu.ph/about-cdorbm

MADE POSSIBLE BY THE ECOSYSTEM ALLIANCE

