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# Abra River Basin: Integrated river management ‘a must’ for sustainable development

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## Conclusion

Water-resource management To prevent the further deterioration of the Abra River and the potential water-supply shortage in the future, the master plan came up with recommendations underscoring economic value in all its uses—promoting coordinated development and management of water, land and related resources within the Abra River Basin—without compromising the sustainability of vital ecosystems.

Major projects include the expansion of total irrigated area to cover 10,000 of potential irrigable area, identification of 200 units of Small Water Impounding Projects and Small Farm Reservoir, and hydropower development, mapping and feasibility studies of groundwater utilization for domestic and industrial use, agricultural intensification, diversification and extension.

To mitigate the extent of flooding and its damages to agriculture and infrastructure and to optimize water-resources development, the government needs at least P6.67 billion to implement various projects spread in a span of 15 years.

Structural measures include construction of multipurpose dams, riverbank protection, irrigation projects, hydropower development and other infrastructure that would cost P5.97 billion, while nonstructural measures, such as feasibility studies, institutional development, research development and extension, advocacy and public awareness campaign would require around P700 million.

### **Watershed management**

The master plan also recommended to follow traditional and nontraditional forest-rehabilitation strategies, including reforestation, assisted natural regeneration, agroforestry, forest plantation and, if feasible, industrial tree plantations anchored on the National Greening Program (NGP).

Current policy and strategy in implementing the NGP is anchored on community-based forest management to ensure ownership of the projects and involvement of various stakeholders.

The proposed watershed and environment programs and projects include NGP, Protection of Remaining Forest Stands, Private Sector Participation in Industrial Tree Plantations, Piloting the Philippine National Reducing Emissions from Deforestation and Forest Degradation plus Strategy, Introduction of Renewable Energy Systems, Rewarding the Upland Poor for Environmental Services and various livelihood projects for upland communities.

The planners also recommended the conduct of research and feasibility studies of Basin Sediment Transport Modeling, Soil Erosion Modeling, Research and Development on Soil and Water Management, Biodiversity and Water Quality Monitoring.

These 15-year activities need a budget of P805 million.

## **Climate change, reduction of disaster risk**

To address the impact of climate change and reduce the risk of disaster, proposed intervention includes structural and nonstructural programs and projects, including setting up of green infrastructure, facilities and equipment to directly regulate climate change-related hazards, such as typhoons, floods, landslides and erosion, and drought.

Structural programs or projects, which include construction of new and rehabilitation of old flood-control and slope-protection structures, setting up of automatic weather stations and search and rescue and evacuation facilities, will cost around P6.21 billion.

On the other hand, nonstructural programs and projects, which would cost around P760 million, include the establishment of science and technology-based technologies, information and decision-support systems to avoid the adverse effects of climate-change hazards and risks.

These include establishment of early warning systems; information, education and communication on cropping calendars; drought-tolerant crops and forest species; tropical fruits and bamboo for windbreaks; vegetative intervention for erosion control; water-harvesting technologies; and geohazard mapping to be integrated into the comprehensive land-use plans (CLUPs).

## **Poor implementation**

According to Donna M. Gordove, deputy executive director of the Department of Environment and Natural Resources-River Basin Control Office (DENR-RBCO), the master plans for the 18 major rivers remain unimplemented. On a scale of 0 to 10, she said the implementation is only about 2.

Gordove said the master plan for the 18 major rivers is already integrated in the various programs, such as the NGP.

Gordove added out of the 14 completed master plans, 11 have already been approved by the Regional Development Councils (RDCs). But the master plans for Abra River Basin and the Apayao-Abulog and Ilog-Silabangan, remain to be approved by their respective RDC.

She admitted big infrastructure projects are not implemented because “[they] should be adopted by the Neda [National Economic and Development Authority] for inclusion in the Philippine Development Plans and funding,” Gordove said. Small projects, like irrigation and water impounding, integrate the recommendations in the master plans, she said.

## **Promotion**

“We do advocacy work among concerned government agencies. Through the River Basin Organization (RBO), there has to be a consensus for its implementation,” she said. RBOs are composed of representatives from various stakeholders, including concerned national government agencies, LGUs, community-based groups, academe and faith-based groups.

“We cannot enforce or dictate the adoption or implementation of the master plans. That is why we are pushing for the creation of [RBOs] to lobby for its adoption and implementation,” Gordove said.

Gordove said only through an act of Congress or a presidential decree that master plans can be enforced by the DENR-RBCO or any agency tasked to implement them. Gordove said RBO members also talk how to strengthen the master plans, citing the Central Cebu River Basin Management Council, which “drafted an executive order and asked Presidential Assistant for Visayas

Secretary [Michael] Dino for endorsement.” There were also efforts to consult congressmen, who had filed bills in the House of Representatives, she said.

Gordove said the best way for the master plans to be integrated is through the LGUs.

“By integrating some of these plans in the [CLUPs] and development agenda, there is hope that the master plans will be implemented because infrastructure projects recommended in them entail huge costs unlike bioengineering proposals,” she said.

For the Abra River Basin, the master planners recommended the creation of a multistakeholder council called the Abra River Basin Management Council. It shall serve as an apex body that will advocate and serve as guardian, planner, development facilitator and coordinator for the implementation of various programs and projects to sustain growth and development through the integrated river-basin management approach.

According to Gordove, the adoption of the master plans will not only ensure the protection and conservation of the country’s ecosystem and watersheds, but will also spur economic activities that will boost and ensure sustainable growth and development in various parts of the country.

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