

Improving the Sustainability of Natural Resources

Development of natural resources and ensuring their sustainability constitutes a major challenge for the nation. Success requires: (i) streamlining of the institutions responsible for planning and implementation and updating of the legislative aspects accordingly, to create an enabling environment for improved implementation, by taking into account the evolving mandates, such as the devolution of services to the local government units and communities; (ii) better prioritization of development of natural resources in line with available financial and human resources; (iii) enhanced accountability and efficiency of resource managers through the use of performance-based indicators; and (iv) strengthened overall implementation.

A. Background

The Philippines possesses a rich natural resource base, including water, forests, and coastal areas to mention but a few. The large rural population, now estimated at 41.4 percent of the total, is largely dependent on these natural resources for its livelihood, with, for example, about half of the rural population living in or adjacent to forest areas. Degradation of natural resources has been significant in the last 30–40 years as the population has rapidly increased and, despite significant government effort to ensure management of the resources, they continue to be exploited at rates that cannot be sustained.

Status of natural resources

Forest cover. The Philippines today has only an estimated 5.4 million hectares of forest cover, down from an estimated 21 million hectares in the early years of the 20th century. This has had an impact on the economic viability of the country's forests, as illustrated by the differences in the values of imports and exports: imports of forest products in 1970 were estimated at \$33 million, and in 2000 were estimated to be 16 times higher at \$553 million; exports in 1970 were estimated at \$270 million, and in 2000 were estimated at only a third of that, i.e., \$80 million. The economic implications are evident. This loss has mostly been due to excessive logging, land clearing for settlements and agriculture, and forest fires, compounded by a deficient replacement rate of the forests. Today, the country has among the lowest per capita forest cover in the tropics, at least 90 percent of its watersheds are degraded,

and 45 percent of its land area is affected by severe soil erosion. In addition to depleting the resource base, the degradation has contributed to high water runoff, lowland flooding, and water scarcity in key commercial and economic centers.

Biodiversity. More than half of the 52,177 described species recorded in the Philippines are endemic to the country. Many scientists believe that on a per hectare basis the archipelago holds more diversity of life than any other country on the planet. No doubt, the country's biodiversity is a global heritage, but denudation of its forests has caused one of the highest biodiversity loss rates in the world, representing not only losses of present and future sources of livelihood but also an important national heritage for the country. This habitat loss impelled the International Union for Conservation of Nature and Natural Resources (IUCN) to "red flag" the country as one of the most endangered of the world's biodiversity hot spots.

Watershed management. Inadequate management of water resources has significantly affected people's economic well-being and quality of life, and the Philippines is facing an increasing challenge for the management of water resources. Despite abundant rainfall and the expansion of water infrastructure over several decades, the country has reached a stage where the scarcity of water resources of adequate quality has emerged as a pressing issue. In the dry season, water supply can no longer meet demand from all sectors. The problem is not the lack of water per se, but stems from, among others, degradation of vegetative

cover and fragmented development and management of water by different sectors. The problem is then exacerbated by critical weaknesses in the management of water distribution systems and inefficiencies in water use. Additional concerns include: recurrent water supply shortages and increasing conflicts in water allocation among users; water pollution near urban centers; and lower than feasible productivity of water used for agriculture, the main user of water.

Coastal and marine areas. The coastal resources are under pressure from high exploitation rates from the populations living in and around them. In particular, the coastal reefs are under continuous threat from illegal fishing and the use of dynamite and sodium cyanide, careless throwing of boat anchors, ship grounding, unregulated tourism, coral mining, and dredging. Considerable damage is also caused by soil erosion, industrial pollution, and runoff from fertilizers and pesticides. About 74 percent of the country's coral reefs are only in fair to poor condition. Estimates show that mangrove areas have fallen from an estimated 4,500 km² in 1900 to less than 1,300 km² estimated at the end of the last century. Sea grass and algal beds have also significantly declined.

National efforts

The Government has been making efforts to reverse these trends by: (i) imposing a logging ban on ecologically sensitive and vulnerable forest areas, such as critical watersheds and biodiversity reserves, through the National Integrated Protected Area System (NIPAS); (ii) allowing regulated and environment-friendly forest harvesting in ecologically stable, natural production forests to satisfy the country's needs; and (iii) converting the upland population from agents of forest destruction into active partners in forest stewardship, conservation, development, and management through community-based resource management initiatives and through co-management arrangements with local governments. The Philippines is also a signatory to such environmental agreements as the 1992

Convention on Biodiversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). It also passed, in 1992, the NIPAS Act. However, only five protected areas (PA) have been the subject of congressional action, 78 have been proclaimed by the President, while the remaining 161 are still in the process of being declared as national parks. The Philippine Biodiversity Conservation Priorities Program, launched in 1997, identified 106 conservation priority areas as of extremely high priority. A process of mainstreaming these priority sites in the plans and programs of the Government, donors, private sector, local government units (LGUs), and environmental NGOs, albeit slow, has started. With regard to coastal and marine resources, the Government is implementing some pilot efforts on integrated development, which is yielding positive results, particularly by enabling inter-municipal arrangements to manage bays and common coastlines. However, the scale of these operations is very limited, and these efforts need to be further explored and translated into wider programs.

Conscious of the urgent need to address water issues, the Government outlined a strategy in a 1995 water summit to "initiate integrated water resources management based on hydrological boundaries or river basins as the direction for future water resources planning and investment". The water summit concluded that there is an urgent need for a sector approach to integration and coordination of all water-related efforts, as part of moves toward a more focused approach to water resources management. The strategy emphasizes coordination of water resources development among competing users, and promotes efficient use of natural resources and resource conservation, with the ultimate aim of reducing poverty.

Despite these efforts, the overriding issues of degradation continue, and the measures that the Government has taken to reverse the trends have produced mixed results. Poverty in the uplands, where 20 million of the poorest depend on the forests for their livelihood, has persisted. Population pressures and open access to most of the natural resources work in confluence to drive

continuing forest destruction, biodiversity loss, and rapid watershed degradation. This exerts further pressure on the remaining resources and significantly hinders the communities dependent on these resources in deriving sufficient income, and in the absence of alternative livelihoods the poverty incidence in these communities remains high.

The constraints to achieving sustainable natural resources management (NRM) are varied. They are discussed below, under four headings: institutional, legal, funding, and implementation aspects.

B. Issues

Institutional aspects

There is a lack of clarity of the roles and responsibilities of the various agencies and bureaus involved in NRM. Many agencies and bureaus are involved in NRM, with overlapping mandates, unclear roles and responsibilities, and a disproportionate number of staff. With significant budget declines since 1997, but no commensurate rationalization of mandates and staff, much of the available budget is used on operating costs and salaries, with only a small amount available for investments.

Although the majority of government departments have in essence decentralized and devolved implementation and financial resources to LGUs, in line with the Local Government Code of 1991, the Department of Environment and Natural Resources (DENR), the key implementing agency, remains largely centralized. Where decentralization of staff has taken place, this has generally been against a background of lack of clarity of how these staff will carry out their mandates within the LGU setting, lack of budget cover for operating costs, and inadequate technical resources. These elements have rendered the decentralization process ineffective and staff unproductive. The lack of skilled staff and incentives to make the LGUs carry out the work has left the implementing line agencies with little power to make the LGUs deliver agreed programs.

At present, more than half—or approximately 16 million hectares—of the country's total land area is under DENR management. While much of the forestlands have been awarded through agreements and licenses to other government agencies, the private sector, and/or communities, the overall responsibility is still with DENR. Despite this, DENR has not developed adequate partnerships with other agencies involved in NRM to better distribute the development load.

Legal aspects

A host of laws governs NRM. Many are now outdated, such as Presidential Decree 705 or the Revised Forestry Code of the Philippines, which was enacted in 1975 and remains the primary forest policy. As a result, it no longer adequately responds to the changing mandates of DENR. In particular, this Presidential Decree does not adequately support increased participatory forest management, nor the increasing decentralization of resource management—both of which will contribute to reducing the high exploitation rates and improve sustainable management of the resources. Where the laws have been updated, there has been little effort made to consolidate them, as is the case for coastal resources management, where there is no single integrative law that clarifies the conflicting mandates of agencies in the coastal areas nor that provides guidance on how to address the problem of overexploitation and illegal settlers in open access and/or reclaimed areas. The lack of clarity in the laws has also had the effect of constraining the institutional capacity and structure of DENR, its staffing patterns, and its skill mix.¹

¹ The staffing pattern of DENR is still reminiscent of its previous policy to serve the needs of loggers. This is evidenced by the presence of a large number of forest rangers and scalers with very few community development workers, even in the Community Environment and Natural Resources Office (CENRO), which is the interface between DENR and communities. A dearth of these new skills deprives DENR of the required leadership to fight upland poverty, work with local governments and upland

Funding aspects

Since the 1997 Asian crisis, the budget of DENR has substantially declined, but its overall mandate has not. Fiscal constraints have in the past generally been remedied with foreign funding for environmental projects, but this is no longer easy. Moreover, DENR still lacks a strategy to address this issue, nor has it rationalized its numerous bureaus and agencies and staff needs to match funding availability. However, the extent to which DENR can develop a sustainable and cost-effective budget allocation strategy is largely hindered by its limited information on the current status and valuation of natural resources. Due to inadequate funding and human resources, the monitoring and inventory of natural resources have generally been nonexistent, and where they have been attempted, have been held back by the lack of institutional structures to carry out the monitoring. For example, at least half of the identified protected areas still have no protected area management boards; more than half of the community-based forest management areas have no people's organizations; and where such organizations exist, only a few of them have reached a level of self-governance to monitor and manage the resources for which they are responsible.

Implementation aspects

Overall, implementation of development efforts in sustainable natural resources has achieved relatively limited impact. Inadequate and incomplete implementation of NRM policies and regulations, especially those pertaining to tenurial and use rights and service delivery has contributed to the limited overall positive outcome. There are also a plethora of policies and programs for protected areas, community-based forest management, and indigenous peoples, which are under-funded and have proved difficult to interpret and implement.

The implementation status of watersheds starkly illustrates the limited impact that some of the

communities, and bring about a societal approach to the country's varied environmental problems.

measures have had to date. At the core of the watershed problem is the absence of a basin- and watershed-based integrated water resources management approach to guide development, protection, and efficient use of water resources. This results in weak capacity for regulating and coordinating activities across sectors, inadequate investments in water infrastructure and watershed management, and inadequate operation and maintenance of water infrastructure. Water management is typically fragmented and responsibilities are divided among agencies and sectors with little coordination or communication among them, partly because the agencies have largely independent programs for water resources development and operations. Clearly, though, negative externalities from excessive water withdrawals and discharges have an extended impact in upstream and downstream areas of river basins and across subsectors. In addition, and despite various efforts, participation of the users in the management of natural resources still needs to be increased further to reduce exploitation and ensure that natural resources are managed in a sustainable manner. As the management of resources evolves toward a decentralized community-managed system, where the communities themselves become the stewards of the forest, these new managers should be adequately supported to carry out this mandate.

C. Suggestions

Institutional aspects

A first step would be to *streamline DENR*. This would be done after reviewing the mandates of the various agencies involved in NRM, particularly those within DENR, and would be based on the results, which should take into account factors related to, for example, decentralization needs, skill mix, and available financial resources. The decentralized process should be complemented by a review and update of the resource management tools used by DENR—which should evolve from a top-down policing role to one that is based in the community. In addition, training will need to be

conducted to renew and upgrade staff skills, and where this is not possible, hire new staff.

Strengthen decentralization through increased devolution of human and financial resources. Devolution of skilled DENR staff to the LGUs will need to be accompanied by sufficient funding and logistics. It is unlikely, though, that the overall budget allocation to DENR will increase in the short to medium term. Consequently, DENR will need to develop a performance-based budget allocation system that links amount of work to be done with output achieved. In this case, budget allocations would also reflect the quality and quantity of resources to be managed and the political will of the LGUs to carry out the activities. The performance monitoring system should have clear and simple agreed-indicators, to increase transparency and accountability of resource managers.

DENR needs to increase *coordination between itself, LGUs, and other agencies* responsible for NRM to support devolved implementation. Sharing of responsibilities should become easier with the streamlining of DENR, as well as the subsequent updating of the roles and responsibilities of the various DENR agencies and other agencies involved in NRM.

Legal aspects

The priority is to review and clarify the implementation of the various laws, decrees, executive orders, etc., governing the implementation of all natural resources, to ensure that they can be implemented. Where there are pending decrees and acts to be passed, they should also be reviewed for adequacy and relevance, particularly those that have been stalled for a long time, before they are passed. Three key acts need to be revisited:

- *The Coastal Zone Management Act*, which would clarify mandates and roles of the various agencies in coastal resources management, define areas to strengthen LGU capacity to manage their coastal resources, provide mechanisms for the transfer of required technologies and management skills

for coastal resources management to the LGUs and the end users, authorize LGUs to give tenurial instruments over fishing grounds, and provide sustainable funding and incentives to implement the law, through an integrated coastal management approach which will lead to a broader and sustained impact. However, given that it will take some time to pass the act, the Department of Agriculture and DENR will need to implement the draft joint memorandum on coastal resources management as mandated by law in 2000. The two agencies were mandated to draft a national integrated coastal and marine management strategy, but they have yet to do this.

- *The Sustainable Forestry Act*, which would clarify conflicting laws, reduce executive discretion on issuance of logging rights, authorize the retooling of DENR to meet its evolving mandate, stress management skills to gain the participation and cooperation of stakeholders, provide a dynamic source of funding through user fees and trust funds, strengthen the role of LGUs in forest management (especially of their communal watersheds), and provide support to communities that have community-based forest management and certificate of ancestral domain claims and certificate of ancestral domain titles.
- *The NIPAS Act*, particularly with regard to its impact, including its processes and procedures governing the use, protection, conservation, and local development and access to the Integrated Protected Area Fund. The present system for establishing protected areas under the Act is a drawn-out process that results in weak local support and commitment, threatening sustainability of protected area management.

Funding aspects

Budget availability will remain a constraint, at least in the short to medium term. Given this, attaining efficiencies in the allocation of the available funding, rather than securing greater funding, needs the greater emphasis. To do this

effectively, key factors, such as the quality and quantity of natural resources, need to be inventoried and expressed as a monetary value, which is possible only if reliable data are available on the status of natural resources, broken down by region. Due to financing limitations, this has not been done for a long time. Moreover, prioritization of the natural resources to be developed in any given region will still be needed, based on their intrinsic importance to conservation (such as biodiversity), use (such as fisheries, forests), or impact on other sectors' performance (such as watersheds, soil).

In addition to adjusting the budget allocation formulas, it will be important to *develop and implement institutional and financial mechanisms* (including adequate operation and maintenance mechanisms at the local level) that increase the potential for sustainability of investments. This requires the agencies involved in NRM to develop alternatives to increase budget availability. It will also be important for the Government to review lessons from other countries, for example Poland, which has created a trust fund capitalized from pollution user fees (the more pollution, the higher the fees). The money is loaned to implementing agencies to solve environmental problems. As an incentive, the trust authority cancels the loan and converts it to a grant when the agreed-on environment measures are effectively carried out. The approach can feasibly be applied in the Philippines, and it has the added advantage that it strengthens accountability and provides built-in incentives to resource managers.

Implementation aspects

Options for reform for a majority of the identified governance issues will be taken care of, if the policy options discussed under the various headings are implemented. On the

specific examples of watershed management, DENR and other agencies involved in the management of rural water resources including irrigation water—such as LGUs, Department of Agriculture, and Department of Agrarian Reform—need to come together to *prepare integrated watershed-basin plans*, which can be implemented locally to improve water resources management. However, these plans must have strong local participation and ownership, be integrated in local development plans and priorities, and be consistent with the thrust of decentralization and community-driven development. Basin management entities formed should be “light”, and take the form of decision-making committees or small technical secretariats that are linked to existing entities, such as the regional development councils. These committees or secretariats would coordinate basin-level activities implemented by provincial and municipal governments and *barangays*. In parallel, the capacity of key national agencies such as the National Water Resources Board and DENR, should be strengthened to improve their effective regulatory roles.

To *encourage the inclusion* of people highly dependent on natural resources will require enhancing their access to alternative livelihoods that reduce pressure on forest resources, teaching them improved agricultural techniques (allowing for more proactive mixed ecosystem management), and upgrading their skills to manage resources. In addition, the procedures for awarding community-based forest management permits should be simplified to allow better access to communities that can carry out this mandate, but remain sensitive enough to ensure that marginalized communities, such as indigenous peoples, sufficiently participate in, and subsequently benefit from, the activities.