

Chapter 14

Emerging Priorities

Introduction

This chapter brings together the issues and priorities raised in the previous chapters. Because of the environment's strong linkages with livelihood activities and people's wellbeing, in both rural and urban areas, it can no longer be viewed in isolation as say only overcoming air and water pollution, critical as these environmental problems may be. The challenge for the future is to move away from narrow sectoral thinking and action. While efforts to develop organizations with cross-cutting mandates have not been very successful, and sectoral organization will still be the preferred choice for development activities, the challenge for integration, coordination, synthesis, aggregation, and disaggregation into sectoral responsibilities based on a holistic vision and work plan must now be resolved by those responsible for preparing interactive, up-to-date, knowledge-based systems of information networks and systems. This chapter discusses these key areas of focus in Nepal's environmental management.

Promoting Integrated Ecosystem Management and Sustainable Livelihoods

Sustainable Use of Resource Endowments and Ecological Niches

Past approaches regarding the management of natural resources and the reduction of poverty in rural areas of Nepal must be re-examined and reviewed. The Poverty Reduction Strategy Programme has been given the highest priority in the current Tenth Plan, but the environment and natural resources have not. This is worrying since the livelihood of the majority of Nepalese depends on subsistence agriculture and natural resources. Mountain households are neither able to generate economic surplus from subsistence activities nor to find stable off-farm employment. Unless

employment and income opportunities are developed locally, the traditional reliance on subsistence activities is unlikely to alleviate the chronic and growing poverty in the mountain areas. The sustainable way to promote new employment and income opportunities would be to use the resource endowments and comparative advantages of ecological niches in a sustainable manner. The challenge is to transform the prevailing subsistence-oriented agricultural mode of economic production into one complemented by commercial sources of income. This will entail providing equitable access to gainful and sustainable markets within the scope of resource endowment and the comparative advantages of ecological niches. It will also be necessary to give project implementers sufficient latitude to discover the best ways to tackle problems, and to remember that this type of approach is still very new; the lessons have yet to be learned.

Past experience has indicated that biodiversity in rural areas provides many valuable environmental goods and services that are fundamental for meeting the basic needs of the poorest of the poor (MOFSC 2002). Agricultural households have understood the need for integrated management of plants, soil, and water resources—yet protecting these continues to be dealt with separately by development organizations. The promotion of economically and environmentally sound energy practices, the conservation of energy resources, and the development of alternative energy systems are all critical to reducing the pressure on limited natural resources. Similarly, many green enterprises such as non-timber forest products (NTFPs), medicinal plants, ecotourism and other income generating activities are necessary but cannot continue with a degrading resource base. Understanding the valuable contribution that traditional knowledge can make to sustainable resources management, promoting its use, and recognizing it legally will require many innovations in institutional mechanisms. However, all of these changes are unlikely to occur if the local people who are the guardians of the local resources do not have a voice regarding the access to, control, and management of these resources. Seeking opportunities to support

sustainable livelihoods requires an approach that can integrate all the actors by providing each with sufficient latitude for collaborative management.

Participatory and Collaborative Approach

The joint consideration of the ecosystem and livelihood comes closest to this collaborative approach. Focusing on the integrated management of land, water, and living resources, it seeks to promote conservation and sustainable use in an equitable manner. It recognizes the wealth of biodiversity, not only on account of its variety, but also because of the dynamic processes that occur between living organisms and their environment. These processes provide many essential goods and services that are critical for supporting life. The ecosystem approach embraces cultural diversity as an integral part of the ecosystem, since cultural attitudes to the environment influence many of the other processes that actively affect the ecosystem. People cannot be seen as separate from their ecosystem, and rich and poor all have a role to play as they are all part of the same system. Ensuring continued access to essential environmental goods and services for the poor and ensuring their continued collaboration is basic to any system that seeks to improve their livelihood, since past experience has shown that the environment deteriorates when users do not own and control the resources (NPC 2003).

Nepal includes many different interacting ecosystems. Indigenous people evolved appropriate adaptations to seasonal change so that the resources in different ecosystems were harnessed through seasonal migration. In more recent times, with decreasing transhumance of the population, this process has almost ceased to exist and now each ecosystem is under continuous pressure year-round. Experience has shown that with better environmental management this need not be the case (NPC 2003). Nepal's forests, high mountain grasslands, wetlands, and Siwalik hills are all under different environmental pressures and the challenge is to come up with innovative approaches for their sustainable management. The Terai Arc Landscape project is an important initiative that needs to be closely studied for its "lessons learned", particularly for the Terai which is the rice bowl of Nepal (MOFSC 2002). The Siwaliks are also experiencing tremendous changes with very far reaching implications, as are the high mountain areas, though many of these changes are not well understood (NAP 2002).

In the past there was a tendency to categorize all ecosystems as either forest or agricultural. Many rural development programs did not adequately understand or recognize the critical role that

environmental goods and services play in household livelihood strategies (MOFSC 2002). This needs to change, and some of it is changing already. But clearly in a mountainous country like Nepal, it is necessary to develop and promote an approach that integrates both the ecosystem and livelihood in a unified approach to the rural economy and the environment.

Harnessing Ecological, Economic, Cultural, and Institutional Opportunities

Integrating ecosystems and livelihood opens up the possibility of harnessing ecological, economic, cultural, and institutional opportunities. Ecological opportunities for successful conservation are provided by Nepal's extensive system of protected areas, which already houses 80 of Nepal's 118 ecosystems. These protected areas contain many rare and endangered species of flora and fauna. While they face a number of problems, they nevertheless represent an important opportunity for the conservation of Nepal's unique natural resource endowments, and can contribute to environmental sustainability in terms of soil and water conservation, carbon sequestration, and biodiversity conservation. Equally important to the protection of conservation areas is the protection of their contiguous border areas. Natural ecosystems are not bound by human demarcations, and protecting the endangered species within conservation areas requires protecting outlying areas that are part of the same ecosystem.

The availability of unique natural resources makes it possible to consider and promote economic opportunities such as ecotourism. Small countries like Costa Rica have made very effective use of their natural resources in furthering economic opportunities, and Nepal needs to learn from this type of experience. Nature-based sports and outdoor recreation, for example, have great potential. Some parts of the country have already developed this with considerable success and are continuing to do so (IUCN 1999 and WWF 2000), but new areas can also benefit from this type of activity, particularly in eastern Nepal where infrastructure has reached a good level of development. In addition, cultural opportunities do not conflict with ecological and economic ones. In many historic sites, the culture, the economy, and the environment have functioned quite synergistically in the past, and this could be an important component of ecotourism in the future.

High-value products such as NTFPs, medicinal and aromatic plants, orchids, pheasants, butterflies, and other green-area-intensive products can be promoted on fragile slopes where landholdings are small. Rural markets near growing urban areas have considerable potential for trading these, thus provid-

ing income and employment opportunities for the poorest of the poor in production and post-production activities. NTFPs and medicinal and aromatic plants can be important supplements to the limited opportunities offered by traditional agriculture. NTFPs are important in the medical and cosmetic industries. Dabur Nepal (Nepal's foremost pharmaceutical company) and a number of other firms are leading the efforts in this area (MOFSC 2000, 2002, 2003a). In many hill and mountain communities this is providing an exciting alternative to a non-sustainable livelihood based on growing cereals.

Conservation for supporting sustainable livelihoods is already being practiced (e.g., KMTNC 2002). Future activities might include bio-prospecting and carbon trading. Bio-prospecting is a growing activity involving the search for new genes or chemicals of commercial value. Carbon trading, although somewhat complicated, could have potential in the future. If promoted carefully there could be valuable benefits and an important opportunity for better integration of ecosystem conservation with livelihood development. The major lesson to be learned here is that the local communities can become guardians of their own natural resources when they are given the responsibility as well as the support to protect, rehabilitate, and benefit from those resources.

Water is a plentiful resource that remains relatively underdeveloped. Hydropower has enormous potential and if developed in conjunction with policies to plough back a part of the earnings into the area, it could also be a very important source of income for local livelihood development. The forests of Nepal have been very important in the economy and with proper management sustainable benefits can be reaped from developing this resource (MOFSC 2003a).

Institutional opportunities are now available because of recent legal changes such as the Local Self-Governance Act 1999. Improving ecosystem services so that the people depending on ecosystem resources can reap their full benefit is the only way to encourage ecosystem conservation and sustainable use. Without substantial improvements in these services, however, there is a great danger that the environmental degradation process could accelerate further. In the past, the main focus has been on the management of an existing stock of natural resources, particularly in forests. The challenge now is not only to define ecosystem services in a broader perspective but also to find ways to augment them. There is a need for better understanding of different

ecosystems, updating the biodiversity database of Nepal, and integrating ecosystem management and livelihood strategies with regional development.

Decentralized and Transparent Decision Making

The stumbling blocks that remain are monopolies by the public sector, disabling laws, and extremely slow decision making by a centralized government. Different local and national opportunities with respect to resources have been neglected, and this is unlikely to improve without significant changes in the management and control of these resources. Regional development planning has also been neglected. Many of the regional disparities in livelihoods are linked with the poor commitment to regional development. The ecosystem and livelihood focus necessitates a stronger move towards concrete regional development planning and implementation in Nepal. The present conflict in Nepal underscores this even more strongly. Unless marginalized and vulnerable groups get better access to available resources and economic opportunities, they become easy recruits for starting conflicts.

Promoting Integrated Urban Environmental Management

Although Nepal is still one of the least urbanized countries in the world, the urban population is growing rapidly. The population growth rate of the formally designated municipal areas is now 14%, and census data show that the urban population growth rate has exceeded the national population growth rate for the past half century (CBS 2003). The urban areas of Nepal are among the fastest growing in all of South Asia. Urban settlements¹ are expanding rapidly and new towns are emerging, particularly along the highways. Two basic factors contribute to this phenomenon: increasing rural-urban migration and high national population growth. Escalation of the armed conflict that began in 1996 has exacerbated this migration as increasing numbers of people flee the countryside to take refuge in urban areas.

The rapid increase of the urban population is, however, not matched by similar increases in providing and managing urban infrastructure and services such as roads, water, sanitation, and waste management. More often than not the expansion of settlements and the establishment of industries and facilities has been spontaneous, ad hoc, unplanned,

¹ The definition of urban settlement used in this discussion does not necessarily coincide with the administrative boundaries of municipalities, as it includes semi-urban and quasi-urban areas. Any settlement that shows a basic urban character can be defined as an urban settlement. Small towns including emerging towns that are not yet formally defined as municipalities are also in fact urban settlements, whereas significant parts of several formally defined municipalities may not have an urban character.

and haphazard. Population pressures are stretching limited infrastructure and services beyond their capacity. Visible signs include sprawling urban settlements, congestion, poor or nonexistent sanitary facilities, unmanaged dumping of solid and hazardous waste, and degraded and polluted urban air and water. The most serious adverse effects attributed to the deteriorated urban environment are related to health. Unplanned and haphazard urbanization also encroaches on open spaces, agricultural and marginal lands, and heritage sites. The emergence of urban slums and urban poverty in Nepal's cities is a relatively new phenomenon and still minor when compared with the problem faced by major cities in South Asia.

The Guided Land Development and Land Pooling Acts are two government initiatives to plan and guide urbanization in some municipalities. These are aimed at facilitating the adjustment of land plots so that space is provided for urban infrastructure—roads, water supply, drainage, electricity, and telephone. Provision for urban infrastructure in Nepal has been largely driven by central sectoral institutions such as the Nepal Water Supply Cooperation, the Department of Roads, the Solid Waste Management and Resource Mobilization Center, the Nepal Telecommunications Corporation, and the Nepal Electricity Authority. Recently, after the enactment of the Local Self-Governance Act 1999, municipalities are being increasingly empowered to manage their urban areas. However, in spite of good intentions, the municipalities generally lack the capacity and resources to do so. The Town Development Fund was established in 1997 to provide financial resources, loans, and technical assistance to local bodies to help them implement town infrastructure projects. However, the lack of coordination and mutual support among the institutions remain the main stumbling block in the planning, construction, and maintenance of urban infrastructure and facilities. Institutional confusion regarding the assignment of responsibility, authority, and handling of resources remains contentious.

The Kathmandu Urban Development Project that began in 1993 was the first Asian Development Bank (ADB)-financed urban sector project in Nepal. An operations evaluation mission evaluated it in 2003 (ADB 2003) and reached several conclusions:

- (i) The project was adequately designed from a technical perspective, but public participation was not sufficient to ensure sustainability.
- (ii) The land pooling scheme devised in the project has become a model for other land

pooling schemes. An integrated environmental management system that could comprise water supply, groundwater recharge, rainwater harvesting, wastewater recycling, and wastewater treatment could also be implemented.

- (iii) Population in the project area exceeded the projection, resulting in overuse of infrastructure or its inadequacy. Infrastructure was poorly maintained. Maintenance requires adequate financing (one source of which could be property tax) and institutional capacity (training and capacity building of staff, and so on).
- (iv) Community networking and training should continue beyond initial project implementation. Nongovernment organizations (NGOs) can play a crucial role in building awareness of proper operation and maintenance.

Since completing the Kathmandu Urban Development Project, the ADB has financed several other projects related to the urban sector. These include the Melamchi Water Supply Project (\$120 million), Small Towns Water Supply and Sanitation Sector (\$35 million), Kathmandu Valley Water Services Sector Development Program (\$10 million), and Urban and Environment Improvement (\$30 million). Other donors have also provided support for urban infrastructure and services. For example, German Technical Cooperation (GTZ) supported solid waste management in Kathmandu, and urban development through local efforts in several municipalities; United Nations Development Programme (UNDP) and the World Bank supported the Metropolitan Environment Improvement Programme; Danish International Development Agency (DANIDA) supported the Environment Sector Programme Support; and the European Union supported the Kathmandu Valley Mapping Programme.

Important lessons regarding urban environmental management in Nepal can be derived both from donor-supported programs and from the small-scale environmental activities of NGOs. These two sectors have been involved in converting waste into resources (through composting, making briquettes from waste, paper recycling, management of solid wastes by communities, and others), in promoting alternative approaches to waste/sewage treatment, and in addressing the needs of the urban poor (including slums and squatters' quarters). Integrated environmental planning and management can also benefit from the process of integrated action planning² tried in some municipalities.

² Integrated action planning is based on people's participation. Ward level community meetings are the cornerstone of this approach. Other features are mobilisation and participation of the community in the identification, prioritisation, and programing of municipal development activities and making the planning process more people oriented.

Urban development and management in Nepal lack both an integrated, holistic approach and a long-term vision. Although master plans have been prepared for some municipalities, implementation of these has been weak and generally unsatisfactory. Most past efforts have been sectoral and uncoordinated rather than integrated. A truly integrated and holistic approach should therefore be promoted for urban environmental planning and management to make urban areas better places to live.

There are obvious linkages and complementarities among the various urban infrastructures and services; if these were integrated and coordinated properly, the synergistic effects could be enormous. For example, solid waste management is linked with air pollution and the functioning of drainage. A truly integrated and holistic approach, however, should not be limited to integrating and coordinating infrastructure and services, but should include wider concepts of integration like the following:

- (i) Planned land use with due consideration given to environmental attributes (urban ecology, environmental setting of urban surrounding areas, open spaces, religious and cultural heritage, conservation of water, agricultural lands, and other resources).
- (ii) Introduction of waste reduction/reuse/recycling in keeping with environmentally-friendly practices.
- (iii) Raising public awareness regarding the environment, health, and appropriate practices and behaviors.
- (iv) Promoting participation and partnership among communities, civil society, NGOs, community-based organizations (CBOs), and the private sector in environmental planning and management.
- (v) Addressing urban poverty and the needs of the urban poor.
- (vi) Introducing a “polluter pays” principle that can generate revenue for urban environmental management.

It is necessary to strengthen the municipalities, local bodies, and competent authorities for integrated urban environmental management; and to develop appropriate tools, and human and financial resources. It may also be necessary to reinforce the legal framework for promoting land-use planning, participation by stakeholders, and ensuring coordination and cooperation.

Such integrated urban environmental planning and management can build upon the experiences gained in the country and outside. The experience

acquired from the ADB-funded Urban and Environment Improvement, and Small Towns Water Supply and Sanitation Sector projects, both of which invest in urban areas outside Kathmandu, can be useful (ADB 2002, ADB 2000). Initially the best of these ideas on integration can be piloted in small and emerging towns where the problems are still not very complicated. The integrated approach could then be promoted in bigger cities like Kathmandu where greater and more concerted efforts are necessary. For example, satellite settlements may be planned, developed, and managed at several locations in Kathmandu Valley taking into consideration all of their environmental attributes and implementing the wider concepts of the integrated approach. These settlements could then be linked to the main city through radial roads from the current ring road—the radial roads can also link to the outer ring road whose development is being supported by the Government of the People’s Republic of China.

A related program may be designed to reforest the hills around Kathmandu Valley; this would have a number of environmental benefits, including groundwater recharge and ecotourism promotion. Possible areas of synergy include the ADB-funded Melamchi Water Supply Project and the Kathmandu Valley Water Services Sector Development Program, which aim to improve water supply and sanitation situation; these could be coordinated with upcoming projects in solid waste management supported by Japan International Cooperation Agency (JICA).

Institutional Strengthening and Capacity Building

About half of the prevailing key environmental laws now in force in Nepal (Appendix 14.1) date from after 1992 when the Ministry of Population and Environment (MOPE, since 2005 absorbed into the newly-formed Ministry of Environment, Science and Technology [MOEST]) was first established. Widespread public concern over pollution led to legislation to curb emission of effluents and airborne pollutants; while concern over the depletion of natural resources led to legislation for the preservation of conservation areas such as national parks and wildlife areas with special biodiversity value. While the laws exist in principle, institutional weaknesses continue to prevent their effective monitoring and implementation.

Institutions at all levels are weak, including the National Planning Commission (NPC), line ministries, local governments, and village committees. The requisite technical skills are commonly lacking and poor morale is a systemic

issue. These deficiencies stem from the general weakness of the public administration system itself—over-staffing, low salaries, political interference in appointments and transfers, inadequate performance recognition, and others are systemic. These in turn affect resource management. The capacity to monitor the implementation of laws and public expenditure is weak at all levels. Inadequate supervision, poor financial management, dilatory government procedures, and lack of coordination among government entities all lead to poor performance generally and to a serious neglect of environmental issues in particular.

Nepal needs to build up its capacity for national and regional development so that it can participate effectively in the global economy. There is a need to strengthen the public and private sectors, institutions, systems, processes, procedures, and practices that support development efforts. Improved capacity is needed to entrench and sustain good governance, design and manage effective policies and programs, manage the environment, address poverty, and apply science and technology to development problems. Capacity is also needed to accelerate regional development and for Nepal to participate with other regions as an effective partner in the global economy.

Policy Reforms

Nepal began its work in environmental protection and conservation of natural resources in the 1970s. However, the policies, strategies, plans, and programs of the ensuing 30 years have not been overwhelmingly effective. The policies themselves were unable to address cross-cutting issues; continuous interference by political parties, the inability of national level advisory bodies to function properly, and the inability of policy-level institutions to implement policy due to lack of fundamental resources all contributed to this failure. Key national agencies like the NPC and sectoral ministries have not been proactive in implementing approved policies and programs, and the Government has failed to attract the participation of the private sector.

These shortcomings in policy planning and implementation should be addressed quickly by (i) reviewing all existing policies on the environment and updating them as needed to make them relevant to present needs, (ii) revisiting monitoring and implementation mechanisms, (iii) attracting the broader participation of private sector institutions, NGOs, local bodies, and community-based organizations (CBOs) in the process, and (iv) coordinating national environmental policies with donors' policies where possible.

Institutional Strengthening

Strengthening environmental institutions involves overcoming existing endemic weaknesses and revitalizing institutions. In this regard a Technical Assistance (TA No. 2847-NEP) on Institutional Strengthening of Ministry of Population and Environment was provided by ADB. One of the recommendations from this Technical Assistance was implemented as the Integrated Environment Management Program and funded by DANIDA. In spite of this, various other aspects still need to be encouraged.

Major stakeholder institutions in the environment sector include public sector bodies, corporate bodies, and others operating outside of the public sector (see Appendix 14.2). The unsatisfactory performance of these institutions is due largely to their lack of capacity. These institutions are weak and their organizational structures often do not fully correspond to their mandates. Advisory bodies often do not perform professionally, and policymaking and corporate bodies are often not held accountable. These institutions also suffer from a lack of skilled professionals, lack of funds, shortage of technical and logistic facilities, weak interagency coordination, and conflicting and overlapping mandates. At the same time, the Government has failed to empower municipalities and to creatively engage private-sector organizations such as national and international NGOs, local bodies, and community-based organizations in meaningful dialogue.

MOEST is already overburdened by its role of formulating and implementing policies, plans, and programs. It might be possible to alleviate some of this burden and to streamline the environmental monitoring process by empowering and strengthening local bodies and institutions to take over some of the routine monitoring tasks. MOEST would remain the main coordinator of these efforts without having to directly implement them, and could encourage a growing pool of environmental experts to supervise implementation of measures to mitigate environmental impacts. As the expertise of this group grows, they will increasingly be able to give field-level feedback to MOEST and to advise it on environmental policy. Similarly, district development committees (DDCs) and village development committees (VDCs) can be empowered to act more autonomously within the framework of local self-governance and can be given the tasks both of bringing environmental and natural resource management concerns to the attention of MOEST and of carrying out some local environmental monitoring. Involving the VDCs would go a long way to ensuring that information acquired through broader public consultation was brought to the attention of policymaking bodies.

To overcome the constraints imposed by conflicting mandates, it might be necessary to review critically the existing legislative measures, devise their enforcement modalities, and consolidate all legal provisions under a single comprehensive umbrella legislation. Such integration might facilitate governance and harmonize the regulation of all environmental actions taken nationwide. Another possibility would be to consider the establishment of a National Pollution Control Board/Authority (to be at least partially managed by the private sector) whose chief responsibility would be to oversee pollution issues and enforce compliance with environmental standards. Similarly, with growing awareness on the part of the public it may now be timely to consider creation of an independent Environmental Rights Commission to protect the environmental rights of citizens.

Technical training is needed at all levels, and MOEST and other agencies involved in environmental monitoring need more and better skilled professionals to carry out their mandates. These need to have career development opportunities and to be encouraged and rewarded. They also need to be supplied with appropriate tools and equipment so that they can carry out their assigned tasks. Research and laboratory equipment are in short supply all around, and this situation needs to be addressed.

Improvements to the Legislative System

A large number of environmental acts and regulations have been promulgated in Nepal (see Chapter 9) to facilitate the implementation of environmental plans and programs, but these have had only limited success. This legislation now needs to be updated and amended to make it responsive to the present-day requirements of complex environmental concerns. In addition, new regulations are needed to help Nepal take full advantage of World Trade Organization (WTO) membership.

Trade and Environment

Nepal recently became the 147th member of the WTO. The main aim of membership is to improve Nepal's economy by opening up trade with the world. Before being able to reap the full benefits that WTO membership implies, policymakers and businessmen need to be aware of how to make the most of these opportunities and how not to be overcome by open trading. One of the commitments made by Nepal was to amend the Environment Protection Act 1996 to compliment requirements of WTO agreements related to trade and environment; this is discussed below. Nepal also needs to develop additional environmental standards for protecting

human and plant life, and to consider issues like trade related intellectual property rights (TRIPS), which have threatened the rights of developing countries' farmers rendering them more vulnerable and marginalized. Another thorny and delicate issue under the WTO is that of agricultural subsidies, which many poor WTO members believe harm their exports. Building the capacity of environmental cells in the Federation of Nepalese Chambers of Commerce and Industries and other major associations of commerce and industry will be required. Industries should be motivated to adopt and comply with International Standards Organization (ISO) standards and ecolabeling of industrial products.

Enforcement of Environmental Laws

The environmental laws and regulations that do exist are only weakly enforced. Nepal's poor performance in the environmental sector has, in large part, been the failure to fully empower regulatory bodies to enforce regulations, monitor compliance, and impose penalties. The environmental commitment of institutions nominally responsible for enforcement, such as NPC and MOEST, is weak and enforcement is piecemeal; there is a lack of coordination among the different agencies.

A strong institutional base is needed to monitor and strengthen the legal instruments applied to environmental conservation. In many cases law enforcement is thwarted due to poor institutional infrastructure, the lack of institutional decentralization, or the constant shifting of responsibilities from one institution to another. A strong, transparent, and effective monitoring system is needed to support proper enforcement of laws and regulations. For example, to comply with international treaties, a list of rare and endangered species has been prepared. The difficulty, however, is that there is no scientific monitoring to ascertain whether these species are actually still endangered or rare. Surveillance of legal instruments both internationally and nationally is lacking. Creating a repository of all the relevant environmental information in the country and making it accessible to all stakeholders through electronic means would help to make the system more transparent and easier to enforce. The section below on an "Environmental and Natural Resources Information Network" begins to address this issue.

Strengthening the EIA/SEA Framework

Under the provisions of the Environment Protection Act and Environment Protection Regulations, the technical, industrial, and socioeconomic impacts of development projects on the environment and the

population must be assessed. MOEST must approve the requisite environmental impact assessment (EIA) reports before any project is started. Projects without significant environmental impacts only need an initial environmental examination (IEE) to be conducted by relevant agencies. The NPC has adopted and applied the concept of strategic environmental assessment (SEA) for project development policies and programs included in the Tenth Five-Year Plan (2002–2007). While the EIA assesses environmental impacts of development projects at the project level, the SEA assesses impacts at the planning, policy, and programming stages and can be used in evaluating strategic proposals for appropriate decision making.

EIA and SEA capacity issues are acute. The EIA is still largely considered to be an “add-on” project burden, and EIA reports are commonly based on inadequate data. Although the then MOPE (now MOEST) has already approved 25 EIA reports from different projects, it has not been able to monitor the proposed mitigation of identified impacts, and there is no indication that its successor MOEST will do any better. Recent experience based on a cross-section of development projects shows that the EIA process is usually enforced only as part of the initial approval process. The problems come later at the implementation stage. Some common constraints faced during implementation of EIA measures are summarized in Appendix 14.3.

Capacity development in augmenting, mobilizing, and enhancing Nepal’s EIA and SEA capability must be strengthened. The knowledge, tools, and skills necessary to operate an EIA or SEA system to an acceptable level of performance must be developed. The scope of capacity development can range from establishing preconditions for EIA or SEA development to benchmarking good practices. Supporting measures include research, policy analysis, institutional design, information exchange, training and skills transfer, building networks, professional development, and guidance on implementing good practices. Appendix 14.4 presents some operational problems identified in the implementation of the EIA process, together with recommended solutions.

Environmental and Natural Resources Information Network

Informed decision-making must be based on accurate data and information. The synthesis and analysis of basic environmental data yields the information that is the precondition for developing a policy framework, policy design, and the plans and

programs for environmental and natural resource management. As the population at large becomes sensitized to environmental issues, there is a growing interest in analytical data on the environment. The demand for environmental information is escalating and governments and other stakeholders in civil society have been the driving forces both on the supply and the demand sides. Good, reliable data on Nepal is clearly recognized by all stakeholders as a fundamental tool for development.

Although over the years considerable environmental data and information have been compiled by various institutions, aid projects, and individual researchers, this information has been difficult to access. Data appear in isolated reports, and are often dispersed, heterogeneous, and inaccessible; more often than not, they are insufficiently relevant in terms of continuity and reliability. Without an appropriate framework and mechanisms for data sharing, time and resources are wasted in the duplication of efforts. Public and private environmental institutions and bodies in Nepal have accumulated environmental data and information on natural resources and environmental conditions. These databases lack a centralized data pool and unified standards. At the national level there is no national information database integrating all the data, nor are there any data linkages that would allow the sharing of the existing information.

An environment and natural resources information network must be established to facilitate the exchange of information, strengthen appropriate policymaking capacities, and be a real tool in the attempt to tackle environmental problems. A unified repository would collect all established databases of major environmental concerns with the participation of government, nongovernment, and academic institutions; the private sector, and other stakeholders. Such a network, which would integrate data and information from decentralized providers and make them available to a multitude of users, is an interesting concept, and doubtless a useful one, but one that needs to be strictly managed to make it viable. Some potential management issues are described below:

- (i) Initially, the existing structures need to be assessed and the capacity of the different agencies reinforced to allow them to more easily generate and handle multisectoral environmental and natural resources data and information.
- (ii) Sectoral agencies need to be coordinated so that the data and information collected are systematic and conform to a consistent information structure that ensures quality and reliability.

- (iii) Socioeconomic and other sectoral data and information can then be harvested to derive policy-relevant aggregated indicators for major environmental issues at the local and national levels.
- (iv) An integrated environmental decision-support system focused on priority environmental issues can then be developed to bring together existing knowledge and help to facilitate assessments, trends, and projections in the area of environmental protection.
- (v) To maximize its usefulness, Nepal's central repository of information would then need to be networked and linked with different regional and international agencies and with other well-developed and managed databases dealing with similar types of information.

Many issues—in particular, environmental issues such as loss of biodiversity, glacier melting, soil erosion, air pollution, and flooding—transcend national boundaries. Actions to combat these in one country often have profound regional or global ramifications. This is especially true regarding the environmental degradation and depletion of natural resources that have intensified in the recent past. In deciding on specific actions at the national level, it is necessary also to carefully assess regional implications to avoid harming other countries. It is also necessary to strengthen a sense of collective ownership and responsibility for the environmental challenges faced in the Himalayan region. There is an urgent need to pursue effective measures of regional cooperation to establish a regional network for effective sharing and exchange of information for sustainable decision-making on key transboundary environmental problems.

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Appendix 14.1: List of Key Environmental Laws and Related Legislation in Nepal

For completeness, this list includes some Acts that have been superseded by later Acts and are no longer in force. Only some amendments have been listed.

Ancient Monument Protection Act, 1956
Private Forests Nationalisation Act, 1957
Forest Protection Act, 1956
Civil Aviation Act, 1958
Aquatic Animals Protection Act, 1961
Forestry Act, 1963
Forest Protection (Special Arrangements) Act, 1967
Plant Protection Act, 1972
National Parks and Wildlife Conservation Act, 1973 (amended 1974, 1982, 1989, 1993) and Regulations, 1974
Public Roads Act, 1974
Tourism Act, 1978
King Mahendra Trust for Nature Conservation Act, 1982
Decentralisation Act, 1982
Mines and Minerals Act, 1985, and Regulations, 1999
Soil and Watershed Conservation Act, 1982, and Regulations, 1985
Nepal Petroleum Act, 1983
Solid Waste Management and Resource Mobilization Act, 1987
Pashupati Area Development Trust Act, 1987
Seeds Act, 1988, and Regulations, 1997
Kathmandu Valley Development Authority Act, 1988 (not enforced)
The Constitution of the Kingdom of Nepal, 1990
Pesticides Act, 1991
Industrial Enterprises Act, 1992
Social Welfare Act, 1992
Labour Act, 1992
Water Resources Act, 1992, and Regulations, 1993
Vehicle and Transport Management Act, 1992, and Regulations, 1997
Electricity Act, 1992, and Regulations, 1994
Forest Act, 1993 (amended 1999), and Regulations, 1995 (amended 2001)
Environmental Impact Assessment Guidelines, 1993
Environmental Impact Assessment Guidelines for the Forestry Sector, 1995
Nepal Civil Aviation Authority Act, 1996
Buffer Zone Management Regulations, 1996, and Guidelines, 1999
Nepal Tourism Board Act, 1996
Environment Protection Act, 1996, and Regulations, 1997 (amended 1999)
Town Development Fund Act, 1997
Drinking Water Regulations, 1998
Local Self-Governance Act, 1999, and Regulations, 2000

Appendix 14.2: Some Common Constraints Faced by Nepal in Implementation of Environmental Impact Assessment: Operational Problems and their Solutions

Based on the experiences of MOEST and other environmental agencies under the Government of Nepal, the following constraints and operational problems in execution of EIA related management plans have been identified in the country. Some recommendation solutions for resolving the operational problems have been provided here under.

Constraints faced

- (i) There is a need for amendments of the provisions and clauses of the Environment Protection Act (EPA) and Environment Protection Regulations (EPR) themselves, to make them clearer and easier to follow
- (ii) There are procedural delays within MOEST (formerly MOPE) whose accountability has never been questioned,
- (iii) Due to lack of competent staff, MOPE failed to carry out the needed interventions in the EIA process, The newly formed MOEST will have to be more proactive in this regard.
- (iv) There are technical difficulties in organizing public hearings at sites that delays the approval process,
- (v) No concern has been demonstrated by apex agencies like NPC and NEPC about the ongoing unsatisfactory status of implementation of the EIA process,
- (vi) Many sectoral agencies are carrying out the EIA process as a formality and due to the inability in the past of MOPE to administer and monitor the mitigation measures, the agencies concerned escaped punishment. MOEST will have to be more attentive in tackling these issues.
- (vii) There are grievances from proponents and developers that the overall time required for following the process and preparation of EIA reports and their approval is too long.
- (viii) In many cases, mitigation measures identified in the EIA reports are not undertaken, and the experience of one completed project is not taken into consideration while preparing and approving EIA reports for other projects.

Operational problems and their solutions

Problems

- (i) There are inconsistencies and complexities in Schedules, which include list of projects requiring initial environment examinations (IEE) or EIA, format for terms of reference, and IEE and EIA reports. Some of the proposals requiring IEE or EIA are unclear and misleading.
- (ii) The environmental law is silent about the time limit for the implementation of an EIA report. For example, the proponent may prepare an EIA report and then process it for implementation after a significant time lapse. In such cases, baseline conditions may change and many of the impacts and corresponding mitigation measures will also have to be altered.
- (iii) The format and content of the Scoping Document has not been issued, which has reduced report quality. In recent years, copying of (EIA) reports and their duplication has been a major problem.
- (iv) The reviewing agencies are unclear about the aspects to be reviewed in the Scoping Document and final EIA report due to lack of review guidelines and criteria. In most cases, consultants and practitioners are reluctant to review and redo the reports to improve their quality.
- (v) In linear projects, a number of village development committees (VDCs) or municipalities may be affected. The law is unclear about the number of public hearings to be carried out at the project site, and number of recommendation letters of VDCs or municipalities to be submitted to the approving agency.
- (vi) Most EIA reports have not shown linkages between the baseline conditions, environmental impacts, mitigation measures, and monitoring requirements.

- (vii) The EIA report approving agency MOEST, has not been adequately effective in issuing directives on technical matters due to lack of competent and knowledgeable staff in the respective fields.
- (viii) Environmental auditing by MOEST is usually meant to be undertaken two years after the commencement of the services of the projects, but the requirement is vague and provides opportunities to MOEST to delay environmental monitoring of the projects.
- (ix) In many cases implementation of the environmental management plan approved in the EIA report is deferred. In some cases, EIA has been carried out after completing the detailed design of a project just to comply with the legal provisions.

Solutions

- (i) Amendment of the Environment Protection Regulations, particularly its Schedules
- (ii) Development of procedures for review of EIA reports, monitoring, and environmental auditing; establishing procedures for review of EIA reports by independent experts could be useful
- (iii) Organize exposure/orientation programs on EIA procedures for senior decision makers
- (iv) Launch special training courses for EIA practitioners and reviewers and officials involved in the process
- (v) Make provisions for remunerating reviewers of EIA reports, independent monitors, and auditors of implementation of mitigation measures
- (vi) MOEST should be supported in terms of funds and facilities to conduct monitoring of mitigation programs and conduct environmental auditing of completed projects
- (vii) Provide logistics, vehicles, and other facilities to encourage site-visits before EIA report approval, conduct surveillance monitoring, and so on