TOWARDS SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT - THE JOURNEY

Sustainable development is not a destination where we arrive, but a never-ending journey on which we embark. As with any journey, there are several phases: preparing for the road, deciding what signs to look for, embarking on the trip, and measuring progress along the way.

Policy, Legislation, and Institutional Change

Traditional ways of economic development have harmed natural resources and created social inequities. Only by transforming some fundamental principles of governance, and through institutional reform can humanity prepare to move towards more sustainable, balanced, and just means of development.

A first step involves shifts in national and international policies to ascribe full value to natural resources so they are treated as capital investments that must be sustained, rather than as at present, income that can be spent. This entails more realistic pricing of, for example, energy, transportation, water, forests, fisheries, land, non-renewables, and waste disposal to provide incentives for sustainable use of resources.

Most major developments use up resources that will remain depleted or adversely affected for many years into the future. The true costs of replenishing these resources and of compensating those whose livelihoods are disrupted by such developments must be fully accounted for in advance, rather than discounted or passed on to non-beneficiaries or future generations, which tends to be current practice.

Policies for Poverty Alleviation

As noted in the previous lesson on the Principles of Sustainable Development, unless poor people share in the benefits of development, there will always be pressure on remaining natural resources as the poor struggle to survive. Governments must establish policies specifying consultation with stakeholders or interested parties especially the poor, indigenous people, and other vulnerable individuals or groups to ensure informed consent and equitable sharing of the costs and benefits of development.

Because poor people rely almost entirely for their subsistence on local resources, these means of sustenance must be protected, and people's access to them assured. Poorer members of society are also more likely to live in areas affected by industrial waste discharges to air, water, or land. They deserve policies and legislation that defend their rights to a healthy living environment and protection from contamination.

Marginalised people live on land that is not desirable to those who have more financial resources. Areas such as floodplains, mountainous regions susceptible to landslides and flooding, and industrial areas subject to waste discharges or accidental emissions are populated mostly by poor people. As a result, when natural disasters occur, it is poor people who are usually affected most. Policies are needed to ensure

that during such times, programs can be instituted to engage displaced persons in the rehabilitation of their homes and land.

The poor, by definition, have little or no property over which they have ownership title. As a result, they have less incentive than people who are landowners to protect, preserve, and nurture the lands on which they find themselves. Areas that are occupied by everyone but owned by no one are most likely to be exploited for short-term gain rather than long-term sustainability. The rationale is that those who attempt to conserve the resources will be overtaken by others intent on gathering whatever they can as soon as possible in case they are left out. The principle is known as the 'Tragedy of the Commons' – land that is held in common becomes the responsibility of no one, unless community governance is established. Case studies of the Boeung Thom Lake fisheries and community based management of flooded forest in Siem Reap in Cambodia, and the Nam Ngum reservoir fishery in Lao PDR illustrate this principle.

The poor must be awarded legal property rights so they have incentives to improve and maintain the value of the land. Profound changes are necessary to release land into local ownership, and implement co-investment and co-management programmes by government, aid agencies, and developers.

Introduction of appropriate-scale technology in preference to mega-projects can have more immediate and direct benefit to local communities and the relief of poverty. Micro-loans for family and community business initiatives have been proven to generate more successful outcomes and financial returns for local people than large-scale industrial or agricultural developments, in which the beneficiaries are often remote from the sites of impact. Use of appropriate technology is a key element of the Royal Development Study Centres case study in Thailand, and is a component of a case study on river bank protection at Vientiane, Lao PDR.

Even large installations, such as dams, may be more efficient, cost-effective, and environmentally-friendly when constructed on a scale suited to local needs, rather than in one centralised large-scale distribution unit, which must rely on foreign sales to justify its existence.

Since people are at the centre of sustainable development, it is essential to involve stakeholders as equal partners in decision making. The power to make decisions must be distributed equitably among those who will be affected by the outcomes of those decisions. Transparent, accountable, and responsible policy and planning involving all interested parties lead to better long-term solutions to development challenges than secretive deals made by powerful elites without consultation. Examples of stakeholder involvement are contained in case studies of community-based management of flooded forests in Siem Reap Province, and the Boeung Thom Lake integrated wetland management project, both in Cambodia.

Agenda 21 and many subsequent United Nations, World Bank, and Asian Development Bank (ADB) initiatives stress the importance of recognising the status and role of women as partners in sustainable development. Women represent a higher proportion of poor people in most societies, and

their rights are usually limited. Equitable treatment of women is another fundamental requirement for sustainable development.

Legal and Institutional Requirements

Legislation to enable sustainable development must be founded on sound principles and policies as summarised in the previous section of this lesson. Traditionally, legislation and regulations regarding resources have been drawn up separately on sectoral lines – forests, fisheries, agriculture, wildlife, industry, water use, land use, mining, energy, environment – and also for financial and economic sectors. Naturally, the administration and management of each resource has been compartmentalised, resulting in overlapping jurisdictions, gaps in coverage, competition and duplication between government agencies.

For the holistic approach needed to promote sustainable development, it will be necessary to harmonise sectoral legislation and the institutions responsible for implementing and monitoring compliance with it. Law makers need to consider ecosystems, watersheds, complete river basins, and the interactions and interdependencies between resource sectors. For instance, in steering towards optimum use and protection of resources, forestry legislation must take into account potential effects of logging on other watershed resource uses such as fisheries, water quality, and non-timber uses of the forest.

An extension of integrating national and local legislation is the role of agencies such as the Mekong River Commission (MRC) in regional planning across country boundaries to ensure the interests of each riparian country are protected (see Lesson 8 for details).

Having developed laws and regulations to protect natural resources, a major challenge is to ensure they are enforced consistently, transparently, and fairly. This is easy to write, but very difficult to implement with scarce human and financial resources. Some basic principles are:

- Where renewable resources such as trees, other plants, fish, wildlife are being removed from an area, the rate of removal should not exceed the overall rate of regeneration in the area being managed, nor should the viability of ecosystems by jeopardised
- Polluters and users of natural resources must pay in full for the effects of their impacts on the environment, including human health, and all loss of use of the resource by others.

Effective monitoring and enforcement of these principles will go a long way to more responsible, long-term conservation of resources for future generations. A prerequisite for effective monitoring is an accurate inventory of baseline conditions, populations, and species – also a significant task given the shortage of qualified personnel and funding. Law enforcement issues are considered in the Nam Ngum reservoir fishery case study in Lao PDR.

HOW TO DECIDE WHAT SIGNS TO LOOK FOR

Travellers on a journey rely on signposts to keep them on the correct path, heading in the desired direction.

The following methods can be helpful guides on the journey to sustainable development.

Strategic Environmental Assessment

Strategic environmental assessment (SEA) is a process that is gradually being introduced in some countries to evaluate the possible environmental effects of policies and proposed legislation. The topic will be covered in detail in Course H. For now it is sufficient to say that SEA is an attempt to place environmental considerations on par with economic, financial, and technological priorities when examining the broad-scale consequences of regional or national policy or legislation. As the term implies, SEA is a high-level overview of the potential effects of development policies, legislation, programs, and plans on a regional basis to assess whether proposed strategies are suitable for assuring sustainable development.

SEA can provide an early warning system for potentially unforeseen problems that may be caused by the intent of policies or legislation. A well conducted SEA can highlight aspects of development that must receive priority attention, such as the potential for increased saltwater intrusion into the Mekong Delta and inadequate volumes of water to sustain fisheries in the Great Lake if flow is restricted by dams in upstream sections of the Mekong River Basin (MRB). Economic and social consequences of impacts such as these could outweigh prospective gains from policies intended to promote hydropower development. SEA can help to identify how to create triple-win situations for the economy, societal needs, ecosystems and the environment.

The emphasis in SEA, as in other environmental assessments is the prevention of harm. The process also can help to harmonise and coordinate policy development in the riparian countries to ensure each country's initiatives will be mutually beneficial. In this way, SEA can transcend national frontiers, levels of government, and sector boundaries to focus on the greater good of all when setting priorities and limits for sustainable development in the MRB

Cumulative Effects Assessment

In nature, no action or effect occurs in isolation from other actions and effects. Ecosystems, human, economic, and political systems are connected and mutually interdependent. When a development is undertaken in one part of the MRB, its consequences may ripple throughout the Basin. Cumulative effects assessment (CEA) is a process used to assess the additive, bioaccumulative, synergistic, and antagonistic effects of one or more developments on the environment at various locations and times. CEA focuses on the combined impacts of. specific activities, in distinction from SEA, which is concerned with the broad effects of policy, legislation, and programme plans. CEA attempts to examine how an accumulation of small, medium, or large impacts repeated over an extended period of time may affect the environment, or how combinations of diverse changes in environmental conditions affect ecosystem functions, renewal, and health. Environmental effects from a single source (e.g., a fertilizer factory) can be predicted and

Strategic Environmental Assessment (SEA)

Systematic Evaluation of the environmental consequences of proposed policy, legislation, or programme plans.

Cumulative Effects Assessment (CEA)

Identification and evaluation of additive and interactive effects of human activities on complete ecosystems over time.

monitored with reasonable certainty, though even in this simple example, subtle low-level changes may not be detected for some time. In reality, economic and industrial development, such as introduction of a fertilizer factory do not occur in isolation from other changes, for instance population increase, new infrastructure – roads, transportation, housing – and additional types of development in the form of power generation, food production, construction, and other industries. Developments may take place in the same geographic area, or at a distance from each other. Regardless of their location, all make demands on the adaptive and assimilative capacity of the various ecosystems in the MRB.

Detailed discussion of CEA will take place in Course G. The purpose of mentioning it now is to underline the contribution CEA can make as an early warning of potential ecosystem degradation. CEA can be used to alert governments and business to the potential overall impact of developments at diverse sites in the MRB, impacts which may be felt many hundreds of kilometres from the source. By raising awareness of potential interactive effects, CEA, like SEA, can help to promote responsible and mutually beneficial development in the MRB riparian countries.

MONITORING PROGRESS TOWARDS SUSTAINABLE DEVELOPMENT

As development takes place, governments and trans-national institutions, such as the MRC, need management and measurement systems to monitor environmental and socio-economic effects, and to guide preventive and corrective actions when necessary. Integrated resource and environmental management (IREM), is a tool that can assist with these responsibilities, and in coordinating the various sectoral mandates mentioned earlier in this lesson.

Integrated Resource and Environmental Management

Ecosystems are not confined by national or provincial boundaries, nor can they be divided neatly into compartments to match bureaucratic and administrative spheres of responsibility. IREM attempts to adapt human management systems to reflect and respect the laws of nature. Course C will deal with IREM in detail. The underlying principles and some basic practical applications will be discussed at this point to illustrate its use.

IREM focuses on ecosystems as the sphere to be managed, paying attention to the dynamic interrelationships between the various components of ecosystems. As in SEA and CEA, the emphasis in IREM is on prevention of problems. That is why these three management tools are included in this course on Sustainable Development and Environmental Awareness. Prevention is always more cost-effective than remediation or cure, and it can save a great deal of human and environmental suffering.

Effective IREM is built on a foundation of sound baseline data for inventories of plant and animal species; soil classification; land use; water quality; hydrology; natural resource use; waste discharges; demographics; and the interactive processes between them. Clearly this demands substantial human resources, but fortunately, perfection is not an initial requirement. IREM is flexible and adaptable to changing information. Management is at the most sophisticated level permitted by existing data, and becomes more refined as knowledge and understanding of ecosystems improve. The Precautionary Principle is at the core of IREM; absence of confirmed evidence is not sufficient reason to delay action if an ecosystem appears to be in decline or threatened. Management of resources must adapt to ever-changing knowledge to preserve a balance between development and sustainability.

IREM requires that we suspend the need for certainty and irrefutable proof before taking action. It relies on the principle of 'learning by doing', and adjusting actions as a result of that learning. For example, for much of the 20th century, dams were believed to be a healthy, environmentally friendly source of electricity. As information accumulated towards the end of the last century on the long-term socio-economic and environmental effects of dams, it became evident that, in many instances, the costs of hydropower development to society and ecosystems were not matched by the benefits. This has led to demands by the World Bank and ADB that proponents conduct more sophisticated evaluation of their dam-building proposals using IREM principles, as will be discussed in Lesson 6.

The expertise of personnel in many departments in government and universities, and contributions from non government organizations and foreign aid agencies will have to be coordinated to generate the baseline data, and then to plan and implement suitable IREM strategies. Opinions drawn from the experience of local communities and indigenous people are also integral to valid decision making in an IREM context. Practical solutions must be worked out on a regional basis. The MRB is an ideal region in which to develop an IREM framework, and the MRC is an organization well-placed and equipped to coordinate and lead the implementation of IREM. Efforts to implement IREM in support of sustainable development and the need to dissolve traditional resource management boundaries are illustrated in the Prek Toal Biosphere Reserve case study in Cambodia.

SUMMARY OF KEY POINTS

- Sustainable development must be founded on sound principles and policies with regard to economics, natural resource use, pricing, incentives, poverty relief,

environment, the use of technology, and individual and community rights.

- Legislation to enable sustainable development must be based on sound principles and policies, and focus on the integration of laws governing environmental and economic concerns, and on social justice.
- Use of SEA and CEA can assist in preventing environmental and social problems resulting from development, and in pinpointing issues requiring priority attention.
- In response to development pressures, ecosystem management may be accomplished using IREM, which coordinates the contributions of many diverse specialties in an adaptive mode of management.
- Substantial human resources are needed to generate the baseline and ongoing data collection required for IREM.