

# Chapter 2

## Sustainable Development: Some General Considerations

### The Principles Involved

2.1 Conventional policies of development and methodologies of project appraisal have, in some instances, had the perverse effect of reducing the material wellbeing of the supposed recipients. Since the United Nations Conference on the Human Environment (Stockholm, 1972), there has been growing realisation that the introduction of some technologies and practices from developed countries does not always benefit developing countries, that actions impacting on the environment in one part of the world affect or have implications for all other parts, and that the knowledge of people at the grass roots merits respect and attention in the development process.

2.2 It was this background, and the growing awareness that environmental costs—especially as a result of the depletion or degradation of natural resources—were usually not taken into account in economic policies, that led to the concept of sustainable development as outlined in “Our Common Future”, the Report of the World Commission on Environment and Development (the Brundtland Report) in 1987. This concept has required a re-examination of policies in several areas. For instance, traditional investment criteria favour projects which damage the environment while discouraging those with environmental benefits. In both cases this is because these costs and benefits do not feature in the appraisal. A factory might seem financially profitable and economically attractive, and be well maintained in engineering terms, yet it might be contaminating soil and poisoning rivers—costs which are felt by others, and which ultimately have to be redeemed.

2.3 Even worse, development might destroy some critical natural resource,

essential for life-support or the quality of life in the long term. The mine that destroys an original rainforest and the biodiversity it sustains, or which contaminates an aquifer with its chemical discharges, is in a sense using up natural capital, and depriving others of future benefits. None of this would normally appear in its balance sheet.

2.4 Sustainable development does not imply that a given process of economic growth, or a certain project, should be able to continue indefinitely. Technology, tastes and lifestyles change, especially in a period as long as a generation. Hence the appeal of the concept of sustainable development as formulated by the World Commission on Environment and Development, which stresses keeping options open for future generations. Among other things, this means caring for crucial parts of the natural environment, recognising that depletion of a particular resource may be justifiable in some cases, avoiding irreversible processes of natural degradation, and trying to match the exploitation of finite resources with the development of substitutes or replacement by alternative economic assets.

2.5 Most people accept the force of the principle of sustainable development. The challenge now is to put this principle into practice. We believe that it implies the following precepts:

- i) *The 'precautionary principle': 'critical' environmental assets should be left intact. Where there is uncertainty about the effects of human actions on these assets, but grounds for thinking they could be substantial, the 'precautionary principle' should apply. Certain habitats, for instance, should be regarded as particularly vulnerable to development. Action must depend on the probability and extent of environmental damage and not only on its certainty.*
- ii) *'Environmental accounting': for other, renewable, environmental assets (e.g. forests), the relevant principle is to use the resource at its sustainable yield level. For any use in excess of that level, the regeneration of the resource (including the human resource) or the maintenance of capital assets should be included as a cost to the project.*
- iii) *'Full valuation': every effort should be made to*
  - (a) *devise and implement a national accounting system which includes a full valuation of all activities (especially the costs of environmental maintenance and repair and of resource depletion); and*
  - (b) *assign 'economic' values (i.e. values in addition to those of a purely financial nature) and take account of environmental and social costs and benefits when assessing projects or proposed changes of use of natural assets.*

The first is necessary to derive a more accurate assessment of a country's 'economic worth' and growth. The second is needed to produce a truer assessment of a project's net contribution to development. In both cases there is a need to take account, *inter alia*, of the fact that the economic performance of countries is misstated where their growth has been at the expense of depleting environmental assets, such as forests or soil fertility, or by polluting air and water in a way that stores up heavy future remedial costs, or by running down social assets such as support and educational systems, or by reducing the quality of life for some sections of society. It is important to bear in mind that the economic benefits accruing to some countries from particular actions create environmental costs for others.

- iv) *'Relative scarcity': where finite natural resources are in plentiful supply, they can be exploited (subject to environmental appraisal and equity considerations) and their sales proceeds reinvested to ensure at least the maintenance of capital assets. However, scarce exhaustible resources require a different knowledge base and value system, involving managing the pace of extraction, encouraging research into substitutes, and creating alternative income sources for producers.*
- v) *'The community': the relationship between a community and its environment, based on local knowledge and decision-making, is an integral part of sustainability and development. It has important implications for all environmental policies and strategies, as well as for future global security. Cultural diversity could be as important as the maintenance of biological resources.*
- vi) *'Equity': sustainable development requires a greater degree of equity, both within countries or societies and between them. This is necessary because of the adverse effects on the environment which are caused both by marked affluence and by poverty. Greater gender equality is also necessary, as in many societies women are the prime users and carers of environmental assets (we refer to this in Chapter 6).*

## **Industrialisation, Affluence and the Environment**

2.6 Conventional paths to industrialisation, and the affluence which in some countries has accompanied this process, have been responsible for most of the world's environmental degradation. Most emissions of greenhouse gases, responsible for the present trend of global warming, have been from countries that are now industrialised. These countries consume a disproportionate share of the world's resources, e.g. fossil fuels. They have also been the major polluters of other global commons like the oceans. Much of the urban air pollution in large conurbations is caused by emissions from private motor cars, and most of the rest is due to industrial production and the generation of electric power, which is disproportionately consumed by the more

affluent groups of the population. If the industrial sector is uncontrolled, it can crucially degrade the environment by the way it converts scarce environmental assets into goods and services. Although it can also help to clean up the environment, by developing the relevant technologies, processes and products, much more than this is required and entire industrial processes need to be reassessed if further degradation is not to occur.

2.7 The conversion of wetlands for commercial development and middle-income housing is an instance of encroachment on the environment caused by affluence. The same is broadly true of tropical hardwood timber, mining products and agricultural raw materials produced for export to developed country markets. In many cases these are produced in ways which impose serious costs to the local environment, which their affluent consumers escape. Much hazardous waste and water pollution is generated by industries producing goods for consumers in the higher income brackets.

2.8 *Governments should seek to ensure that industries generate as little toxic and other wastes as possible and make provision for treatment and/or storage facilities on site. They should minimise the transfer of hazardous waste from one country to another.* Small states are especially vulnerable to these hazards and we elaborate on these issues in Chapter 5.

2.9 Getting the affluent to reduce their consumption and waste of many resources is equally vital. There are many options for tackling the environmental problems resulting from affluence. They range from changes in lifestyles and community values, to regulation and administrative decrees, taxes, subsidies, deposit refund schemes, adjusting the prices of fuel, power and water, schemes for tradeable permits controlling air and water pollution, to more emphasis on developing less polluting products and processes. Applying these measures requires strong political will to overcome the powerful vested interests that are usually at stake. However, in facing their problems, wealthier societies usually have resources and choices lacking in their poorer counterparts.

## **Poverty and the Environment**

2.10 The environmental problems faced by the poor are caused both by the affluence of others and by their own poverty. Examples of the first are the effect of chlorofluorocarbons (CFCs) on the ozone layer, the contribution of greenhouse gases to global warming, and the impact of large imports of tropical timber on deforestation and its adverse consequences. Wealthier countries can ease the environmental problems of poorer ones, as well as tackle their domestic problems, through their own actions. But in many cases, where the environmental problems are more localised (as in water pollution or soil erosion), the main burden of action will fall on poorer countries. The environmental problems associated with poverty are especially intractable.

2.11 Poor people have few savings, little access to capital and credit, and little if anything of a cushion between good times and bad. They are thus badly placed to invest in environmental conservation measures (such as preventing soil erosion of their fields) even if it is clearly in their long-term interest to do so. Such investments entail forgoing current income and taking a long view of future benefits. Many poor people, living from hand to mouth, are forced by external economic pressures, such as low international commodity prices and heavy debt servicing, into taking actions which place more weight on their short-term needs than on the long-term benefits which could be derived from different courses of action.

2.12 Lack of capital, high implicit discount rates and a foreshortened perspective on the future explain much of the environmental degradation caused by the poor. In particular situations, these factors may be reinforced by their lack of title to a resource such as land, or of tenure in its use, or the fact that it is a common property resource, such as grazing lands, open to all without sanctions on overuse.

2.13 We are aware that many poor communities have evolved models of sustainable behaviour over time. Poverty *per se* does not automatically imply degradation. However, where poor communities are hit by natural disasters, or are overstretched by population pressure, or where traditional systems of management and control are destroyed or overridden, the previous balance can break down. Some of the worst environmental degradation occurs in the vicinity of war, famine and refugee movements. It is exacerbated by the inequitable distribution of resources and access to resources and to the relevant decision-making processes, both nationally and internationally. Commonwealth countries could co-operate in resolving many of these problems through sharing their experiences.

2.14 The geographical concentration of the worst poverty causes serious localised degradation, whether in rural or peri-urban situations. This concentration has arguably increased over the last few decades. Of the 780 million who in 1987-88 were estimated to be the 'poorest of the poor', 370 million occupied areas judged to be of low agricultural potential, and 130 million lived in urban areas, the majority in urban slums. Around 470 million, 60 per cent of the poorest people in the developing world, lived in highly vulnerable ecological areas, susceptible to the effects of soil erosion, land degradation, floods and other ecological disasters<sup>1</sup>.

2.15 Many forces, in particular national and international economic policies, propel the poor into environments that are inherently fragile. The net result of policies which entrench unequal land ownership, lack of tenure, low commodity prices, structural changes in agriculture, poverty and overpopulation is to drive the poor to the margins of cultivation, such as hill slopes or virgin forests, where they easily become the agents of soil erosion and defor-

estation. Alternatively, they may be impelled by similar forces to seek a living in cities, where they add to congestion and pollution in areas where public services are least able to cope. Overfishing and poaching are often caused by people deprived of secure livelihoods seeking supplements to their inadequate incomes.

2.16 The poor, especially in rural areas, also tend to be more reliant on 'common property' resources to which everyone has access, e.g. forests, rangelands, water points, and inshore fishing grounds. These resources are more prone to becoming degraded than those in private hands, or where there are effective communal controls. In South Asia and sub-Saharan Africa, where the worst poverty is concentrated, families draw heavily from the commons for their fuel, fodder and water. In dryland areas of India landless people derive a fifth of their annual income, together with a range of non-marketed goods, from the natural products of common areas<sup>2</sup>. Lacking other assets, such as property, buildings or equipment, the poor rely on their labour power, which itself is devalued by inadequate nutrition.

2.17 The availability of non-farm employment, either in rural areas or in the informal sector of cities, is a vital safety-valve—without it, rural poverty can cause serious environmental pressure. For all these reasons, the alleviation of poverty is essential in order to reduce environmental damage in developing countries.

### **Population and the Environment**

2.18 At a local level, if household numbers increase without access to commensurate additional resources, then environmental damage is often caused. But nationally and internationally the damage is caused mainly by the excessive consumption of resources and generation of waste among the wealthy, sometimes exacerbated by high rates of population growth.

2.19 In almost all countries a large part of the increase in population will be urbanised, adding to existing urban problems and encroaching on adjacent land and natural resources—in many cases reducing the capacity to produce food when the very opposite is needed. This is particularly serious in small islands where fertile land is very scarce, and competes with building plans. The strongest single correlant to stabilising the growth of population is the educational level and economic status of women. We touch upon these matters in Chapter 6.

### **Economic Growth and Environmental Pressures**

2.20 The consumption of natural resources as raw materials and the disposal of waste usually have a strong correlation with an economy's rate of growth. Both these processes can be carried out in a sustainable manner.

However, some of the countries whose economies have grown most rapidly have done so by exploiting certain resources in an unsustainable manner or at the cost of pollution levels that are becoming unbearable.

2.21 Most global environmental damage has been caused by the processes of economic growth and the patterns of consumption chosen by countries whose economies are now developed. To attempt to 'freeze' development, even if it were feasible, would deny most of the world's people any chance to attain life-styles and access to goods which most in the developed countries take for granted. Developing countries naturally wish to close the gap in living standards between themselves and the more developed countries. The huge gap between developed and developing countries in the per capita consumption of commercial energy (Table 3.1 on p.35) is a vivid example, although we recognise that existing disparities in the quality of life can be redressed without a concomitant increase in energy consumption. The difference in energy consumption between Sweden and the United States, two countries with comparable standards of living, shows what can be achieved.

2.22 On the specific issue of greenhouse gas emissions, it is clearly unfair to ask developing countries to shoulder the costs entailed in curbing future emissions in order to meet international ceilings, when the need for those ceilings has arisen largely because of emissions from the developed world. To the extent that industrial growth requires more energy—and we have already recognised that there is no necessary proportional correlation between the two—countries with large-scale industrial aspirations, such as India and China, would find restrictions on their growth particularly onerous. We take up this argument in Chapter 4.

2.23 It is, moreover, particularly difficult to reconcile lower economic growth with rapidly expanding populations, and with the need to raise the living standards of large and growing numbers of poor people in developing countries. Raising consumption levels of both public and private goods entails investment and the growth of productivity. Creating jobs for an expanding labour force cannot be best achieved in a stagnant economy. The resources needed by governments for public investment and the regular provision of services such as education and health will not be available except through expanding national income. Measures to increase the flow of finance and other resources to developing countries and to attenuate their external debt problems are an essential component not only of their economic recovery but of the investment needed to ensure that their future economic growth and economic and social development are sustainable.

2.24 Appropriate social and economic policies for growth and development to meet burgeoning needs, especially of the poor, in developing countries are vital. But we believe it is erroneous to think that environmental protection is a 'luxury'. The reason is that much of the economic 'growth' measured in a

conventional way looks much less impressive when its environmental costs are netted out. Indonesia's trend rate of growth, for instance, was marked down from 7 per cent to 4 per cent when account was taken of 'depreciation' due to the depletion of its soils, petroleum reserves and forests<sup>3</sup>. It would not be in the interests of those developing countries dependent on natural resources to degrade these assets to the detriment of long-term prosperity. On the other hand, alternative strategies based on the principles of sustainable development would deliver real income-benefits. If valued correctly (a point we return to in Chapter 7), they would compare favourably with the measured achievements of conventional policies. For most developing countries high rates of economic growth are needed, but on a sustainable basis. Sustainable development must not be allowed to imply low rates of growth.

2.25 The global economy will have to expand rapidly to meet the needs and aspirations of a population which seems unlikely to stabilise below two to three times its current level. In this process, severe strains will be placed on its ability to deliver energy, food, and water, to absorb wastes without unacceptable pollution, and to continue providing life support. These strains will be all the more marked if the affluent do not reduce their consumption of natural resources.

## References

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2. N S Jodha, "Common Property Resources and the Rural Poor in Dry Regions of India", *Economic and Political Weekly*, 5 July 1986.
3. Robert Repetto et al., *Wasting Assets: Natural Resources in the National Income Accounts*, World Resources Institute, Washington DC., 1989.