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**Sustainable Development** is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Environmental issues are key to ensure sustainable development in any country. There are however trade-offs among ensuring environment protection, enhancing growth and poverty reduction.

Economic growth is supported by natural resources by producing marketable commodities for trade and consumption, providing inputs for a production process, etc. Poverty reduction is also supported by natural resources by providing water for consumption, wood for cooking, etc. However, natural resources must often be managed for environmental sustainability.

For example, mining sand, gas and limestone from prohibited locations, fishing using illegal techniques, logging without permits, etc. Strict enforcement of environmental regulations can negatively impact on growth and the peace and it is also the poor who often suffer from environmental disasters. The challenge is how to use natural resources to generate growth, which will also benefit from and which does not destroy the resources base itself.


### Environment and Sustainable Development

**Environment**

- The main sources of water pollution are municipal wastewater, agricultural and industrial wastes, litter and solid waste, significant spills, and the overuse of inorganic fertilizers and pesticides.
- The main sources of pollution are major rivers with a collective length of 4,000 km, and are the only source of water for drinking, irrigation, agriculture, domestic requirements, hydropower electricity and indigenous fishery. Many irrigation and hydropower development projects have caused significant impacts on water flow regimes and water balance in downstream areas. Signs of over exploitation of ground water are observed by the deterioration of the ground water quality and sudden intrusion in coastal areas where ground water extraction has been excessive. At present, the Dry Zone Irrigation Complex in the Greater Colombo area has been provided with tubewells yielding over half a million gallons of water per day from ground water.

The Irrigation Department plays a key role in water issues and the Water Resource Board 1960 has been established to manage water resources in the country. However, the Water Resource Board has been criticized for not being proactive in managing natural resources and the Country's natural water resources need to be better managed.

**Fisheries**

Fish is a vital source of livelihood for over $100 million households. About one million people depend on the Fishing Industry for their livelihood and it is considered to be over 2% of GDP in 2003.

Attempts have been made to manage offshore fisheries management, but these initiatives have not been fully successful and have not been plagued by significant social structures. From 1980 to 1990, the main focus was on the Fisheries Department, which is responsible for managing the marine environment through the promotion of modern technology and with government subsidies. During the 1990s, the focus shifted to the management of fisheries resources to reduce over exploitation.

In 1996, the Fisheries and Aquatic Resources Act was passed emphasizing the importance of community-based management of fisheries for effective resource management. A series of regulations have been made under the Act from 1996 - 2000, including a published list of species that are not to be exported or imported, restrictions on the capture of certain species and prohibitions on the use of fishing gear that would result in the over exploitation.

**Land Degradation**

A serious issue that 44% of total farmland suffers from some form of land degradation. About 30% of the land in the dry zone is degraded and unsuitable for agricultural use and 25% of the land is in the wet zone that is considered to have marginal use for continued cultivation. The immediate causes of soil erosion are loss of soil fertility, and salinity. In addition, soil erosion leads to sedimentation of streams and water bodies, damage to downstream agricultural land, and pollution of coastal water, and aggravation of flood effects. Recent estimates indicate that nearly one third of the land is subjected to soil erosion.

The Soil Conservation Act was passed by Parliament in 1990. The Act seeks to reduce soil erosion by improving agricultural practices, increasing soil fertility, and controlling salinity. The Act aims to reduce soil erosion by a greater level of management at a provincial level, where implementation and enforcement is easier.

**Forestry**

The natural forests were once a rich source of timber, but the high quality, but many of these efforts have been modest due to the overexploitation of the natural forests. Deforestation of timber stands in the natural forests due to over exploitation, the increasing incidence of forest encroachments, growing threats to indigenous flora and fauna and invasive species are the main concerns of forest conservation.

Encouraging the entry of large scale private sector operators is expected to make forestry sector reform easier. It is important to commence the implementation of management plans for conservation of forests and related management areas, which has been emphasised. At present, the protection of forests and the management of forest resources is the responsibility of the Forest Department.

**Sediment Mining**

Sediment mining is a serious environmental problem as it leads to a drop in beach replenishment, aggravation of coastal erosion and a lowering of the river bed with collapse of coral reefs and infill of sea water. It was estimated that sediment extracted from the Dambulla, Mahaweli, Kadyus, Kalu Ganga, and Nilwela rivers in one year amounts to 30 million cubic meters. The construction industry has an annual demand for 2.5 million cubic meters of sand, and an estimated 9,000 - 10,000 people are engaged in sand mining.

**Solid Waste Management**

Environmental hazards due to poor waste disposal have been increasing. The current rate of waste collection by the Local Authorities in the country is estimated to be about 9,000 tons per day of which 54% per cent is from the Western Province. The main problem is the absence of satisfactory measures for collection and disposal of solid wastes in properly engineered landfills and the lack of facilities for safe disposal of hazardous and clinical wastes from industries and hospitals respectively.

On the initiative of the MINES, a National Solid Waste Management Strategy has been developed. It focuses on waste avoidance or reduction, re-use, recycling, composting, and final disposal by landfilling or incineration. An award scheme has been set up to motivate local authorities and citizen approval has been obtained to seek private sector participation on the matter.

**Outdoor Air Pollution**

Vehicular emissions are the main source of air pollution due to the high concentration of vehicles in Colombo resulting in heavy traffic congestion. There are several air pollutants, namely, nitrogen oxides, sulphur dioxide, carbon monoxide, and hydrocarbons.

A Strategy and Action Plan Clean Air 2004 was developed in 2000 and 59 recommendations were made to minimize vehicle pollution, but the progress was disappointing. Air pollution in the Colombo area, for example, has worsened considerably and the Air Resource Management Centre (ARMAC) was formed in 2001 as a partnership organization functioning under the Miners. ARMAC has prepared Clean Air 2003 - 2006 and will target vehicle inspection and maintenance, fuel reformulation, pricing, economic instruments, planning and traffic management.

**Water Resources**

HIV/AIDS and water resources laws are not in use if the enforcement is weak. - As it is the case of present. Besides, the trade-offs between environment and reduction of poverty will be in any case. The law enforcement is fragmented. The strategy to forward is to develop consensus to reconcile the different objectives of enhancing growth, poverty reduction and environmental protection and overcome opposition and engage in dialogue with societal interests. This needs leadership and coalitions building. The challenge is to identify leaders and coalitions to develop consensus and implement a shared vision. Civil society assisted by media and a responsible private sector can play a crucial role in linking environment protection with economic growth and poverty reduction.