Actors and Factors in Policy Making:
A Critical Analysis of the Formulation of Environmental Policy in Bangladesh

Naznin Islam

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July 2004

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Naznin Islam

A dissertation submitted to the Dhaka University, Dhaka, Bangladesh, in fulfillment of the requirements for the degree of Doctor of Philosophy in Public Administration

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Dedicated to my Mother

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Declaration

I declare that the dissertation entitled **Actors and Factors in Policy Making: A Critical Analysis of the Formulation of Environmental Policy in Bangladesh**, submitted to the Dhaka University, Bangladesh for the **Degree of Doctor of Philosophy** in **Public Administration**, is an original work of mine. No part of it, in any form, has been submitted to any other university or institute for any degree or diploma

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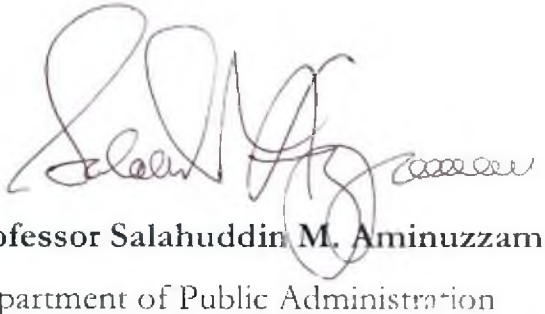
This is to certify that **Naznin Islam** has prepared this thesis entitled **Actors and Factors in Policy Making: A Critical Analysis of the Formulation of Environmental Policy in Bangladesh** under my direct supervision. This is her original work. This thesis or any of its part has nowhere been submitted for any degree or publication.



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Acknowledgement

The study has been conducted under the affectionate and valuable guidance of Professor Salahuddin M. Aminuzzaman. I would like to express my heartfelt gratitude and thanks to him for giving me an opportunity to work with him. His experience and insight into the problem, and above all, sincerity and commitment to work, has always inspired me to walk in the right track. I am extremely thankful to him for giving enough time to clear my conceptions and checking draft several times. I gratefully acknowledge his cooperation and the valuable suggestions for bringing the thesis to a proper shape.

I would like to express my profound respect and gratitude to late Professor Shamsul Haq, my maternal uncle, who always encouraged and inspired me to pursue PhD degree.

My thanks are also to the Department of Public Administration of Rajshahi University, which provided me necessary support. I am also thankful to the chairman of the department Professor M. Shamsur Rahman and to my other colleagues who supported me by sharing my duties. I am really indebted to my students for taking extra class load to make me able to finish my work in due time.

I shall be falling in my duty if I do not express my gratefulness to Professor. M.M. Khan, Professor Asaduzzaman, Professor Habib Zafar Ullah, and my senior colleague and well-wisher Professor A.T.M. Obaidullah. Their commitment and sincerity towards my work inspired me to do something good.

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I also profusely thank Dr. Atiq Rahman, Executive Director of Bangladesh Centre for Advance Studies (BCAS); Dr.Mahfuzul Haq, Joint Secretary, Ministry of Environment and Forest (MoEF); Dr. Ainun Nisat, Country Representative, IUCN, Bangladesh; Khushi Kabir, Nejera Kori; Dr. Mizan Khan, Sustainable Environmental Management Program (SEMP); Prof. Syed Iqbal Ali, Bangladesh Environment Management Program (BEMP). Their opinion and suggestions helped me to build my ideas.

I am thankful to Dr. Harun-Ur-Rashid, Head of the Department of Environment, Independent University; Dr. Monwar Hossain, Chief, Multidisciplinary Action Research Centre; Dr. Pramanik, Ex Director General, Department of Environment; Mr.Fazlul Haq, Ex Joint Secretary, Ministry of Environment and Forest; Dr. Magrub Morshed, Chairman, T and T Regulatory Board; Hasna Maudud, Chairman, CARDMA; Mr. Anwarul Islam, Ex deputy Director, Department of Environment; Mr. Mahfuzullah, Centre for Sustainable Development; Mr. Abdus Sobahan, Director (Admn.), DoE. They all took a lot of pain for giving me valuable information on my research work.

While researching, I have extensively used the library facilities and documentation centers of BCAS, BELA, DoE and received help and cooperation from the respective librarians. I greatly acknowledge the assistance provided by them.

A few words are not enough to express my gratefulness to my family. My mother helped me in more ways than I can express. I cannot forget the tremendous support of Khalamma, Mama, Mita, and Sony. Without their cooperation it was impossible for me to continue my research work. By looking after my daughter they relieved me from tension and they created an environment where I could work comfortably. I really grateful to 'Alo', she relieved me from all kind of domestic work including my daughter's education.

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I should not and must not forget the support provided by my husband. He provided me academic, mental and moral support during the course of my study.

My daughter 'Aaneela' deserves special thanks for her sacrifice. I could not give her enough time, care and concentration but she never complained. I am very much lucky because my daughter conceived my work as part of my life.

I express my heartfelt thanks to all of them for extending me facilities, cooperation, help, encouragement, and inspiration.

Finally, I would thank everyone for all they have done to make this study complete and I would remain liable for any omission and or mistakes of this study.

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Contents

		Page
List of Tables and Figures		ii
Abstract		v
Abbreviations		viii
Chapter 1	Introduction	1-9
Chapter 2	Conceptual Framework	10-42
Chapter 3	Environment and Development: A New Perspective	43-68
Chapter 4	Role of International Agencies	69-90
Chapter 5	International Environmental Treaties	91-108
Chapter 6	Environmental Issues: South Asian Perspective	109-128
Chapter 7	Environmental Issues in Bangladesh	129-143
Chapter 8	Institutional Framework of Environmental Management in Bangladesh	144-154
Chapter 9	Dynamics of Public Policy Making in Bangladesh	155-193
Chapter 10	Observations and Conclusions	194-200
References		201-214
Appendix		215-234

Dhaka University Institutional Repository

List of Tables and Figures

Pages

Tables

Chapter 2

Table-2.1: Some definitions of public policy 17

Table-2.II: Models of public policy Making 27

Chapter 3

Table-3.I: Changing perceptions of development 46

Table-3.II: Debate on development 48

Table-3.III: Agriculturist, Economist, Ecologists, and Sociologist's views of Sustainable Development 65

Chapter 4

Table- 4.1: Role of the United Nations on environment 78

Table-4.II: Role of World Bank in protecting environment 80

Table-4.III: ADB's position on environment 82

Table-4.IV: Bilateral Development Agencies' role on environment 88

Chapter 5

Table-5.I: Conventions related to pollution 95

Table –5.II: Conventions related to nuclear 98

Table- 5.III: Conventions related to ozone layer 99

Table- 5.IV: Conventions Related to Plant, Animal, and Tropical Timber 102

Table-5.V: Convention Related to Wetlands, Continental Shelf and Climate Change 105

Table-5.VI: Convention Related to Bio-diversity, Combat Desertification, and Hazardous Waste 107

Dhaka University Institutional Repository

Chapter 9

Table-9.I: Actors and factors involved at policy demand level of Environment Policy 1992 and their role 163

Table-9.II: Actors and factors involved at policy agenda level of Environment Policy 1992 and their role 174

Table-9.III: Actors and factors involved at policy formulation level of Environment Policy 1992 and their role 181

Table-9.IV: Actors and factors involved at policy approval level of Environment Policy 1992 and their role 182

Figures

Chapter 2

Figure- 2.1: Public policy at a glance 19

Figure-2.II: Dynamics of Policy Making 33

Figure-2.III: Factors and actors influencing public policy 41

Chapter 3

Figure-3.1: Factors influenced in the environmental revolution 59

Chapter 4

Figure- 4.I: Basic features of the International Agencies 89

Chapter 6

Figure-6.I: Environmental issues of South Asian Nations 126

Chapter 9

Figure-9.I: Dynamics of Policy Making 157

Figure-9.II: Actors, factors and their role in policymaking process 187

Figure-9.III: Intensity of influence of different actors and factors 190

Figure- 9.IV: Role of the significant groups 192

Appendix

Chapter 6

Appendix –6.I: Conventions/Treaties/Protocols/Agreements adopted since 1900 215

Dhaka University Institutional Repository

Chapter 8

Appendix-8.1: Chronology of events leading towards the creation of the MoEF 220

Appendix –8.2: Sector wise government environmental Organizations 221

Appendix-8.3: Environment related NGOs and their responsibilities 223

Chapter 9

Appendix-9.1: Correspondence between MoEF and DoE during the formulation period 225

Appendix-9.2: Actors and Factors influenced at different levels of policy making 226

Environment Policy, 1992 227

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Abstract

Public policies in any form of democracy are the products of an interactive and dynamic interplay of various political, social, regional and international actors and factors. Empirical analysis of the dynamics of the formulation of the Environmental Policy in Bangladesh further supplements the stated observation.

Like many other emerging democracies, most public policies in Bangladesh are generally framed by the traditional bureaucratic elite following a 'top down' approach. In general the members of the bureaucracy at the ministries initiate, draft and process the policy with the general and sometimes tacit approval of the political executives. There is no culture among the policy makers to consult with the civil society, NGOs and other stakeholders to make public policies people oriented and truly responsive. However, during the formulation of the Environment Policy 1992, as a distinct departure from the previous trends, the government initiated a process of public consultation and involved civil society bodies, the professional groups and the NGOs.

After analyzing the whole formulation process, the study has identified a number of actors and factors that played critical role at policy demand, agenda setting, formulation and approval stages. From initiation to approval major institutional actors were: United Nations and some of the specialized agencies, selected donor agencies, specialized regional organizations, environmental NGOs, professional bureaucrats, key politicians and a set of consultants/ activists. These actors and factors had contributed significantly to the policy at different stage with varying degree of involvement. In brief, at the policy demand and policy agenda levels, actors and factors outside the government played the dominating role, whereas at the formulation and approval stage the members of public bureaucracy took the lead role. In the overall environmental policy making process, UN bodies and the NGO played an effective role in devising a perspective, through their

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supplementary support in the form of technical assistance and mobilization of public opinion.

This study disproved the conventional believe that GoB is not sincere to its commitment made at different international and regional forum and also establishes the fact that, under certain conditions, government can adopt many initiatives within a short period of time to comply with international protocols and agreements. The study observed that Environment Policy mirrored to a great extent the views, thematic content and regulatory regimes of the international development agencies – which collectively played as external pressure group in the formulation process of the policy. Another important finding is that 'personal relationship' of NGOs and civil society leaders/executives with the high-level government official on one to one basis did play an important supportive and motivating role in designing and drafting the policy. The study also observed that at the political level, the ruling party tend to take active interest on the policy agenda on environment, but when the party is out of treasury bench, environment as a policy agenda gets fad out of the priority list.

It is revealed that to begin with public bureaucracy was under-prepared and lacked state of the art professional competence and skills to address a specialized packages of policy on environment – which resulted in a heavy dependence on external consultants/ experts. Empirical observations of the study reveal that the government of Bangladesh was at a fix to set the policy priorities and a way forward plan. Subsequently there was significant level of external pressure on GoB. The finding of the study, however, noted that international pressure and persuasion could perhaps bring good results in selected policy package for a developing country like Bangladesh.

The study observed that as against a conventional practice of "resistance to change ideas and initiatives" members of public bureaucracy did play a positive role being

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open, cooperative and flexible to bring about expected perspective in the content and strategies of the policy. The study further revealed that though there were lack of credible data on environmental issues but GoB has positively acted in developing "functional links" with the NGO and civil society and also banked upon the wisdom of the local experts.

Two most important findings of the study are that the external agents especially UN bodies played a "non-threatening" and persuasive role on policy process and thus far more effective and, the Environment Policy has shown there exist a definite space for civil society and NGO in "linking people with government". However, most surprising the policy neither received any serious attention of the members of the parliament nor any significant role being played by the MPs in their respective individual capacity even through party platform.

On the basis of these findings, the researcher suggests that a responsive pro-active public policy in the context of Bangladesh should be a synthesis of the initiative of the government, active involvement of the NGOs and Civil Society and the professional support of the national expert. The study thus suggests that institutional efforts should be made to initiate effective interactions with the NGOs' and promote their participation in the policy making process as the third sector of development. The study also recommends for strengthening the mode of and nature of cooperation between the government and the development partners (donors) to ensure technical, administrative, financial support for sound environmental planning and policy. The researcher also recommends that local and national environmental problems/issues should be the prime focus for making environment policy and thus the government should put importance on environmental research for developing a sound environmental information system.

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Abbreviation

ADB - Asian Development Bank

ADAB - Association of Development Agencies in Bangladesh

BBS - Bangladesh Bureau of Statistics

BARC - Bangladesh Agriculture Research Institute

BCS - Bangladesh Cadre Service

BCAS - Bangladesh Centre for Advance Studies

BRB - Bangladesh Research Bureau

BARD - Bangladesh Academy for Rural Development

BNP - Bangladesh Nationalist Party

CSO - Civil Society Organization

CIDA - Canadian International Development Agency

CARDMA - Coastal Area Resource Development and Management Association

CFSD - Centre For Sustainable Development

CMES - Center for Mass Education in Science

CBD - The Convention on Biological Diversity

DoE - Department of Environment

DANIDA - Danish International Development Agency

DMC - Developing Member Countries

DPHE - Department of Public Health Engineering

DEPC - Department of Environment Pollution Control

EF - Environmental Fund

EA - Environmental Assessment

EIA - Environmental Impact Assessment

ESCAP - Economic and Social Council for Asia and Pacific

EC - Executive Committee

EDP - Environmentally Adjusted Net Domestic Product

FAO - Food and Agriculture Organization

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FD - Forest Department

FEJB - Forum of Environmental Journalists of Bangladesh

GNP - Gross National Product

GEF - Global Environment Fund

GDP - Gross Domestic Product

GoB - Government of Bangladesh

GEMS - Global Environment Monitoring System

HIP - International Hydrological Programme

HIV - High Yielding Varieties

IUCN - International Union for Conservation of Nature and Natural Resources

ICTP - International Conventions, Treaties and Protocol

IIED - International Institute of Environment and Development

IUPN - International Union for the Protection of the Nature

IGCP - International Geological Correlation Programmes

IOC - Intergovernmental Oceanographic Commission

IBC - International Bioethics Committee

IDA - International Development Agencies

JP - Jatiyo Party

LDC - Least Developed Country

LGRD - Local Government and Rural Development

MoEF - Ministry of Environment and Forest

MAB - Man and Biosphere

MP - Member of Parliament

NEMAP - National Environmental Management Action Plan

NGO - Non-Government Organization

NNP - Net National Product

NORAD - Norwegian Agency for Development Cooperation

NEC - National Environmental Council

NCS - National Conservation Strategy

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NEC - National Economic Council

NACA - Network of Aquaculture Centers in Asia and the Pacific

ODS - Ozone Depleting Substances

SIOCAM - Strategic Initiative for Ocean and Coastal Management

SIDA - Swedish International Development Agency

SAARC - South Asian Association of Regional Cooperation

SACEP - South Asian Cooperative Environment Program

UNESCO - United Nations Educational, Scientific and Cultural Organization

UNSCCUR - United Nations Scientific Conference on the Conservation and Utilization of Resources

UNEP - United Nations Environment Programme

UNO - United Nations Organization

UNCED - United Nations Conference on Environment and Development

UNCHS - United Nations Center for Human Settlements

UNCTAD - United Nations Conference on Trade and Development

UNIDO - United Nations Industrial Development Organization

UNITAR - United Nations Institute For Training and Research

UNDP - United Nations Development Programme

USAID - United States Agency for International Development

UK - United Kingdom

USA - United States of America

UNCSD - United Nations Commission on Sustainable Development

UNFCCC - United Nations Framework Convention on Climate Change

WCS - World Conservation Strategy

WWF - World Wildlife Fund

WRI - World Research Institute

WCED - World Commission on Environment and Development

WFP - World Food Program

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Chapter-1

Introduction

Introduction

This chapter is giving an introductory message of the study. It contains statement of the problem, research questions, objectives, justification of the study, methodology, limitations, and chapter scheme.

Human interventions and activities have been producing a variety of changes in the earth's environment all the time but the innovations in science and technology and the ever increasing human needs are now posing a serious threat to the natural environment and be permanent damage to the earth's resource base. The scale and pace of environmental degradation have been so rapid and catastrophic in recent years that the need to save the environment has become a universal slogan and environmental problems a global concern.

Statement of the Problem

Natural resources are considered to be the natural capital. But unfortunately, in most of the developing countries including Bangladesh, natural resources are yet to be optimally utilized and appropriately planned for sustainable use. The following discussion gives a picture of the present status of the environment of Bangladesh.

Provision of **clean water and improved sanitation and health promotions** are basic elements of primary health care. Though Bangladesh has made very substantial progress in clear water supply, it has so far failed to create an impact on the health sector. **Management of water resources** is becoming poorer day

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by day. There are a number of practices within the country that adversely affect the proper management of water resources. The extraction of upstream water for irrigation and construction of polders and embankments, as well as river channel improvements, contribute to modified hydraulics. Reduced river flow has increased salinity during the dry season in the coastal areas and has led to the loss of important wetlands. It has also contributed to the problem of equitable water distribution. Related to water management is the **loss of land** through riverbank erosion, which assumes menacing proportions particularly during floods. Expanding urban areas continue to gobble up adjacent fertile agricultural lands and the amount of fertile agricultural land to be converted to urban use will be significant with the increase of population. **Unplanned land use** including rural road networks, brickworks, sand and gravel mining operations, and industrial estates often is developed without any concern for the inherent productivity of land, or agricultural systems in general, and without concern to traditional users. The environmental impacts associated with these increases include further lowering of the groundwater table, loss of inland fisheries habitat, increased nutrient depletion of soils, and a much narrower genetic base of cereal crops. There has been a continuous **depletion of forested areas** over the past few decades. Inventories show that an overall depletion has taken place in all major forest areas - the Chittagong Hill Tracts, Cox's Bazar and Sal forest areas. According to the Forestry Master Plan estimates, about half of the land area controlled by the Forest Department lacks tree cover. There has been a great deal of deforestation in the Chittagong Hill Tracts. The inland **fishery** of Bangladesh provides the main source of protein and essential minerals and vitamins for the rural poor. But Bangladesh's wetlands are reported to have been reduced to half its size and the fisheries' catch has dropped by an average of 9 percent every year over the past decade. **Biodiversity** is the diversity, frequency and variety in genes, species and ecosystems in the biosphere. But the country has lost ten per cent of its mammalian fauna, three per cent avifauna and four per cent reptiles

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over the last 100 years. More than 50 species are critically endangered in Bangladesh of which 23 species are already declared as endangered in the Red Data Book of IUCN. Serious problems of environmental degradation are also stemming from rapid **urbanization** in Bangladesh. **Pollution** is another problem. Both groundwater and surface water are vulnerable to pollution from industrial effluent and municipal waste. Discharges of toxic effluent from industries are many times greater than safe allowable limits and heavy metal contaminants include mercury, lead, chromium, cadmium, and arsenic, all of which are threats to human health.

Available empirical information reveals that problems of resource depletion and environmental degradation which, if not addressed, could significantly undermine Bangladesh's long term economic development (World Resource Institute, 1990:2). To halt the environmental degradation the government of Bangladesh has put importance on sustainable development. Sustainable development means balance between environment and development, which is not an easy task. Nevertheless the Government of Bangladesh has been bold enough to take a number of initiatives, a few of which may be noted as follows: Environmental Policy 1992, National Conservation Strategy 1992, National Environmental Management Action Plan (NEMAP), The Industrial Policy 1991, The Industrial Policy 1999, Coastal Environmental Plan, Fifteen Year Perspective Plan, National Water Policy, Fourth Five Year Plan, Fifth Five Year Plan, Flood Action Plan, Fisheries Policy etc. In addition to these initiatives, the Government of Bangladesh has framed National Energy Policy 1995, Power Policy 1995, Private Power Policy, Petroleum Policy, National Forest Policy 1994, National Tourism Policy 1992, National Health Policy 1999, and Annual Development Program (1998-99) to prevent of environmental degradation. Environmental Policy 1992 is worth mentioning among the government initiatives.

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But policy adoption is not end, policy makers should be conscious about its effectiveness. A policy is considered as successful when it is effective. Effectiveness of a policy largely depends on policymaking process that means how policy makers take decisions. That is to say that there is a process through which public policy is made. The process consists of the complex interrelationships of decisions made under the influence of powerful individuals and groups. Policy making process is thus concerned with power since policymaking is essentially a manifestation of power. Power is described as the ability to bring about some change in the behavior of other people. In terms of public policy, power may be defined as the capacity of an individual, or groups, holders of public offices to determine policy decisions. In policymaking, different individuals and groups exercise power. Each set of forces exercises certain influences which, taken together, make up the policy making process. The sources of power, which effect change in other peoples' behavior, are many. It can be divided into two divisions- official source and unofficial source. Official source comprises those who occupy formal offices within the constitutional system of rules. Politics and policy making are activities in which people with different sets of values compete for those positions within the political system, which assign their occupants the right to take decisions or impose decision on others. There are activities as well, in which non-official groups seek to influence the decisions taken by occupants of formal offices. This dimension examines the influence of those who are away from the centers of policy making but who, in particular situation may perform one or more of the specialized roles, which constitute influential behavior. It is therefore important to understand exactly how power is exercised in the Environmental Policy making process.

Research Questions

Based on the above scenario of problems, the following broad research questions may be raised:

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- Who were the major actors involved in the formulation of the 1992 Environmental Policy of Bangladesh?
- What were the crucial factors?
- What role did the internal or the external actors and factors play in the dynamics of formulation of the Environment Policy of 1992?
- Which of the actors played the dominant role in policy formulation process and how?

Answers to the above questions are expected to add new perspectives to the development debate and understanding of the dynamics of public policy formulation in a typical third world setting like Bangladesh.

Research Objectives

The broad objective of this study is to assess the dynamics of environmental policy formulation in Bangladesh. The study will review the major environmental issues and problems in the context of Bangladesh and make an overview of government's response to address these problems. In addition to addressing the research questions set above, the study more specifically aims to:

- make an overview of the legal and institutional framework of environmental management in Bangladesh.
- assesses the dynamics of the role of the major actors and factors in formulation of environmental policy; and
- draw some policy options/recommendations and identify future agenda.

Justification of the Study

Public policies are the outcome of interactions among many forces and factors. So many internal as well as external actors and factors remain active in shaping policies and the policy making process is the accommodation of and compromise

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with various indigenous and exogenous interests (Rahman & Islam, 1995: 39). In Bangladesh, an age-old "top down" approach is generally followed in drafting policies and plans of the government. Hired consultants, from home and abroad, draft a policy; views and comments are received from various ministries and agencies; are discussed in a number of inter-ministerial meetings followed by approval of the policy by the cabinet. Unfortunately, there is hardly any mechanism in place within the government machinery to consult the people, the civil society, the professional groups or the NGOs. But gradually the government has realized that popular support and opinion in favor of a policy would ensure better implementation. The government has also acknowledged that policy decisions cannot be eyed as close door activity. Policy is rather a collective one, it is the outcome of the direct or indirect participation of the government and non-government sectors and these actors exerted influence on different levels of policy making. From this realization, the government is giving emphasis on to develop a proactive, participatory process to frame national policy. But there is no initiative to identify what is actually happening in policy making, which increased the need for independent research.

A number of works have been done on environment in Bangladesh, but most of these are on sustainable development, agriculture, water and fisheries, climate, geology, geography, forestry, plants, wildlife, natural disasters, women, health etc. But none of these studies have addressed the environmental issues keeping in view the politics of policy making and dynamics of power players in the process. Therefore it is not precisely known which are the critical actors and persisting factors. Now clear understanding of such factors and factors are important in developing a clear perspective to analyze and understand public policy and its effectiveness.

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This study can be justified for the following reasons: pioneer work in policy analysis in the field of environment; essentially focused on dynamics of policy formulation; contribution to the meager literature for public policy making process.

Methodology

The **exploratory research method** has been followed for this study. 'Environment' is a new research area in social science especially in Public Administration and development management. In Bangladesh context, this research is unique and there are not enough past evidences and information to begin with a hypothesis. In this case, the exploratory research will provide sufficient data for formulation of further research hypothesis more precisely.

Primary and secondary both sources were used for the collection of data. Primary data was collected from the former and present officials of DoE, MoEF, persons involved in the formulation process, and NGO officials. Secondary sources basically include different books, articles, newsletters, annual reports of different environmental organizations, and daily newspapers. Internet facilities have also been availed for collecting secondary data.

Primary data were collected with the help of the following tools:

Content Analysis: Important primary data have been collected through content analysis of relevant documents, published and unpublished paper, consultant reports, and document files. File on 'National Environment Policy 1992' preserved by DoE have been analyzed for basic information. The researcher also reviewed the National Environment Policy 1992 published by MoEF. National report presented at the Rio Conference in 1992 was also consulted. Except these, reports of different relevant national and international seminars/conferences

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have been reviewed. Daily newspapers published from 1989 to 1992 have been examined to collect primary data. In addition to that related documents, plans, policy papers, reports etc. published from different government and non-government organizations have analyzed.

Interview: Interviews were conducted with the respondents. An 'interview guide' has been used for data collection. Respondents were encouraged to relate freely and frankly their concrete experiences.

Informal Discussion: The researcher also elicited much information from informal discussions. Close contacts and friendly relations were established with the respondents in order to obtain their free and frank opinions and observations. Some of the respondents with long 'institutional memory' have been particularly chosen for in depth discussion.

Practical Difficulties

The researcher has faced some practical difficulties during the study. Environment Policy 1992 and National Environment Management Action Plan were adopted at the same time, so the respondents often referred to them as being synonymously. It became very difficult to find out the persons who were involved in the policy formulation process because this policy has been formulated twelve years back, in 1992. Another difficulty was that, the respondents could not always recall the important and relevant facts. Because of respondents' preoccupations, it took too much time to contact them. Consequently information collection became very time consuming process. Sufficient materials were not available; most of the libraries in government offices are poorly maintained. There were some inconsistencies in the opinions of the respondents. Both the government and NGO sector tried to prove themselves as the major contributors to Environment Policy, which often misguided the

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researcher. Very few bureaucrats were cooperative and there was a tendency among the bureaucrats to downplay the role of the NGO sector.

Framework of the Study

The study has been divided into ten chapters. Contextual and descriptive aspects of the study have been included in chapter 1. Chapter 2 describes the broader conceptual framework. Chapter 3 focuses on the new perspective of development---redefining the term 'development' and attempt has been made to link 'development' and 'environment' in a conceptual framework. Chapter 4 focuses light on the historic role of these aid-giving agencies in shaping and influencing ecological policy formulation in the third world. Chapter 5 deals with a descriptive overview of a number of international conventions, treaties and protocols (ICTPs) in the field of environment. Chapter 6 primarily focuses on environment in South Asia, especially on South Asian prospects and problems related to environment. Chapter7 presents major environmental issues in Bangladesh. Institutional framework of environmental management in Bangladesh is discussed in chapter 8. Chapter 9 presents a descriptive and analytical review of dynamics of public policy making in Bangladesh with particular focus to Environment Policy. Chapter 10 draws the major observations and conclusions.

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Chapter-2

Conceptual Framework

Introduction

This chapter attempts to develop an analytical framework to conceptualize how policies are made, what approaches are followed in formulating policies, and also identifies what factors and actors exert influence in shaping public policy.

The most common goal of all the developing countries is to ensure 'development'. The term 'development' encompasses not only economic development but also social, political, religious, and environmental development for improving the living standard of the people. But to achieve this objective is not an easy task, multiple factors are obstructing development. So the governments of most developing countries are going through experiments to improve on their strategies for national development. To ensure improvement in the relevant policies is taken as an important mechanism for attaining this goal. The field of public policy has assumed considerable importance in response to the ever-increasing complexities of technology, social organization, industrialization, and urbanization. Public policy is therefore the reflection of government's intensions, it is not only concerned with the description and explanation of the causes and consequence of government activity but also with developing scientific knowledge about forces shaping public policy and future perspectives.

Meaning of Public Policy

Though considerable attention has been devoted to define 'public policy,' still the definition of the term is not clear and precise (Cochran, 1986:2). For conceptual clarity it is better to start with the term independently.

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Public is defined as people in general, a group of people who share a particular interest or who have something in common (Oxford University Press, 1974). Public in its general usage is an adjective, which indicates the supposed, common interests and objectives of all or at least a majority of the people in a political unit, as in public agencies, public opinion, public welfare, public interest, public works, public buildings, public domain, public services, etc. In this usage public refers to the membership of the political unit. A public as the term is used by social scientists refers to an amorphous social structure whose members share a community-of-interest, which has been produced by impersonal communication and contact. At least two classes of public may be observed- first, the appreciative one whose members have a common interest in some specific kind of social behavior such as music, literature or sports. Second, it is also seen as which includes pressure groups in other words classes of people who want some specific things to be done. All public have one thing in common: not formally organized (though frequently give rise to formal organizations) and the members are not in personal contact with each other, though may gather in an audience to satisfy their interest. Public are not group but more structured than those who may be placed together in an aggregate. Public develop a fellow felling and talk each other's language when the members of a public meet each other or communicate in writing or by telephone. This is what makes them a social structure, though obviously a very amorphous one, rather than a logical category or term in a classification.

We can define public in the following manner:

- A group of people
- Have common interests and objectives
- Refers to an amorphous social structure
- May work as a pressure group

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The most common social and political usage of the term **policy** refers to a course of action or intended course of action conceived as deliberately adopted, after a review of possible alternatives and pursued or intended to be pursued. Policy is a projected program of goal, values and practices: the policy process is the formulation, promulgamation, and application of identifications, demands and expectations (Lasswell, H. and Kaplan, A, 1970). The term may indicate the existence of a considered intention, plan or program. But it is often used rather to refer to a course of action in some field where a plan or program may exist but does not necessarily exist. It is also used to a series of policies rather than one policy. Policy is seen as a plan of action, statement of ideals, etc proposed or adopted by a government, political party, business etc (Oxford University Press, 1974). As a concept in political science, "policy" has at least two quite distinct meanings: First, 'policies' are often considered to be ways of doing things, making decisions, and framing rules. In this sense policy would answer the questions "how do you do things around here?" and "what are your rules and procedures?" Second, policies are often regarded as substantive programs, referring specifically to the content of what is being done and not necessarily to how it is being done. Policy in this perspective answers the question "what do you do around here?" and "what kinds of problems do you handle." Policy is concerned not only with what is (i.e. positive principle) but also deals with what should be (i.e. normative principle).

In brief policy is something that:

- Refers to a course of action or intended course of action.
- Adopted after a review of possible alternatives.
- Proposed or adopted by a government, political party, business etc.
- Regarded as ways of doing things as well as the content of what is being done.
- Concerned not only with what is but also deals with what should be.

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- It may include plans and programs.

The term **public policy** always refers to the actions of government and intentions that determine those actions. It may also be seen as a set of rules, which can be utilized to achieve certain desired objectives (Shaw, 1966). Making policy requires choosing among goals and alternative intentions. Thus public policy can be defined as an intentional course of action followed by a government institution or official for resolving an issue of public concern. Such a course of action must be manifested in laws, public statements, official regulations or widely accepted and publicly visible pattern of behavior. It is rooted in law and the authority and coercion associated with law. Two qualifications are necessary, however, for this definition of public policy. First, the idea of an intentional course of action includes decisions made not to take a certain action. Second, the requirement that official actions be sanctioned by law or accepted custom is necessary because public officials often resort to courses of action that step outside the domain of public policy. The mere proclamation of a particular course of action is only a first step, the implementation, interpretation, enforcement and impact of laws and regulations, also part of policy (Cochran, 1986:2). Studies of public policy explore not only what agencies of government are doing but how the agencies are doing it, not only the content of the program and its history but its administration as well (Sills: 204). A public policy may have either macro or micro perspectives. Micro policy is designed for a specific or a local area, but a macro policy has far wider application. It may be employed in the whole policy or the whole economy (Gosh, 1992:64).

Stated most simply, public policy is the sum of the activities of the government, whether acting directly or through agents, which have an influence on the lives of citizens. Within that definition, three essential points of policy can be identified (Peters, 1982:4-5):

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First, concern for policy choices.

Second, the government is responsible.

Finally, policies have both intended and unintended impacts.

This definition recognizes the complexity and inter-organizational characteristics of public policy.

If a definition of public policy is to indicate the essential characteristics of public policy, it must distinguish between what government intends to do and what in fact it actually does. Along these same lines, a useful definition must embody the idea that public policy is a course or pattern of activity and not simply a decision to act in some particular way that is public policy is a process and not merely a single decision in one place at a particular moment. Public policy may be viewed as a set of decisions directed towards the accomplishment of some goals. Although the goal of governmental action is not always easy to discern, the assumption that public policy involves purposive governmental action is essential to the study of public policy. In sum, a useful definition of public policy will indicate that policy is a pattern of governmental activity on some topic or matter, which has a purpose or goal. Further it will not equate decision making with policy or confuse the stated goal of action with what is actually done. Thus it is important to note that public policy involves what is actually done in the way of governmental action to accomplish a goal. It is a purposive pattern of activity, not a single decision made at a given time by some person or group. Obviously public policy involves more than such formal policy statement as statutes, administrative rules and judicial opinions.

A summary of the implications of this concept of public policy is in order (Anderson, 1976:3-4):

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First, public policy is purposive, goal oriented behavior rather than random or chance behavior. Public policies are not acts that just happen, even though not all of their consequences or effects are anticipated.

Second, policy consists of courses of action – rather than separate, discrete decisions or actions - performed by government officials. Policy involves not only the decisions to enact a law but also the subsequent acts regarding implementation, interpretation, and enforcement of the law.

Third, policy is what government does in controlling inflation, cleaning up the environment or distributing income- not what government will do or what government intends to do.

Fourth, public policy may be either negative or positive. Positive policy is involved when the government takes action to resolve a particular problem, negative policy occurs when the government decides not to act in an area where government action is sought. Government in other words, can decide not to act, thus following a hand-off or laissez-faire policy.

Fifth, public policy is based on law and is authoritative. Public policy has an implied threat of legitimate coercion, which is usually lacking in the policies of a private organization.

Finally, public policy is often determined by the politic of public policy.

Dye defined 'Public policy is whatever the government chooses to do or not to do' (Dye, 1984:3). The two points made by Dye's definition need some elaboration. First, public policy consists of what government does, not simply what it says it is going to do. It is known to all that government officials making

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promises and then actually doing nothing. Only somewhat less frequent is the phenomenon of government passing a law but failing to act. It cannot said that the law constitutes policy. Policy certainly includes promises and laws but it especially includes what government actually does. The second part of the definition of public policy consists of what government chooses not to do. This part of the concept of public policy is a little tricky. It must be realized that it is not always easy to determine whether something is not done because of conscious choice or because of insufficient power to get it done. Even though it is not always easy to determine exactly what government chooses to do, it is even more difficult to determine what it chooses not to do. Nevertheless, to understand fully the nature of government's policy, one must do both (Hughes and Mijeski, 1984:2-3).

Policy making typically involves a pattern of action extending over time and involving many decisions. Public policy therefore must be considered as something much more than simple governmental output. Moreover, there must be types of policy corresponding to distinctive sets of decisions taken within the political system. Thus to focus on output alone may result in a partial and incomplete view of the dynamics and totality of public policy. The narrower definition of public policy focuses on the direct impact of specific governmental decisions. The more comprehensive definition includes not only the specific governmental decisions (Public Policies) reached and the impact of those decisions, but also the governmental and non-governmental factors and ramifications of those decisions (Caputo, 1977:1).

Table-2.1 presents some basic definitions of public policy

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Table-2.1: Some definitions of public policy

Proponents	Year	Definitions
Anderson	1979	A purposive course of action followed by an actor or a set of actors in dealing with a problem or matter of concern
Friedrick	1963	A proposed course of action of a person, group, or government within a given environment providing obstacles and opportunities which the policy was proposed to utilize and overcome in an effort to reach a goal or realize an objective or a purpose
Geoffrey	1965	Decisions giving direction, coherence and continuity to the courses of action for which the decision-making body is responsible
Y Dror	1968	General directives on the main lines of action to be followed
Peter Self	1972	Changing directives as to how tasks should be interpreted and performed
Robert Lineberry	1977	It is what governments do and fail to do- to for their citizens
Harold Lasswell & Abraham Kaplan	1970	A projected program of goals, values, and practices
Heinz Eulau & Kenneth Prewitt	1973	Policy is defined as a standing decision characterized by behavioral consistency and repetitiveness on the part of both those who make it and those who abide by it
Hugh Heclo	1972	A policy may usefully be considered as a course of action or inaction rather than specific decisions or actions and a course has to be perceived and identified by analyst in question
Jenkings	1985	Public policy is a set of inter related decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specific situation where these decisions should, in principle, be within the power of these actors to achieve

From the above discussion we can come to the following conclusions:

- Public policy is a purposive course of action composed of a set of inter-related decisions rather than separate, discrete decisions or actions directed towards the accomplishment of some goals and the means of achieving them.
- Public policy deals with some topic or matter of public concern. It has both macro and micro perspectives.

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- Public policy consists of what government does and prefers not to do, taken by a government institution or official, has a direct bearing on the lives of the citizens.
- Public policy is manifested in laws, public statements, official regulations or widely accepted and publicly visible pattern of behavior. The implementation, interpretation, enforcement and impact of laws and regulations are also part of policy.

Figure - 2.1 presents public policy at a glance.

Models of Public Policy

The study of public policy, or the action of governments, can be approached in a number of ways. Major theoretical approaches to the study of public policy include rational model, elite model, group model, system model, institutional model, incremental model, game model, and stage/process model. Each of these approaches focuses attention on aspects of politics that are more or less relevant to the study of public policy, depending upon what policy or policies are under discussion.

Thomas R. Dye (1980) has provided a useful classification of the various orientations of public policy analysis, and his categories of public policy "models" will suffice for the purpose of reviewing the fields. The field of public policy analysis could be bisected into two broad thrusts. The first is the attempt to analyze the process of public policy-making; it endeavors to be descriptive rather than prescriptive in tone. While models of public policy - the elite/ mass, group, systems, and institutional models - would fall crudely under the rubric of process-oriented, descriptive literature on public policy- making. It attempts to describe how the public policy-making process "really works" and what is good or bad about it. The second basic thrust attempts to analyze the outputs and effects of

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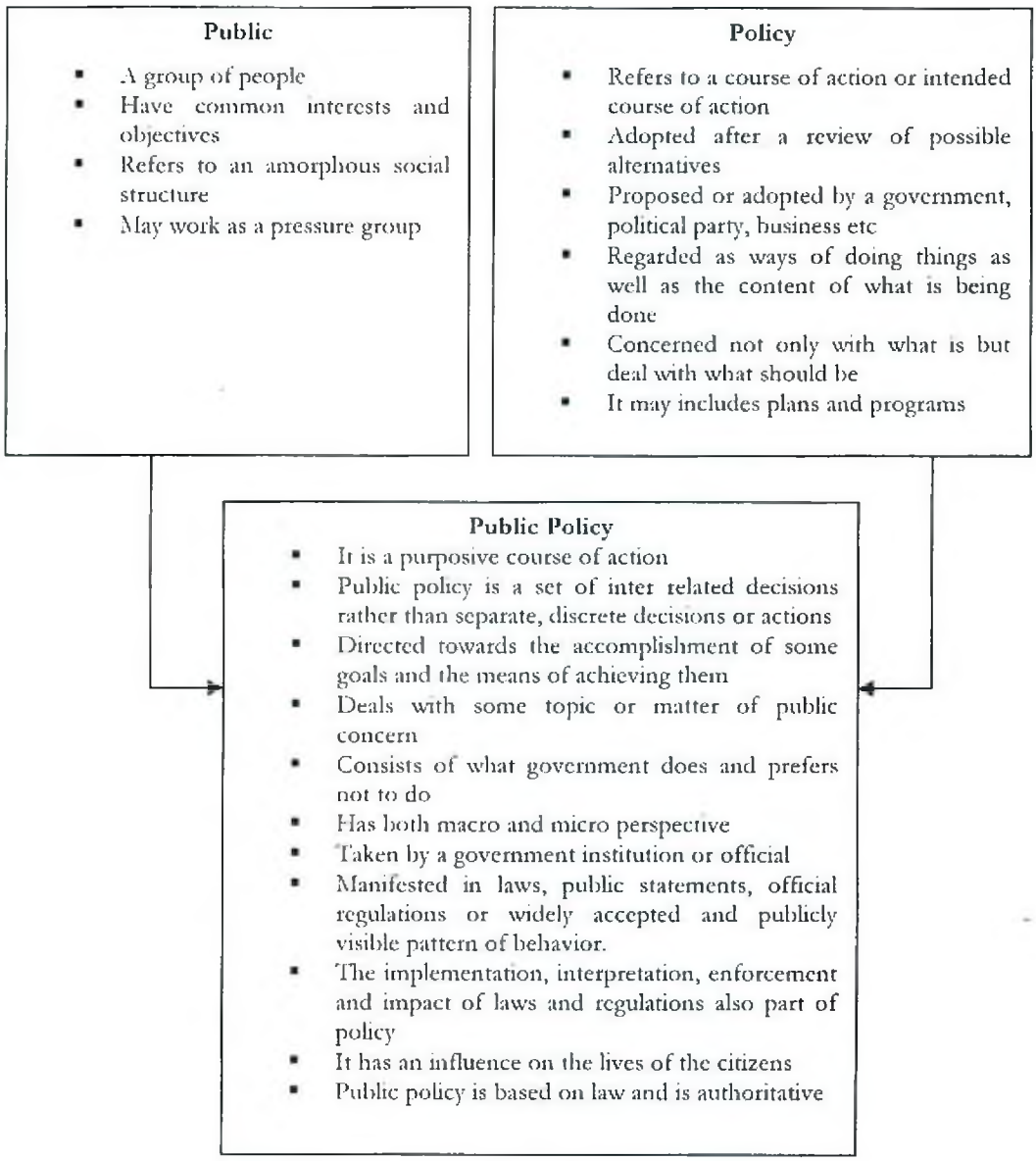
Figure- 2.1: Public policy at a glance



public policy, and is more prescriptive than descriptive in tone. A related tangent is the effort to prescribe ways to improve on the contents of public policy by improving the way public policy is made. The incremental and rational models of public policy-making would represent this thrust. It tends to stress the policy itself. In this stream, analysis appears to be more normative and prescriptive, and less "value free" and descriptive. It explains how the process of incrementalism could or should work and offer suggestions toward this end. Thus the

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incremental and rationalist models really are two poles of the same continuum, that is, these are both concerned with the "black box" of policy making (Henry, 1975:230-235).

Model: A Conceptual Context

A model is a simplified representation of some aspects of the real world. It may be an actual physical representation. Or a model may be a diagram or a flow chart. The models shall be used in studying public policies are conceptual models. When we think of political "systems" or "elites" or "groups" or "rational decision making" or "incrementalism" or "games" we are abstracting from the real world in an attempt to simplify, clarify, and understand what is really important about politics. Models try to- simplify and clarify our thinking about politics and public policy, identify important aspects of policy problems and help to communicate with each other by focusing on essential features of political life. Models direct the efforts to better understanding of public policy by suggesting what is important and what is not. It suggests explanations for public policy and predicts its consequences. Over the years, a number of models have been developed to help us understand political life (Dye, 1980:19-43). These are as follows:

Rational Model: Rationality is considered to be the 'yardstick of wisdom' in policy making (Sapru, 1994:40). Two fundamental assumptions are the heart of the model. First, it is assumes that decision makers are purposive and goal oriented. Second, the model assumed that decision makers always want to achieve their goal in the most informed, analytic, thorough and efficient manner. The rationality precept emphasizes that policy-making is making a choice among policy alternatives on rational grounds. Rational policy-making is "to choose the one best option" (Dye, 1980:32). It thus requires making hard choices among policy alternatives. This model entails many stages: establishment of complete set

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accepted the basic elite consensus can be admitted to governing circles. Elites share consensus in behalf of the basic values of the social system and the preservation of the system. Public policy dose not reflect demands of masses but rather the prevailing values of the elite. Changes in public policy will be incremental rather than revolutionary. Active elites are subject to relatively little direct influence from apathetic masses. Elites influence masses more than masses influence elites.

Group Model: Political scientist Earl Latham described public policy from the group theory viewpoint. This model views the policy as being a system of forces and pressures acting and reacting to one another in the formation of public policy (Henry, 1975:231). Group theory begins with the proposition that interaction among groups is the central fact of politics. Individuals with common interests band together formally to press their demands upon government. The group becomes the essential bridge between the individual and his government. Their numbers, wealth, organizational strength, leadership, access to decision makers, and internal cohesion determine the influence of groups. Group theory purports to describe all meaningful political activities in terms of the group struggle. Policy makers are viewed as constantly responding to group pressures—bargaining, negotiating, and compromising among competing demands of influential groups. Politicians attempt to form coalition of a majority of groups. In so doing, politicians have some latitude in determining what groups are to be included in the majority coalition. The larger the constituency of the politician, the greater the number of diverse interests, and the greater his latitude in selecting the groups to form a majority coalition. Overlapping group membership helps to maintain the equilibrium by preventing any one group from moving too far from prevailing values. Individuals who belong to any one group also belong to other groups, and this fact moderates the demands of groups who must avoid offending their members who have other group affiliations.

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System Model: The system model relies on concepts of information theory (e.g., feedback, input, output) and treats the process as being essentially cyclical. The policy-making process has been regarded as a black box, which converts the demands of the society into policies. Forces generated in the environment, which affect the political system, are viewed as inputs. The environment is any condition or circumstance defined as external to the boundaries of the political system. The political system is that group of interrelated structures and processes which functions authoritatively to allocate values for a society. Outputs of the political system are authoritative value allocations of the system, and these allocations constitute public policy. System theory portrays public policy as an output of the political system. Demands occur when individuals or groups, in response to real or perceived environmental conditions, act to affect public policy. Support is rendered when individuals or groups accept the outcome of elections, obey the laws, pay their taxes, and generally conform to policy decisions. Any system absorbs a variety of demands, some of which conflict with each other. In order to transform these demands into outputs (policies), it must arrange settlements and enforce these settlements upon the parties concerned. It is recognized that outputs (public policies) may have a modifying effect on the environment and the demands arising from it, and may also have the effect upon the character of the political system.

Institutional Model: In policy-making, different individuals and groups such as the prime minister, members of parliament, bureaucrats, or leaders of interested groups exercise power. Each exercise of power constitutes one of the influences that, in totality go to make up policy-making processes. The process generally comprises a sequence of related decisions made under the influence of powerful individuals and groups, which together form what is known as state institutions. Institutionalism, with its focus on the legal and structural aspects of institutions, can be applied in policy analysis. The structures and institutions and their

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arrangements and interactions can have a significant impact on public policy. Governmental institutions are structured patterns of behavior of individuals and groups, which persist over a period of time (Dye, 1980:21). The institutional approach suggests that government institutions may be structured in such ways as to facilitate certain policy outcomes. These patterns may give an advantage to certain interests in society and withhold this advantage from other interests. Rules and institutional arrangements are usually not neutral in their impact. In fact, it tends to favor some interests in society over others. Certain individual groups may enjoy, therefore, greater power or access to government power under one set of structured patterns than under another set. In other words, there is the impact of institutional characteristics on policy outcome. Under the institutional approach one can study the relationships between the institutional arrangements and the content of public policy. The policy issues can be examined in a systematic fashion and involve a focus on institutional arrangements (Sapru, 1994:39).

Incremental Model: It views public policy as a continuation of past government activities with only incremental modifications. Constraints of time, intelligence, and costs prevent policy makers from identifying the full range of policy alternatives and their consequences. Constraints of politics prevent the establishment of clear-cut societal goals and the accurate calculation of cost-benefit ratios. The incremental model recognizes the impractical nature of "rational-comprehensive" policy-making and prescribes a more conservative process of decision-making. Incrementalism is conservative in that existing programs, policies, and expenditures are considered as a base, and attention is concentrated on new programs and policies and on increases, decreases, or modifications of current programs. Policy makers generally accept the legitimacy of established programs and tacitly agree to continue previous policies (Dye, 1980:36). Main characteristic of incrementalism is selection of goals or objectives

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and the empirical analysis of the action needed to attain them are closely intertwined with, rather than distinct from one another. It specifies that the decision-maker considers only some of the alternatives for dealing with a problem, and these will differ only incrementally (i.e. marginally) from existing policies. This model also states that for each alternative only limited or important consequences are evaluated and the problem confronting the decision-maker is continually redefined. According to this model there is no single decision or "right" solution for a Problem. Incremental decision-making is essentially geared more to the amelioration of present, concrete social imperfections than to the promotion of future social goals (Anderson, 1979:11).

Game Model: is a form of rationalism, but it is applied in competitive situations where the outcome depends on what two or more participants do. The rules of the game describe the choices that are available to all the players. The choices are frequently portrayed in a "matrix"—a diagram that presents the alternative choices each player and all the possible outcomes of the game. Game theorists employ the term "minimax" to refer to the rational strategy that either minimizes the maximum loss or maximizes the minimum gain, for a player, regardless of what his opponent does. The minimax strategy is designed to protect a player against his opponent's best play. It might be viewed as a conservative strategy in that it is designed to reduce losses and insure minimum gains rather than to seek maximum gains at the risk of great losses. But most game theorists view minimax as the best rational strategy. The game theory provides an interesting way of thinking clearly about policy choices in conflict situations (Dye, 1980:38).

Stage Model: One of the most common approaches used in the study of public policy is to view the policy process as a series of sequential steps or stages (Hughes and Majestic 1984: 3). Political processes and behaviors have been a central focus of political science for several decades. Modern "behavioral"

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political science since the World War II has studied the activities of voters, interest groups, legislators, presidents, bureaucrats, judges, and other political actors. One of the main purposes has been to discover identifiable patterns of activities—or "processes". Recently some political scientists have tried to group various activities according to their relationship with public policy. The result is a set of policy processes (Dye, 1980:23). Although different scholars use different forms of the stages approach, in general similar stages are found.

Table-2.II shows the models of public policy.

Process of Policy Formulation

Process is a series of actions or tasks performed in order to do, make or achieve something; a series of changes especially ones that happen naturally; a method of doing or making something especially one used in industry to put a raw material, food etc. through an industrial or a manufacturing process in order to change it, preserve it etc (Oxford University Press, 1974). The policy process means the various activities by which public policy is actually formed (Anderson et. el, 1984:5). Policy formulation process means the development of a mechanism for solving a public problem (Peters, 1986:51). There are several alternative ways in which one can go about analyzing policy options and making rational decisions. These are all quite similar but each uses different key words to describe their particular framework and each goes into varying amounts of detail. The framework proposed here is a hybrid. It draws from several approaches in one way or another, while perhaps placing a varying amount of emphasis on some categories and attempting to integrate different but related concepts. The following approach uses an iterative process consisting of six parts (Bonser et. el., 1996:48-52)

Table-2.II: Models of public policy making

Model	Author	Time Frame	Main Points	Limitations
Rational Model	Yehezkel Dror (A representative author)	1968	Policy making is making a choice among policy alternatives on rational grounds	There are no societal values that are usually agreed upon, The many conflicting values cannot be compared or weighted; It impossible for them to see or accurately weigh many societal values, particularly those values which have no active or powerful proponents; Policy makers are not motivated to make decisions on the basis of societal goals, their own rewards—power, status, reelection, money, etc; Policy makers are not motivated to maximize net goal achievement, but merely to satisfy demands for progress; Large investments in existing programs and policies prevent policy makers from reconsidering alternatives foreclosed by previous decision; There are innumerable barriers to collecting all the information required to know all possible policy alternatives and the consequences of each alternative; It is difficult makers to understand the full range of consequences of each policy alternative; Policy makers do not have sufficient intelligence to calculate accurately cost benefits ratios when a large number of diverse political, social, economic, and cultural values are at stake; Policy makers personal needs, inhibitions, and inadequacies, prevent them from performing in a highly rational manner; Uncertainty about the consequences of various policy alternatives compels policy makers to stick as closely as possible to previous policies; The segmentalized nature of policy making in large bureaucracies makes it difficult to coordinate decision-making.
Elite Model	C. Wright Mills	1981	Public policy does not reflect demands of masses but rather the prevailing of the elites	People are conceived here apathetic and ill informed about public policy which is not always true
Group Model	Arthur F. Bentley	1949	The policy is conceived of as being a system of forces and pressures acting and reacting to one another in the formation of public policy	It has limited focus

Continued

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System Model	David Easton (A representative author)	1957	The policy-making process has been regarded as a black box, which converts the demands of the society into policies	This model is accused of employing the value-laden techniques of welfare economics which are based on the maximization of a clearly defined 'social welfare function'; it ignores the fragmentary nature of the 'black box'. It also ignores an important element of the policy process, namely, that the policy makers (including institutions) have also a considerable potential in influencing the environment within which they operate. The traditional input-output model would see the decision-making system as facilitative and value free rather than "causative", i.e., as a completely neutral structure. In words, structure variations in the systems are found to be having no direct causal effect on public policy.
Institutional Model	Carl J. Friedrich	Not found	The process generally comprises a sequence of related decisions made under the influence of powerful individuals and groups, which together form what is known as state institutions	Traditionally, the institutional approach does not devote much attention to the linkages between the structure of governmental institutions and the content of public policy. The linkage between structure and policy remained largely unexamined.
Incremental Model	Charles E. Lindblom (A representative author)	1959	Incrementalism view public policy as a continuation of past government activities with only incremental modifications	The theory fail to specify any boundaries for what constitutes an incremental change; Dealing with policies that cannot very easily be reduced to quantitative measurement, or can be so measured only in part, it becomes even more difficult to determine an increment; Relationship among power, conflict, the process of choosing a policy alternative, and the policy outcome.
Game model	Not found	Not found	Game theory is a form of rationalism, but it is applied in competitive situations where the outcome depends on what two or more participants do. The rules of the game describe the choices that are available to all the players	It does not describe how people actually make decision, but rather how they would go about making decisions in competitive situations if they were completely rational.
The Stages Model	Charles O. Jones (A representative author)	1977	View the policy process as a series of sequential steps or stages	This model allows to study how decisions are made and perhaps even how they should be made but it does not permit to comment on the substance of public policy-who gets what and why;

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Problem Formation and Policy Demand: The development of a public policy begins with the public recognition that a problem exists. A problem is, for our purposes, a situation that produces "a human need, deprivation, or dissatisfaction, self identified or identified by others, for which relief is sought" (Jones, 1970:17). But here concern is to identify what makes a problem public. The most important thing that distinguishes public from private problem is the number of people involved. Thus public problems have broad ranging effects, neither including consequences for persons nor directly involved. However, the number of people involved does serve to distinguish most governmental or public problems from private problems. It is important to point out that whether a problem becomes public depends upon the number of people who perceive it as one that government should handle, which leads to the question of why some matters gain the attention of the government while others do not. Before a policy is adopted, an issue or problem of public concern must be perceived. Ethical and ideological perspectives play an important role during this first stage, because different perspectives will see and define problem differently. Depending on what group is doing the defining, different formulations of the issue will result. Thus the issue formation stage leads to the next stage, policy demands. Gradually, this social give-and-take coalesces into a perception that policy makers must deal with this problem, and so the agenda formation stage begins.

Policy Ideas/Input/Agenda: Of the thousands of needs and wants for which people seek governmental actions, only a small number receive serious attention. The problems that receive serious attention from the policymakers compose the policy agenda. Why do some problems achieve agenda status while others do not? One obvious reason is that often the interests of an important group are affected adversely and the group seeks redress from the government. Depending upon the power, status, and number of people in the group, the government may be compelled to put the matter on the agenda –that is, give attention to it.

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Policy Formulation and Approval: Successful policy formulation must deal with the question of selecting courses of action that can actually be adopted. That is, a chief component of policy proposals is formulating a policy that will be acceptable to the people who make policy decisions. From the policy agenda, decision makers select an alternative or combination of alternatives to respond to the problem. Decisions are made, policies are formulated, and policy statements are issued. These statements may take the form of orders, regulation, laws, or altered behaviors, but it must be publicly exhibited. Those formulating the policy will be influenced in by the need to win a definition of the policy as they propose and do whatever is necessary. Certain provisions will be included and other provisions drooped, depending upon what builds support for the proposed policy.

This stage can involve a number of different levels of approval. In the simplest case, a particular government agency can make a decision on its own about a specific public policy issue and proceed to implement the decision. In other cases, a decision may require the department to submit the proposed policy to a higher level in the executive branch of government, work with the parliament to enact a new law, and ultimately have the decision reviewed by the judicial process before it can actually be implemented

Policy Implementation: Unfortunately, policy statements are not the whole policymaking. When the policy decision has been made by the relevant parties, the policy is still only an intention; at this point, policy decision must be implemented- that is, step must be taken to put the policy statement into practice in order to achieve the policymakers' goals. Policy implementation means money spent, laws enforcement, employees hired, and plans of action formulated. In its simplest form, the implementation stage involves assigning the program to an agency and giving it the money and authority to hire personnel and make other

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operational decisions about tasks to be performed and procedures by which the program will be operated. There are often differences of opinion between various interested parties about how an agreed-upon policy decision should be implemented. Policy implementation includes output and impacts. Policy outputs are the tangible manifestations of policies, the observable and measurable results of policy adoption and implementation. Stated another way, outputs are what governments in fact do in a particular policy area. Outputs may also be symbolic. Policy impacts are the effects that policy outputs have on society. These are the policy's consequences in terms of the policy's stated goals as well as of the society's fundamental beliefs.

Policy Evaluation: The last stage of policy process is policy evaluation. At this stage those who have made and implemented policy, or those who are interested or affected, attempt to determine whether or not the policy has worked. It focuses principally on the impact of policy, because it is largely from the performance and consequences of policy that we assess its success or failure. Evaluation attempts to assess the outcomes of policies –their effects on society – in order to compare them with the intended goals of the policies. It asks whether the goals have or have not been met, with what costs, and with what unintended consequences. It considers whether the policy is equitable and efficient and whether it has satisfied the interests demanding actions. Attempts to assess the impact of a policy before implementation are more appropriately referred to as estimations or forecasts (Clarke, 1986:4-6). Thus, evaluators are concerned with appraising the content of a policy and its effects. Evaluation may in turn lead to additional policy formation, which starts the policy cycle over. In general, there are two types of policy evaluation, Political evaluation and Systematic evaluation (Anderson et. el, 1984: 6-9).

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This stage can be regarded as both the end and the beginning of the policy process. It is the end in that it follows all of the previous steps that led to the adoption and implementation of the new policy. The purpose is to evaluate the success of the new policy to determine whether it attained the goals for which it was framed. Program evaluation requires a systematic, objective framework if it is to avoid the natural bias of those responsible for the program. This means that the evaluation design should be prepared well in advance of the implementation of the policy in order to include the collection of the necessary data and other information in the implementation plan. It cannot be properly done as an afterthought to implementation. The evaluation stage can also be thought of as a beginning in that, properly accomplished, the information gained from the evaluation sets the stage for beginning the policy process anew. It can result in fine-tuning the existing policy or in the conclusion that an entirely new policy approach is needed.

Figure –2.ll shows the dynamics of policy-making

Actors and Factors in Policy-Making Process

Public policies are the outcome of interactions of many forces. The term 'force' refers to a person, thing, belief etc. with considerable power and influence (Oxford University Press, 1974). Policy formulation is a difficult game to play, because any number of people can play and there are few rules.

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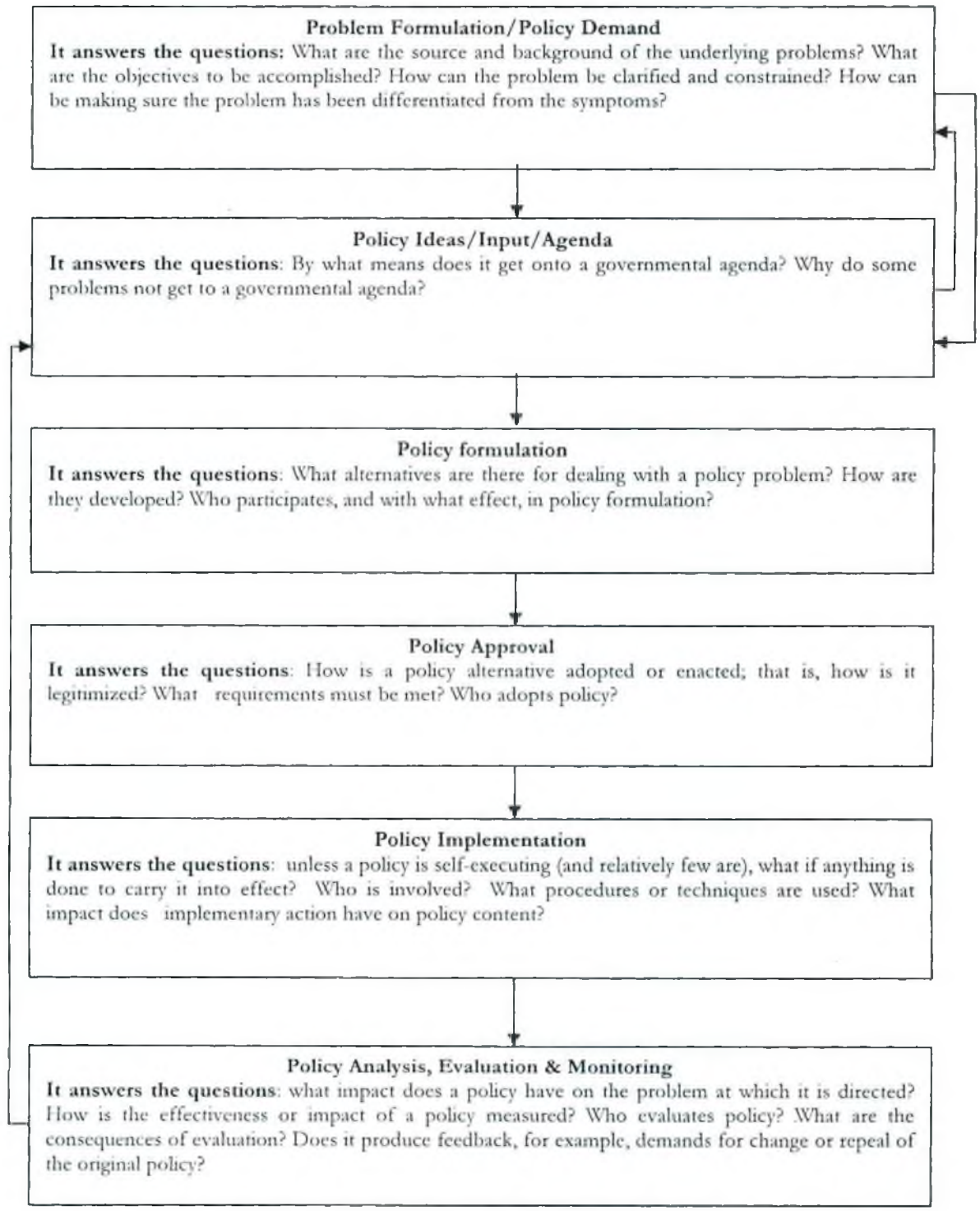
Figure-2.ll: Dynamics of policy making



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At one time or another almost every kind of policy actor will be involved in formulating policies. But several kinds of actors are especially important in formulating policies, and several are less important (Peters, 1982: 52). Peters identified four policy actors: the public bureaucracy, think tanks and shadow cabinets, interest groups, and congressman. Sapru divided forces in the policy-making process into two divisions, such as: unofficial policy makers and official policy makers. Unofficial policy makers are those who are not the formal part of policymaking process. Unofficial policy makers include: individuals, electoral pledges, influence of the media, pressure groups, and political parties. On the other hand, official policy makers include: legislature, executive, bureaucracy, and judiciary. Official policy makers are those who have the legal authority to formulate policy. This type of policy makers is a member of the legislature, local councilors, ministers, senior officials and judges (Sapru, 1994:59). Mijeski & Steven stated that "There are various actors that play roles in the process of policy making in Latin America. These actors are not identical in every country, nor are they of equal importance in the policy roles that are played. Some actors are part of the 'official' government that includes the executive, legislative, and judicial branches. Other actors, while not always official, have as large or perhaps even a larger role to play in making policy than do those that are constitutionally specified. Among these actors would be the military when it acts beyond its constitutional mandate and certain key interest groups, particularly when the latter occupy critical economic and social positions in the country in question. Effective policy-making involves significant control over the resources of the state, and may involve control of the government itself as well." (Steven & Mijeski, 1981:23-4). The actors that have a dominant role in the policy-making process may, broadly, be categorized as (Rahman& Islam, 1995: 40) internal actors and external actors. Internal Actors include the Formal Policy Makers, and the Unofficial Participants. The formal policy Makers cover: parliament, the political executive (the Prime Minister, Cabinet & Ministers), the Permanent

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Executive (the secretariat, minister & Divisions), the Courts, Policy Staff within the government, and Advisory Boards. Unofficial Participants comprise Political Parties, Service Associations, Trade Unions, Professional Bodies, Clientele Groups, and Mass Media. The Donor/Funding Agencies, Foreign Investors, Regional and International Economic & political Forums, International Pressure Groups, International Experts/ Consultants form the External Actors. Jones and Matthes (Jones and Matthes, 1983: 117) gave emphasis especially on 'policy proposal'. Policy proposals may emanate from various sources, depending on the interest, authority, and resources of persons in and out of government. The precise sources of proposals are many and varied. From within the government one may expect them to emanate from the following persons or groups, either singly or in combination: political executives, bureaucrats, consultants, research agencies, legislators and their staffs, interest groups and associations, clientele groups, citizen groups, political parties, and the media.

We can find out some common actors and factors from the above discussion:

Mass People: In a democratic form of government people are the source of all power. In other words, power flows from the people. Mass people express their expectations, demands, and choice through representatives. People initiate the process of legislation and policy-making by voting for candidates whose opinions and values they know. The policy-making function of the government must take into account the interests of the people. Through legislature the representatives of the people frame laws and make policies. The representatives take part in discussions on a particular policy; give comments, and finally, the policy is passed by vote. Further, the practice of giving certain extra responsibility to representatives ensures that attention is paid to the interests of those who are represented.

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Electoral Pledges: Electoral pledges also have a role in policy-making. Prior to election candidates present themselves before people with electoral pledges. It is nothing but the list of activities the candidate wants to do after wining. After election, the victorious party tries to implement the pledges that were made, which directly influence the policy process. But in most of the cases these have little influence on the final selection of policies especially in a developing country (Rose and Mossawir, 1967:198).

Media: The media has a great bearing on the policy making process. The media channels information between citizens and the government. It communicates the information to citizens about the decisions the government has taken and at the same time informs the government about citizens' demands and choices. In this way, by establishing two-way communication, the media helps to know each other's reactions. The media not only can put pressure on the government by covering different news item, it can also create awareness among people about particular issues, which, in turn, will influence the policy making process.

Pressure Groups: Group action is considered a more effective method than individual action for the ordinary citizen to influence the public policies. Unless large numbers of citizens are organized for some common purpose or interest, the chances of transmitting their messages and policy issues will become bleak. For the individual citizen the interest group is an important channel of communication. The interest groups or pressure groups are important means of enhancing the impact of public opinion. This group can communicate more effectively than individual citizens with public officials on policy decisions. The exercise of political influence by organized citizens is a predominant feature of the democratic form of government.

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Clientele Groups: These are groups of citizens formed to further some set purpose, such as protection of its members, interests or achievement of some particular reform. Almost every profession has a particular organization to protect its interests. The government takes inputs from these organizations/groups through consultation before and during policy making. Sometimes draft policies are taken to the client groups for feedback.

Research Agencies: For policy-making, relevant data/information is crucially important. The research product is often used as the basis for policy. The government has to depend on research laboratories and research institutions for data/information. The non-government sector has a significant role in this case.

Political Parties: Political parties are another means of enhancing the effect of public opinion. Like pressure groups, political parties serve as intermediaries between citizens and policy makers. Party platforms on which elections are fought form a basis for the party leadership when, as government, it engages itself in the making of public policy. Political parties are thus regarded as important agents for establishing popular control over government and public policies. It plays an important role in reflecting the issues at stake and in setting value goals for society.

Legislature: The legislature is the supreme body for policy-making. Indeed, in a parliamentary form of government the legislature is the power of the government because the Prime Minister is dependent on support from parliamentary majority to remain in office. The legislature is the place where policy related discussion is held and its representatives voice people's expectations. So the opinions expressed by the members of the ruling party and the opposition parties' form the focal point of the debate.

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Executive: One dimension of the study of policy-making attempts is to assess the role of the executive. Modern governments rely on executive leadership both in policy formulation and policy implementation. In a parliamentary system with a cabinet government, the government in most cases relies on backbenchers to provide it with the majority required to conduct government business. In most of the developing countries, the executive probably plays a larger role in policy formulation because of a greater concentration of power in the government.

Bureaucracy: Although civil servants are recruited, in theory, to serve political leaders by carrying out their decisions, in reality it exercises much more power in the formulation of public policies than the formal description of their responsibilities suggests. The importance of the role of higher civil servants in policy formulation arises from the fact that it is concerned with the ends and not merely the means. It is widely accepted that the old politics-administration dichotomy was an artificial one and that the higher civil servants exercise a great deal of influence on policy because of their administrative knowledge, permanence and closeness to political power (Heady, 1974:158-59).

Judiciary: The judicature, as a political institution, plays an important role in policy formation in any democratic country. The judiciary participates in the policy-making process because that is its job. Courts are approached to interpret and decide the meaning of legislative provisions that are often generally stated and are open to conflicting interpretations. A judge confronted with a choice between two more interpretations and applications of a legislative act, executive order, or constitutional provision must choose from among them, because the decision has to be given or the controversy must be resolved. And when the judge does so, his or her interpretation becomes policy for the specific litigants. When a court accepts one interpretation or a decision is accepted by other courts, the court has made a policy for all jurisdictions in which that view prevails.

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International Context: Policy analysis in a developing country would not be complete or adequate without considering the external variables that intervene in the process. The international relations and world economic trends are always important considerations to the policy makers. Policy must consider the international laws and the world opinion for no country can live in isolation. International law is constantly becoming important and every member living in the family of nations must play the game according to the rules. In analyzing the international situation, three aspects need to be taken into account: Links with the multilateral aid groupings and aid-giving countries; various multinationals and international companies working within the country; memberships in different regional organizations and international organizations. It is well known that different donor agencies and countries wield enormous influence on policy process and are able to make their views prevail (Rahman, 1990: 223).

Public Opinion: public opinion, as the concept is used here, designates expressions of public attitudes or beliefs about various issues. Public opinion is a significant factor in policy-making. But unfortunately many, if not most, policy decisions by legislatures and by other authorities exercising broad discretion are made under circumstances in which extremely small proportions of the general public have any awareness of the particular issue, much less any understanding of the "consequences of the decision" (Key, 1961:14). More specifically, public opinion plays a part in mapping the broad boundaries and direction of public policy, rather than the specific content of policies.

Political Culture: Political culture varies from society to society. Most of the developing countries have a political culture where political parties are very glib in making public commitments, especially on the street. Most parties do not behave institutionally as a political party and the parties are not concerned about the agenda necessary for national development (Mahfuz Ullah, 1999). Vote rigging is

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a common phenomenon in these countries. Relation between political culture and policy-making is deep and close. Because the people who are making policy are part of this culture.

Social System and Culture: An important factor shaping the behavior of individuals and groups in government decision-making is the social system and culture of the particular society within which the decision-making occurs. Society consists of a wide variety and large number of social groups, community, association, institution that seek to influence governmental action on an intermittent or continual basis. There are different social strata and problems in the society that have to be taken into account in policy-making. While all persons are unique, there are some common features. Those who live in a particular society share the various common values and beliefs what constitute part of its culture. Culture is transmitted from one generation to another by a socialization process. The individual learns the values, norms, and beliefs of the society (William, 1960:22-25). Culture, then, is acquired by the individual, becomes a part of one's psychological makeup, and is manifested in one's behavior. In sum, common values and beliefs help determine the demands made upon policymakers and act to inform, guide, and limit their behavior (Deutsch, 1970:207).

Economic System: A society's economic system is concerned with the production, distribution, and exchange of goods and services. Some economic systems are relatively simple and others are highly complex. One of the prime sources of conflict in modern societies is economic activity. Conflicts may develop between the interests of employers and employees, big business and small business, consumers and sellers, creditors and debtors and so on. As an economy develops and becomes more complex, economic groups become more numerous and interdependent, and opportunities for conflict and government

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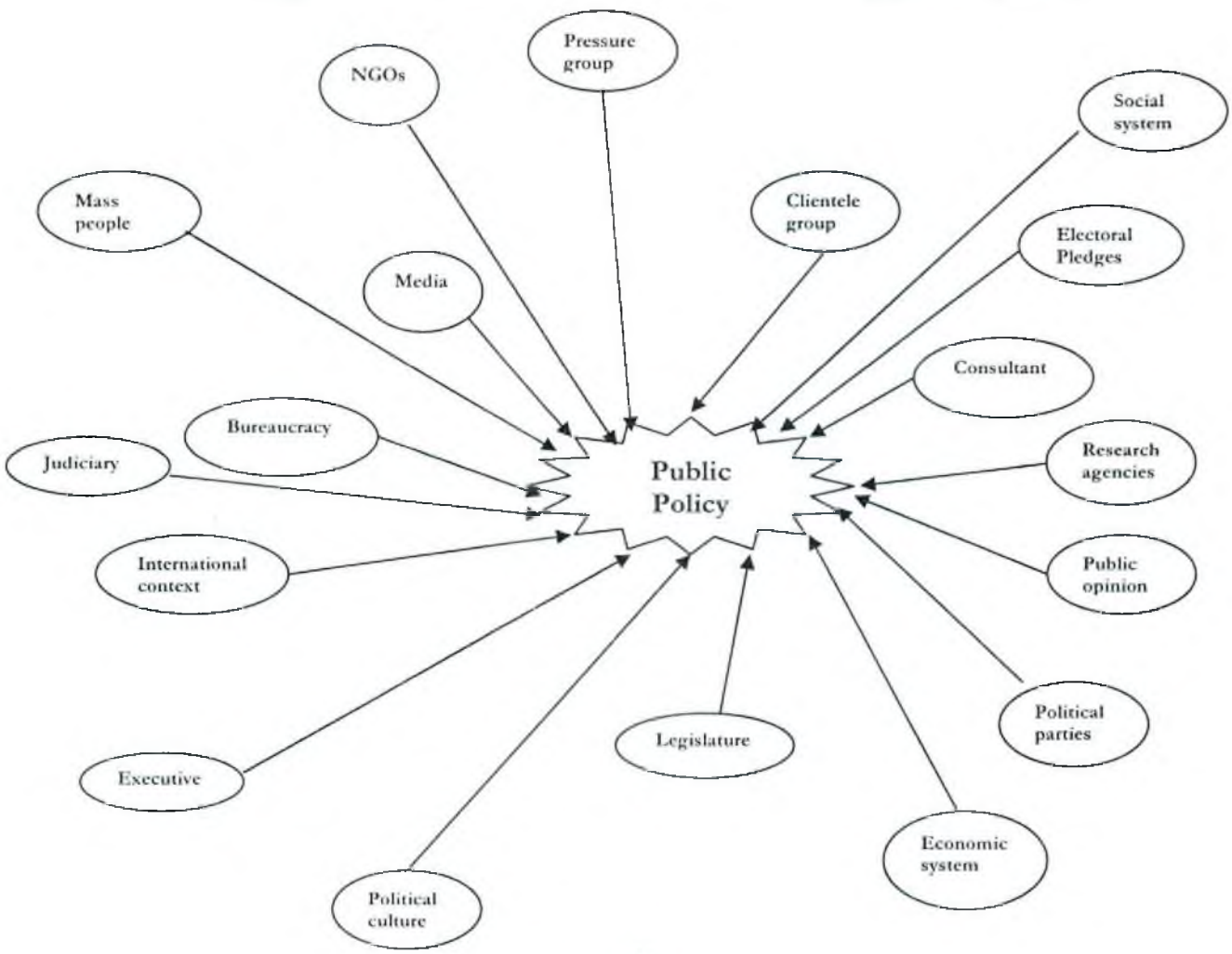
involvement multiply. The whole process has an impact on the policy making process.

NGOs: Since late 1980s in most of the developing countries, the NGO sector has emerged as an important actor in policy-making. As NGOs are working at the grassroots level, these have a better understanding of the problems of the mass people. So this can play a crucial role in making policies people-oriented.

Consultant: Consultant plays an important role in policy making in most third world countries. National and international consultants are hired, generally, for preparing the policy draft and giving suggestions on different policy issues.

Figure- 2.lll shows the influence of actors and factors on public policy.

Figure-2.lll: Factors and Actors influencing public policy



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Conclusion:

In fact, there is no unanimously accepted definition of policy or public policy, but in precise form it refers to the broad outline or framework about what to do or not to do. In simple language, policy usually means a goal that is to be achieved by the authorities concerned. Taken as a whole, policy may be defined as a purposive course of action adopted by those in power in pursuit of certain goals or objectives. Public policies are simply referring to the policies taken by government. Governmental institutions and officials develop public policy through the political process. But the outcome of the policy depends on the dimensions, approaches, process, and forces influencing policy. Most policies are a combination of rational planning, incrementalism, interest group activity, elite preferences, system forces, game-playing, political processes, and institutional influences. A crucial question is, how policy is formulated? The truth of the matter is that there is no single policy process but rather a wide variety of processes by which public policies are made. Policy-making cannot be properly understood apart from the environment in which it is conditioned. Policy environment is the combination of a number of actors and factors. It consists of varieties of factors, such as economic, social, political, geographical, demographical, religious, international etc. Policy makers, consultants, donors, mass people, political parties, pressure groups, and many other actors are also active in policy environment.

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Chapter-3

Environment and Development: A New Perspective

Introduction

This chapter focuses on the new perspective of development---redefining the term 'development'. It begins by the debate on development—examining of different theories of development---followed by an attempt to explore the brief history of environmentalism. Then attempt has been made to link 'development' and 'environment'. Last of all, development is defined in a new way.

The concept of development has different meanings, as different scholars have emphasized different dimensions. Development is about improving the well being of people. Raising living standards and improving education, health, and equality of opportunity are all essential components of development. Ensuring political and civil rights is a broader development goal. Weilz views development as a process of changes that involves the whole society --- its economic, socio-cultural, political and physical structure, as well as the value system and way of life of the people. The process of development may be compared with the turning of a wheel in which each segment pushes the one ahead of it and is, in turn, pushed by the one behind. However, it is not yet clear which segment should be manipulated to put the wheel in motion (Weilz, 1971). Such an approach also implies that the process of development can be initiated through different sectors of society.

Development is conceived of as a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the

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eradication of absolute poverty. Development, in its essence, represent the whole gamut of change by which an entire social system, tuned to diverse basic needs and desires of individuals and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory and toward a situation or condition of life regarded as materially and spiritually "better" (Todaro, 1991:88). Goulet and others have suggested three basic components or core values, which should serve as a conceptual basis and practical guideline for understanding the "inner" meaning of development. These core values are life-sustenance, self-esteem, and freedom (Goulet, 1971: 87-94). Life-sustenance means the ability to provide basic needs. A basic function of all economic activity, therefore, is to provide as many people as possible with the means of overcoming the helplessness and misery arising from lack of food, shelter, health, and protection. Self-esteem refers to a person, a sense of worth and self-respect. All peoples and societies seek some basic form of self-esteem, although it may be called authenticity, identity, respect, honor, or recognition. Development should ensure self-esteem in a society. Freedom from servitude is to be defined as able to choose. It is the third and final universal value that should constitute the meaning of development. Freedom can be understood in the more fundamental sense of freedom or emancipation from alienating material conditions of life and from social servitude to nature, ignorance, other people, misery, institutions, and dogmatic beliefs. Development in all societies must have at least the following three objectives: to increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health, and protection; to raise levels of living, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and humanistic values, all of which will serve not only to enhance material well being but also to generate greater individual and national self-esteem; and to expand the range of economic and social choices available to individuals and nations by freeing them from servitude

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and dependence not only in relation to other people and nation states but also to the forces of ignorance and human misery.

Different scholars defined the term 'development' differently. After analyzing all those definitions conclusion can be drawn that development is both a physical reality and a state of mind in which society has, through some combination of social, economic, and institutional processes, secured the means for obtaining a better life, whatever may be the specific components of this better life (Todaro, 1991: 90).

Debate on Development

The study of development, however, has a much shorter history, really dating back only as far as the 1950s, when colonial territories started to achieve independence and when various conceptions of development emerged in relation to the establishment of a new international economic order and American foreign policy in relation to Europe, in the latter part of the 1940s and in the first half of the 1950s (Martinussen, 1997: 34).

The 1960s (the first United Nations Development Decade) was characterized by optimism and international cooperation. Economic growth was taken as the driving force for development, the transfer of finance, technology and experience from the developed countries were seen as the solution of the development problems of the underdeveloped. Proponents of this concept believed that both the 'backward countries' and 'western societies' both benefited from economic growth. Growth and modernization in this context were taken to mean a gradual change towards greater and greater similarity with the highly industrialized countries of the North West (Martinussen, 1997: 35).

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It was felt by development economists that growth in terms of increased per capita incomes did not show a correct picture of conditions and changes. The main problem was 'distribution'; it did not reflect the distribution of incomes among the citizens in a society. Many developing countries had achieved economic growth as measured by Gross National Product (GNP), but this development was not shared equally amongst the populations of these nations. As growth was frequently very unevenly distributed socially, geographically and between the different economic sectors, so the phrases 'growth with Equity' or Redistribution with Growth' emerged in the 1970s. As a result, the original conceptions were readjusted in order to take into account the impact upon distribution. At the same time, mainstream conceptions were extended to cover both growth and economic changes in other respects (Martinussen, 1997: 37).

In the 1980s, the focus shifted towards aggregate growth in conjunction with restoration of macro-economic balances, structural adjustment, and increased foreign exchange earnings (Martinussen, 19987:37). 'Development' appeared as a multidimensional concept in the decade. It encompassed the social as well as the material well being of all in society. In addition to that it included activities related to population, the use of natural resources and their resulting impacts on the environment. Above all, development needed to be sustainable (Elliott, 1994:6). The following table is showing the changing perceptions of development.

Table-3.1: Changing perceptions of development

Decade	Changing perception of development
1950s	Various conceptions of development appeared in connection with the negotiations on the establishment of a new international economic order
1960s	Economic growth was taken as the driving force for development
1970s	'Growth with equity' or 'redistribution with growth' became the popular slogan
1980s	Development appeared as a multidimensional concept

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A number of theories of development have been developed over the last four decades. An attempt has been made to present some of them in the Table –3.ll.

The above discussion gives an impression about the changing perception of development. During the 1950s and 1960s, many third world nations realized their economic growth targets but the standard of living of the masses of people remained for the most part unchanged. The development of the 1970s gave a similar impression. Economic development in this period was redefined in terms of the reduction or elimination of poverty, inequality and unemployment within the context of a growing economy. A number of developing countries experienced relatively high rates of per capita income growth during the 1970s but showed little or no improvement or even an actual decline in employment, equality and the real incomes. The situation in the 1980s worsened further as the Gross National Product (GNP) growth rates turned negative for many Least Developed Countries and governments facing mounting foreign debt problems. The nations were forced to cut back on their already limited social and economic programs. The overall situation signaled that something was very wrong with this narrow definition of development. It was realized that the phenomenon of development or the existence of a chronic state of underdevelopment is not merely a question of economics or even one of quantitative measurement of incomes, employment and inequality (Todaro, 1997:14-15). As a result, development scholars began to think to relate 'environment' with 'development'.

Linkage between environment and development shall be discussed in the later part of this chapter. But before that some knowledge about environmentalism is needed. So attempt has been made in the next section to focus on brief history of the emergence of environmentalism.

Table-3.ll: Debate on development

Name of the theory	Exponent	Focal point
1. Theories of growth and modernization		
(a) Capital accumulation and balanced growth theories	PaulRosenstein-Rodan,Ragnar Nurkse	Put weight on massive industrial development as the way to growth and progress for the backward areas
(b) Unbalanced growth and income distribution theories	Albert, Herschman, Simon, Kuznets	Developing countries greatest problem is the lack of entrepreneurship and management capacity.
(c) Growth poles theories	Francois, Perroux	According to this theory industry can be divided into two types of sub-sectors. The dynamic sub sector, propellant industries and non-dynamic, impelled industrial sectors, which had to be driven forward by the dynamic sector.
(d) Modernization and stages of growth theories	W. Arthur lewis, W.W.Rostow	Focused on rising per capita income as the central measure of growth. Point out that all societies sooner or later will pass through the same sequence of five economic stages
(e) Pattern of development and obstacles to growth theories	Hollis Chenery, Mosbe Syrquin, Karsten Laursen, Martin Paldam	Employment/ investment of labor and resources in high productivity sectors can be considered as sources of growth and these sources of growth are interrelated
(f) Theories of global interdependence		This model stress the interdependence between developing and industrial countries
2. Theories of structuralism and industrial development	Celso Furtado, Oswaldo Sunkel, Paul Prebisch, Hans W. Singer	The structuralists perceived unemployment as a consequence of structural conditions that could be solved only in connection with structural transformation
3. Neo-structuralist theories	Gunnar Myrdal	With respect to the conception of the relationship between state and market and of the states economic role in general, this theory claim that several types of state interventions are still required
4. Theories of neo-Marxist of underdevelopment and dependency		
(a) Cause of underdevelopment theories	Paul Baran	Distribution of power among the classes and control over the economic surplus are the main problems
(b) Metro poles and satellites theories	Andre Gunder Frank	The crucial mechanism for extraction of the surplus was international and national trade and other kinds of exchange of goods and services
(c) Center and periphery theories	Amin	It pointed out two ideal type societal models. One model described an auto centric center economy, the other a dependent peripheral economy
(d) Unequal exchange theories	Arghiri Emmanule Geoffrey Kay	It viewed the over exploitation a more important mechanism of surplus extraction than monopoly control over trade
(e) Dependent development theories	F.H.Cardoso, Dieter Senghass, Ulrich Menzel	Important are the internal socio-economic conditions and political institutions in determining whether the economy in a given country could be transformed from a dependent export economy to an auto centric nationally integrated economy
(f) Capitalist world system theories	Immanuel Wallerstier	Focused on international conditions and their impact upon the individual countries development prospects.
(g) Elimination of dependency theories	Bill Warren	Imperialism creates a system of inequality and exploitation side by side spread capitalism to the third world. In the long run it would lead to elimination of dependency or to a development out of dependency

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History of Environmental Revolution

The environmental movement had no clear beginning. There was no single event that sparked a mass movement, no great orator or prophet arose to fire the masses; few great battles were lost or won and few dramatic landmarks could be identified. The movement did not begin in one country and then spread to another. It emerged in different places at different times, and usually for different reasons. The earliest environmental issues were local issues. Once the most immediate and personal costs of population boom or plundering of wildlife or the loss of forests were appreciated, individuals formed groups, which in turn, formed coalitions that became national movements and finally a multinational movement. This evolution was episodic, with periods of dynamic expansion interspersed with times of somnolence (McCormick, 1989:1).

Following are a few important events, which had a profound influence on environmental revolution.

New Environmentalism

From 1962 to 1970 an environmental revolution emerged, most notably in the United States, which was called New Environmentalism. It was the initiative of a few scientists, administrators, and conservation groups. It was more dynamic, broader based, more responsive, and won much wider public support (Zinger, Dalsimer and Magargle, 1973: 5).

Two basic features of new environmentalism:

First, new environmentalism was centered on humanity and its surroundings. The new environmentalists believed that humans and nature have close relationship, are interdependent and interrelated. Man was discovered as being part of nature. It was less concerned with systems analysis and more with humanism.

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Second, new environmentalism had an activist and political overtone. Their message was that environmental catastrophe could be avoided only by fundamental changes in the values and institutions of industrial societies. New environmentalism was seen as part of wider social transformation, and also as a social and political movement (McCormick, 1989:48).

This environmental movement was a product of forces both internal and external. Six factors in particular seem to have played a role in the change: the effects of affluence, the age of nuclear tests, the book of silent spring, a series of well publicized environmental disasters, advances in scientific knowledge, and the influence of other social movements. In 1958, John Kenneth Galbraith, then professor of economics at Harvard, published the *'Affluent Society'* (Galbraith, 1958), which was considered as an important factor to bring about change. He revealed the drawbacks of the affluent society, which was evident in the early 1960s, partly through their environmental consequences. He criticized materialistic consumption, and believed that increased production was not the final test of social achievement. *The advent of the atomic age* also played a role. Between 1945 and 1962 the United States, the USSR, Britain, and France announced a total of 423 nuclear detonations. The danger of fallout from atmospheric nuclear testing created international opposition to atmospheric tests. Significant increases in fallout levels following the 1962 series of tests have increased tension in the society. Furthermore, US stockpiles of nuclear weapons had by 1962 reached such a high level that there were fears about command problems leading to an accidental war. So attempts were made to reach agreement on nuclear disarmament. The first tangible result did not come until the signing in 1963 of the Partial Nuclear Test Ban Treaty, which brought atmospheric testing by the United States, the USSR, and Britain to an end. The treaty was considered as the first victory in the campaign for environment protection (McCormick, 1989). The publication of *Silent Spring* in 1962 by Rachel

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Caraon was the single most important events frequently credited as signifying the beginning of the environmental revolution. The book detailed the adverse effects of the misuse of synthetic chemical, pesticides and insecticides, generated much controversy, and heightened public awareness about the implications of human activity in the environment and the costs that human society had to pay. It exposed some of the social, economic and scientific infrastructure that had knowingly permitted ecological degradation to occur (Shia, 1973:4-5). There were a series of *environmental disasters*. These environmental disasters drew wider public attention to the threats facing the environment. People were sensitized to the potential costs of careless economic development and lent growing support to a series of local and national environmental campaigns, which were often given wide media attention (McCormick, 1989). *Advancement of scientific knowledge,* especially expansion of ecological research in many countries, had a catalytic effect on environmental revolution. During the late 1950s and 1960s, *a number of social and political issues* galvanized mass people-particularly the young – into protest, creating a new climate of heightened public activism from which environmentalism benefited. Poverty, anti-racism movement, civil rights movement, campaign for nuclear disarmament, and the anti-war movement were some of the issues (McCormick, 1989).

Environmental Theories and Philosophers

From 1968 to 1972, a number of environmental theorists and philosophers emerged. Most of them were academics for example, Paul Ehrlich of Stanford, Barry Commoner of Washington, LaMont Cole of Cornell, Eugene Odum of Georgia, Kenneth Watt of the University of California at Davis, and Garrett Hardin of UC Santa Barbara. Those philosophers offered no unifying creed for the movement, nor did give it a particular sense of direction, nor could the philosophers be called leaders. But provided a degree of intellectual focus. Their contribution to environmental revolution was that those theorists challenged

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people to think about the environmental issues. The debates raised by the scholars drew attention to three key issues: pollution, population growth, and technology (McCormick, 1989:69).

Politics and Activism of the North

Britain: The first major influence on early British environmentalism was the study of natural history. The foundations of modern botany, zoology and, other life sciences were laid by the work of a succession of amateur field naturalists during the sixteenth, seventeenth, and eighteenth centuries (Thomas, 1958). Gilbert White, through his book *The Natural History of Selborne* published in 1788, which became the most published book in the English language- influenced succeeding generations of naturalists. By the 1880s, there were several hundred natural history societies and field clubs in the country. The emphasis at this time was on contemplation and study rather than the preservation of nature.

The second major influence on British environmentalism was the crusade against cruelty to animals. Although the Society for the Protection of Animals, founded in 1824, first campaigned against cruelty to domestic animals, it turned its attention to wild animals (Seail, 1976: 9). In the 1950s and 1960s, the environmental movements overlapped for a time with protests against nuclear testing, racial injustice and Vietnam War. Similarly, the methods of Victorian abolitionists and those opposed to cruelty to animals began to influence naturalists. David Allen identifies a turning point in the 1860s when the protectionist crusade mustered its forces around the issue of the killing of birds, particularly gulls, to provide plumage for women's fashion (Allen, 1978: 197-198). The East Riding Association for the Protection of Sea Birds, founded in 1867 to campaign against the annual shoots off Flamborough Head, may have been the

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first wildlife preservation body in the world (Lowe, 1983: 331). And others soon followed.

The third major thrust of early British environmentalism was the amenity movement. The world's first private environmental group—the commons, Open spaces, and the Footpaths Preservation society (founded in 1865)—campaigned successfully for the preservation of land for amenity, particularly the urban commons that were often the nearest "countryside" available to urban workers. Britain has an impressive record in recognizing and responding to environmental degradation. It set up the first pollution control agency in 1863, passed the town and country-planning act in 1947, passed clean air act in 1956, created the world's first cabinet level environment department in 1970 and passed the world's first anti pollution legislation in 1973.

The United States: Some events played an important role in respect of environmental revolution in America. The publication in London between 1827 and 1838 of Audubon's *The Birds of America*, which for the first time showed birds in their natural habitats, brought the beauty of nature to a wider audience. The writings of Ralph Waldo Emerson and Henry David Thoreau further influenced the early American philosophy of man and nature (Worsler, 1977: 71). Two seminal events in American environmentalism occurred in 1864. The first was the publication of the book *Man and Nature* by George Perkins Marsh. The second event was the 1864 Act of Congress transferring the Yosemite Valley and Mariposa Grove of Big Tress to the state of California on the condition that " the premises shall be held for public use, resort and recreation and shall be held inalienable at all times" (Huth, 1957: 148). Several other efforts have been made in America to respond to the environmental challenge, e.g. the national environmental policy act was signed into law on 1, January 1970 and was confirmed in 1981, an environmental protection agency was established in

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December 1970, the toxic waste legislation was put to test between 1976 and 1979. Environmentalism in the United States finally matured when it intersected with the heterogeneous social movements of the day.

The Rise of the Environmental Parties: A number of environmental parties emerged in different countries, e.g. New Zealand in 1972, Britain in 1973, France in 1974, Belgium in 1978, West Germany in 1978, Switzerland in 1979, Luxembourg in 1979, Finland in 1980, Sweden in 1981, Austria in 1982, Ireland in 1982, Netherlands in 1983, and Italy in 1984. Perhaps the most basic explanation of the rise of these parties is the failure of older established parties simply to respond adequately to the needs and demands of the environmental movement (McCormick, 1989:143). The green party movement had an important impact on environment revolution.

The South: Environment and Development

After Stockholm, development and environment were no longer seen as incompatible, and it was widely agreed that an assimilation of the aims of the two was needed to create a sustainable society. The new environmental slogan was "sustainable development". There is no agreed definition of sustainable development. It is usually applied to LDCs and the kind of economic and social development needed to improve the living conditions of the world's poor without destroying or undermining the natural resource base. The roots of the changed emphasis of the post-Stockholm environmental movement must be sought in four broader developments: the changing nature of international economic and political relations, the growth of a new global view of the environment, the need felt by many northern environmentalists to accommodate the differing priorities of the LDCs, and the growing self-confidence and sophistication of environmental NGOs (McCormick, 1989:151). Following Stockholm, bilateral and multilateral aid agencies began thinking more carefully

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about environmental viability of their programs. In the period 1977-79, International Institute of Environment and Development (IIED) undertook a series of revealing studies of the environmental policies of selected bilateral and multilateral development aid organizations. Four major problems were identified in financing institutions generally: the lack of any clear procedures for the environmental assessment of the projects; a general lack of criteria for assessing environmental impact; the lack of alternative forms of analysis and accountancy, which included the long term social and environmental effects of development projects; and a lack of personnel with appropriate training (McCormick, 1989:155). In September 1979, representatives of nine multilateral agencies met in Paris and agreed upon a joint declaration. The declaration noted that economic development was essential for the alleviation of all major environmental problems, and acknowledged that aid agencies had the responsibility of ensuring the sustainability of the economic development activities that they financed.

Environmentalism and United Nations

The Second World War transformed values and attitudes toward internationalism, which in turn radically altered the agenda of environmentalism (McCormic, 1989:8). Attempts have been made here to describe the role of some important United Nations organizations and conferences in environmental revolution

United Nations Educational, Scientific and Cultural Organization (UNESCO) was founded in November 1946 to promote international cooperation in education, science, and culture. Its official involvement with the natural sciences was in the promotion of scientific exchanges and education (United Nations, 1947:707). The Constitutive Act of the **International Union for the Protection of the Nature (IUPN)** was signed on 5 October 1948. The main objectives of the IUPN were: to promote the preservation of wildlife and

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the natural environment, public knowledge of the issues, education, scientific research and legislation and to collect, analyze, and disseminate data and information (Buttkofer, 1947). In 1956, IUPN changed into **International Union for Conservation of Nature and Natural Resources (IUCN)** which laid emphasis on conservation of the representative ecosystem. The first focus of IUCN was on wetlands. Responding to 'the threats to the wetlands in 1961, IUCN started MAR, a special project and organized a conference in the French Camargue in November 1962. The second focus was on national parks, the IUCN-sponsored First World Conference on National Parks, was held in Seattle, Washington, in July 1962. **The World Conservation Strategy (WCS)** was prepared by IUCN with funds provided by UNEP and the Word Wildlife Fund. It was published in 1980 in the name of these three organizations (IUCN, 1980). It offered 'both an intellectual framework and practical guidance' (IUCN, 1980:1). The WCS identifies three objectives of conservation. First, the maintenance of essential ecological process. Second, the preservation of genetic diversity, both in genetic material in different varieties of locally adapted crop plants or livestock and in wild species. Third, 'the sustainable development of species and ecosystems', particularly fisheries, wild species which are cropped, forests and timber resources and grazing land. **Caring for the Earth** a strategy for sustainable living was a follow-up to the WCS. It presents "the reality that environmentalism, social and economic issues are joined in a network of sobering complexity" (UNEP/IUCN/WWF, 1991:3) and stresses "the principles of a sustainable society". It is remarkable for its emphasis on human condition and the subservience to nature. **The United Nations Scientific Conference on the Conservation and Utilization of Resources (UNSCCUR)** was held in 1949. The conference discussed global resource questions: increasing pressure on resources; the interdependence of resources; a review of critical shortages of food, forests, animals and fuels; the development of new resources by applied technology; educational resource techniques for underdeveloped countries and

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the integrated development of river basins (McCormic, 1989:37). Two international conferences, the Biosphere Conference and the United Nations Conference on the Human Environment, were considered the landmark events in the growth of environmentalism. **The Biosphere Conference** (the intergovernmental conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere) was held under the auspices of UNESCO in Paris from September 1 – 13 1968. The conference basically discussed human impact on the biosphere and recommended a list of 20 measures. **The Stockholm Conference** the United Nations Conference on the Human Environment was held in Stockholm, Sweden, from June 5 – 16. The Stockholm conference produced a Declaration, a list of Principles, and an action plan (Sohn, 974; 423-515). The list of principles stated that: Natural resources should be safeguarded and conserved, the earth's capacity to produce resources should be maintained, and non-renewable resources should be shared; development and environmental concern should go together and less developed countries should be given every assistance and incentive to promote rational environmental management; Each country should establish its own standards of environmental management and exploit resources as they wished but should not ensnare other states. There should be international co-operation aimed at improving the environment; pollution should not exceed the capacity of the environment to clean itself, and oceanic pollution should be prevented; science, technology, education, and research should all be used to promote environmental protection. The net product of the conference was the creation of the **United Nations Environment Programme (UNEP).** It was felt that without any institutional arrangement the Stockholm Declaration, Principles and Action Plan would not be implemented properly and would remain only a paper exercise. From this realization, United Nations was concerned about the institutional arrangements for turning principles into policies and active programs. This took form in the United Nations Environment Programme (UNEP), created as

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recognition to the truth that "environmental problems of broad international significance" were felt within the province of the UN network (United Nations, 1972). **The World Commission on Environment and Development** was formed in 1983 under the Chairmanship of Mrs. Gro Harlem Buntline, the Norwegian prime minister. It published a report, which stated that development and environmental issues cannot be separated: it is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality (World Commission on Environment and Development, 1987:3). **The United Nations Conference on Environment and Development (UNCED),** the "Earth Summit", was held in Rio de Janeiro in July 1992. The conference held 19 plenary meetings. This global conference was the largest gathering of heads of state (108), senior government officials (172) and stakeholder representatives from the nine "major groups" that include environmental GMOs, business and industry, women's and youth groups, trade unions, farmers, local authorities, indigenous people and the scientific and technological community and 2400 NGO representatives. UNCED is a collection of set of documents, e.g. The Rio Declaration on Environment & Development, Agenda 21, and The Statement of Forest Principles. Three bodies were created within the UN to ensure full support for the implementation of Agenda 21 and other programmes worldwide. These bodies included: The UN Commission on Sustainable Development, the international community and the nine "major groups". Two new environmental conventions were framed - The Framework Convention on Climate Change and The Convention on Biological Diversity (CBD).

Figure – 3.1 depicts the factors influenced in the environmental revolution.

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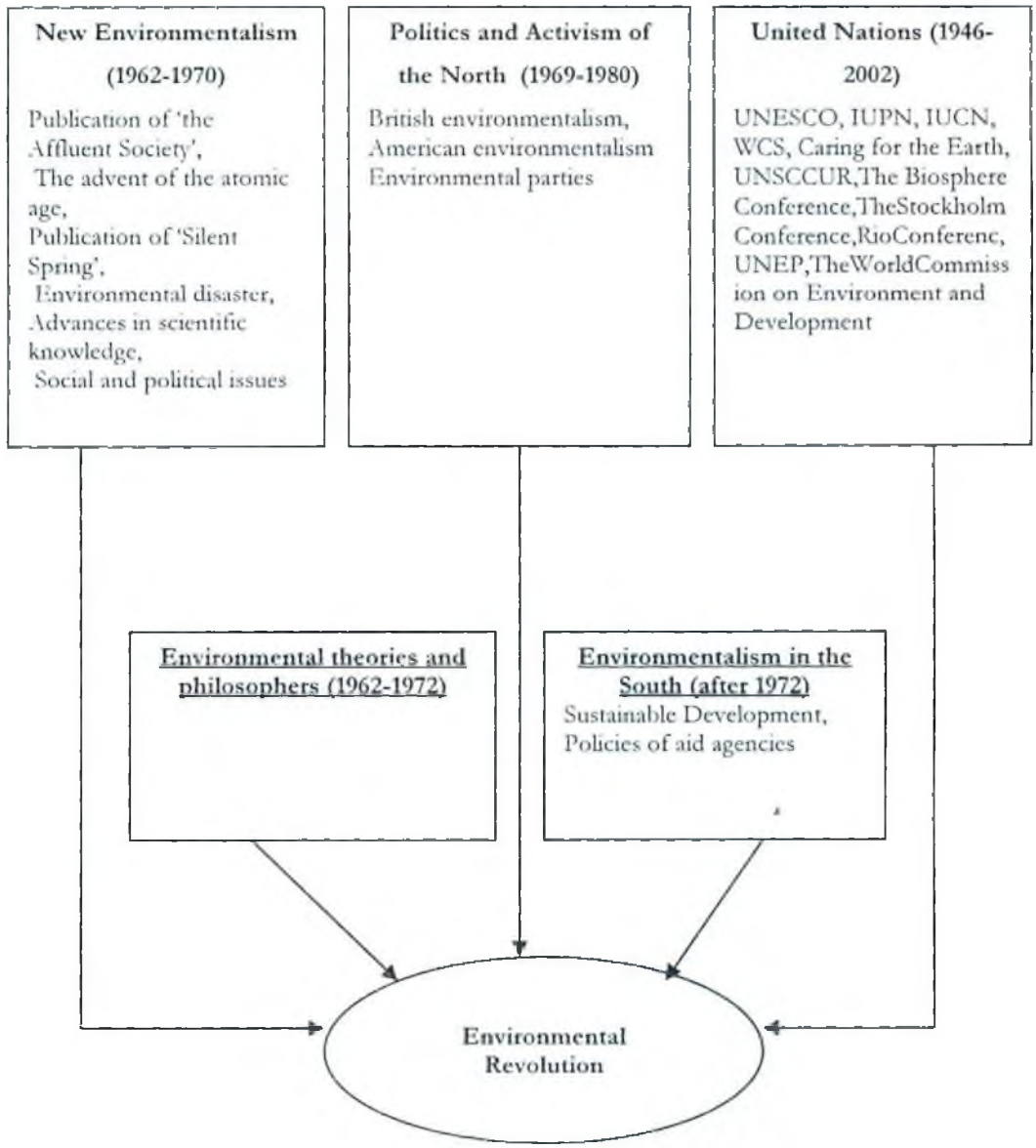
Figure-3.1: Factors influenced in the environmental revolution



The Link Between Development and Environment

The relationship between the environment and development has been under discussion since the beginning of the 1970's. Previously it was thought that environmental problems were confined to the need to reduce pollution, while development was equated with an increase in GNP. It has since been realized that environmental and development objectives are not incompatible, what is required is a firm to plan and organize efforts to develop and protect the

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environment on a comprehensive integrated basis, in order to satisfy basic human needs, improve living conditions, and ensure the national management of resources and the environment. In other words, the need is to promote a form of development compatible with the assimilative and regenerative capacity of the biosphere. It follows from this realization that countries do not have to choose between development and the environment, but should rather choose the quality or type of development that suits them, the environment is an aspect to be borne in mind when the development model is selected (Agrawal and Aggarwal, 1996: 17-18). It was recognized that depletion of natural resources is a physical process but it has many economic consequences such as reduction of productivity in agricultural and industrial sectors and it also affects the growth of the whole economy. The main reason for the economic crisis in many LDCs is the result of economic mismanagement. But depletion of both renewable resources is the prime cause behind many economic problems. Consequently, today many LDCs are finding it difficult to live within their resources. Human activities, particularly attempts to maximize output, are responsible for the present economic problems (Dutt & Sundaram, 1990:14-53). Policy makers in LDCs often failed to establish the relationship between the economic system and the natural resources base. The economic policies designed by them have resulted in destroying the resources base. In many LDCs, there is always conflict between the need to increase incomes to remove poverty and the need to conserve natural resources. To bring harmony, ecological accounting and the integration of environmental aspects into national accounting procedures are needed (Manonmoney, 1998:143-145).

Though there is considerable dispute about the environmental costs associated with various economic activities, consensus is growing among development economists that environmental considerations should form an integral part of policy initiatives. The exclusion of environmental cost from calculations of GNP

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is largely responsible for the historical absence of environmental considerations from development economics. Damage to soil, water supplies, and forests resulting from unsustainable methods of production can greatly reduce long-term national productivity but will have a positive impact on current GNP figures. It is thus very important that the long-term implications of environmental quality be considered in economic analysis. Rapid population growth and expanding economic activity in the third world are likely to do extensive environmental damage unless steps are taken to mitigate their negative consequences (Todaro, 1997: 341). Economic development has to take into account the ecological costs involved in the process. It includes loss of forest cover, the sedimentation and siltation of resources and riverbeds and the resultant floods, the water-logging and soil degradation in the command areas, the increase in weed growth and waterborne diseases. Neither income nor any other single indicator can encapsulate development progress. To the extent that national accounts data are used to gain a picture of economy's capacity to produce on an ongoing basis, it is necessary to recognize that such capacity depends on natural capital as well as on man-made capital stock. Clearly, some measure of 'green GNP' is needed, which calculates the nation's output after deducting the depreciation of nature's capital. Integrated environmental and economic accounts reflect both damages to and improvements in stocks of natural resources and in ecosystems. Apart from the depreciation of man-made capital, imputed charges for the depletion of minerals and other natural resources, and costs of degradation of land, water, air and so on, as a result of productive activities, should be deducted from GDP to arrive at environmentally adjusted net domestic product (EDP). This EDP does not include damages that are unrelated to productive activities (e.g., natural disaster, naturally occurring erosion, and so on) (Gosh, 1998: 158-159). Under ecological accounting, there is the requirement that the physical quality of natural capital stock would be valued in money terms and the economic approach has to aim at computing the overall aggregate money value just like that of estimating national

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wealth. The prices of natural resources, having no observable prices, have to be determined on the basis of implicit or shadow prices.

Pearce and Warford offer an example of environmental accounting. Overall capital assets are meant to include not only manufactured capital (machines, factories, roads) but also human capital (knowledge, experience, skills) and environmental capital (forests, soils quality, rangeland). But according to this definition, sustainable development requires that these overall capital assets will not be decreasing and that the correct measure of sustainable national income or sustainable net national product (NNP) is the amount that can be consumed without diminishing the capital stock. Symbolically,

$NNP = GNP - D_m - D_n$,

Where NNP is sustainable national income, D_m is the depreciation of manufactured capital assets, and D_n is depreciation of environmental capital---the monetary value of environmental decay over the course of a year (Todaro, 1997: 343).

The 'Environment' and 'development' debate over the years has brought some consensus on the issue that development and environmental concerns do not contradict each other. Out of this realization emerged the concept of Sustainable Development. The next section is dealing with the concept of development.

New Definition of Development

In 1992, more than 1,600 scientists, including 102 Nobel Laureates, signed "Warning to Humanity" and stated that " No more than one or a few decades remain before the chance to avert the threats we now confront will be lost and the prospect for humanity will be immeasurably diminished….. a new ethic is required---- a new attitude towards discharging our responsibility for caring for

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ourselves and for our earth". That "new ethic" has assumed the label "sustainable development". In fact, the term sustainable development was brought into common use by the World Commission on Environment and Development (The Brundtland Commission) in its seminal report (1987) called 'Our Common Future'. Since that time there has been much discussion on the concept and various issues inextricably connected with it. Consequently, there are various points of views. The definitions of sustainable development, therefore, are many, depending on the nature of the problem addressed (Arnold, 1989:1).

Geethakrishnan (1990:7) noted that "sum and substance of sustainable development is that we, the present generation, have inherited a certain amount of ecology and environment surrounding in terms of land, water and air; when we leave it to the next generation, we should leave it at least in the same condition, if not in a better condition than we inherited". **Redelift** suggested a broader view: sustainable development means more than securing a compromise between natural environment and the pursuit of economic growth. It needs a definition of development, which recognizes that the limits to sustainability have structural as well as natural origin (Redelift, 1987:1999). **Barbier** provided a detailed definition of sustainable development. The scholar defined sustainable development as one which is directly concerned with increasing the material standard of the living of the poor at the grassroots level which could be quantitatively measured in terms of increased food, real income, educational service, health care, sanitation and water supply, emergency stock of food and cash etc; and only indirectly concerned with economic growth at the aggregate, commonly national level. In more specific terms, sustainable development aims at reducing the absolute poverty of the world's poor through providing lasting and secure livelihoods that minimize resource depletion, environmental degradation, cultural disruption and social instability (Barbier, 1987: 103). **Adiseshiah's** definition comes closer to this (Adiseshiah, 1989:32): sustainable

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development is development, which meets the basic needs of all, particularly the poor majority, for employment, food, energy, water and housing, and ensures growth of agriculture, manufactures, power and services to meet these needs. In that sense sustainable development merge economics and environment both in theory and decision-making. Several other articulations consider sustainable development as a process of development by which various environmental, economic, and social benefits can be simultaneously and concurrently maximized (Barbier, 1987; UNEP, 1991; Gale, 1991). **Pezzy** and **Pearce** underscored the central idea that the case of environment needs to be higher on the development agenda if there has to be sustainable development. Sustainable development is development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life (Allen, 1980). The term "sustainable development" suggests that the lessons of ecology can, and should, be applied to economic processes' (Radecilft, 1987). Sustainable development would seek to maintain an "acceptable" rate of growth in per-capita real incomes without depleting the national capital asset stock or the natural environmental asset stock (Turner, 1988). In broad terms, the concept of sustainable development encompasses:

- Help for the very poor because they are left with no option other than destroying their environment.
- The idea of sell-reliant development, within natural resource constraints.
- The idea of cost-effective development using differing economic criteria to the traditional approach; that is to say, development should not degrade environmental quality, nor should it reduce productivity in the long run.
- The burning issues of health control, appropriate technologies, food self-reliance, clean water and shelter for all.
- The notion that people-centered initiatives are needed; human beings, in other words, are the resources in the concept (Tolba, 1997).

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A review of definitions giving by scholars make it clear that despite a wide acceptance of the concept of sustainable development, there is no single definition available which is readily accepted by all (De Groot, 1987: 123).

Table – 3.lll presents the views of various major disciplines.

Table-3.lll: Agriculturist, Economist, Ecologists, and Sociologist's views of Sustainable Development

Agriculturists	"Sustainable development is the management and conservation of the natural resource base and the orientation of technological and institutional change, in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development conserves land, water, plant and animal genetic resource, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable." "A sustainable land management system in one that does not degrade the soil or significantly contaminate the environment, while providing necessary support to human life." "A cropping system is not sustainable unless the annual output shows a non-declining trend and is resistant, in terms of yield stability, to normal fluctuations of stress and disturbance."
Economists	"Living on interest and not capital." "An optimal sustainable growth policy would seek to maintain an acceptable rate of growth in Per-capita real incomes without depleting the national capital asset stock or the natural environmental asset stock." "Development path is sustainable if and only if the stock of overall capital assets remains constant or rises over time."
Ecologists	"Sustainability is the net productivity of biomass (positive mass balance per unit area per unit time) maintained over decades to centuries." "Sustainable development is improving the quality of human life while living within the capacity of supporting ecosystems."
Sociologists	"Sustainable (feasible) development can be advanced as the set of development programmes that meets the targets of human needs satisfaction without violating long-term natural resource capacities and standards of environmental quality and social equity."

Source: Stephen Morse, and Michael Stocking, 1995, People and Environment, UCL limited, London

Different disciplines have different conceptualizations of sustainability as well as different requirements for sustainability based on varying cultural expectations or environmental constraints. So the totality of sustainable development is yet

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difficult to grasp analytically. However, it clearly appears that most of the definitions are built upon the view expressed by the Brundtland Commission (Barbier, 1987): "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission, 1987:8)". Although the WCED was not the first group to use the term 'sustainable development', but offered perhaps the most straightforward and certainly the most widely used definition (Elliott, 1994:5). In their view then, sustainability is not a fixed and definable state, instead it is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are made consistent with future as well as present needs. This definition contains two concepts; (1) the concept of 'needs', especially the essential needs of the world's poor to which overriding priority should be given and (2) the idea of limitations imposed by the state of technology and social organization on the environmental ability to meet present and future needs (World Commission on Environment and Development, 1987:43). No doubt it is very difficult to find out a well-accepted definition of the term but it can possible to identify at least some features of sustainable development, which will give an overall impression about sustainable development. Based on the above discussion it can be said:

- Sustainable development is a complex concept that implies the integration of three systems: ecological, economic, and social.
- Sustainability balance between the needs of the present generation and the next generation.
- Seeks a compromise between natural environment and the pursuit of economic growth.
- Increases the material standard of the living of the poor, which could be quantitatively measured.
- Put the people at the center of the environmental debate.

Dhaka University Institutional Repository

- Believes that the lessons of ecology can and should be applied to economic processes.
- It does not treat the ecosphere as a free commodity, reflecting its relative scarcity today and tomorrow.
- It maintains that the stock of overall capital assets remains constant or rises over time
- Development should not degrade environmental quality, nor should it reduce productivity in the long run.
- It is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional changes are made consistent with future as well as present needs.

Conclusion

Because of the environmental revolution, humanity has been awakened to the basic truth that nature is finite and that misuse of the biosphere will ultimately threaten human existence. As a matter of fact, the revolution has brought a universal and fundamental change in human values. It has generated new bodies of legislation, hatched new political parties, encouraged a rethinking on economic priorities and has become an issue in domestic policy and international relations. Environmentalism is fundamentally concerned with protection and management of the natural and human environment. Since the beginning of the 1970s, the international debate on development has been increasingly taking into consideration the impact of growth and socio-economic change upon physical environment. At the same time, new environment-related definitions of development have emerged, most often referred to as sustainable development. Sustainable development considers preservation and regeneration of natural resources as a means to achieve the end. It is respectful of the physical environment, and recognizes the limitations of the environment. It does not treat

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the ecosphere as a free commodity, to be plundered at will by any nation or individual. It puts a price on the space, reflecting its relative scarcity today and tomorrow. And concerned with sensible asset management, it treats ecological space as any other scarce asset. It is argued that development will be permanent or sustainable if the development efforts respect the environment and vice versa. More clearly, sustainable development means a kind of development, which can be sustained by ecology or which can sustain ecology. In summary, sustainable development agrees with the principle that 'development is a multidimensional process'. More important, it means bringing together the skills and concerns of different disciplines--- social, economic, and ecological--- to address the multifaceted reality of the development challenges. The ultimate challenge is to bring together these objectives into a coherent whole to ensure a 'better life'.

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Chapter-4

Role of International Agencies

Introduction

This chapter is an overview of the international agencies concern for environmental matters. The discussion is confined to United Nations, World Bank, the Regional Banks, and Bilateral development Agencies. More specifically, the following discussion analyses the goals, policies, strategies, plans, and projects of these aid-giving agencies in shaping and influencing ecological policy formulation in the third world countries.

As a matter of fact in the global context, development effort has become an over-exploitation of available resources and industrialization at the fastest possible pace. The effect of such efforts has been the adverse impact on the natural environment. Industrialization and technological development and the consequent environmental deterioration, depletion and exhaustion of natural resources, are progressively threatening the resource base and the quality of life. The natural resources of water, land, and air and the purification capacity of the environment have been seriously reduced or impaired or badly damaged. Exploitation of natural resources leads to the disruption of social and communal harmony, be it loss of human life, introduction of disease, destruction of forest and soil resources, or degradation of fisheries and other marine resources. All these effects negate the very objective of economic development and social progress (Asian Development Bank, 1996: 101). Environmental considerations have generally been ignored or neglected in development planning and programmes of many developing countries. But by the late 1980s, major international actors gradually started to reevaluated their past policies and

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approaches related to environmental and economic development. Today the concept of sustainable development is widely accepted as the mainstream of development policy objectives (Vajpeyi, 1995: 24). Major funding agencies have adopted environmental policies and procedures governing their own operations that have influenced the way governments prepare project proposals and implementation plans. Donors have also allocated funds to environmentally fragile sectors and to environmental management projects, which have affected the sectoral priorities of governments. Donors have provided technical assistance to governments to establish environmental policies and legislation to strengthen environmental institutions, to develop environmental planning and management mechanisms and to encourage the participation of environmental interest groups in the planning and implementation of economic development. Obviously these activities have greatly improved the integration of environmental concerns into economic development (Asian Development Bank, 1986: 239).

Following section presents the policies and programs of major donor agencies in shaping international action to protect global environment

Multilateral Development Agencies

Among multilateral agencies discussion is confined to environment related activities of United Nations and World Bank

United Nations Organizations (UNOs)

The UN is playing a key role in shaping international action to protect our environment. It is conducting research work, monitoring the state of the environment and advising governments on ways to preserve their natural resources. Most importantly, it brings governments together to make international laws to solve particular environmental problems that cross national boundaries. During the last few decades internationally awareness has increased

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about environmental problems. This led to the UN to convene a conference on the Human Environment in 1972, held in Stockholm. 'Environment-development linkages' was the key concept of this conference. Because of the Stockholm conference world consciousness and sensitized public opinion about the need for environmental protection and improvement has increased. But the world saw increasing trend of environment deteriorating, threatening economic and social development and even the future of humanity. To change the scenario a series of UN sponsored conferences on important questions have been held without bringing any remarkable change. Consequently a long-term international strategy for environment and development was urgently called for. To that end, the World Commission on Environment and Development (WCED) was set up in 1983 to address a wide array of issues it considered pertinent and relevant. It presented its Report on the General Assembly in October 1987, which generated worldwide discussion and debates. Against this backdrop, in June 1992 the UN convened the UN Conference on Environment and Development. It was held in Rio de Janeiro, Brazil popularly known as the 'Earth Summit'. The Summit produced 'the Rio Declaration' on environment and development. Despite progress in many areas, the global environment continues to deteriorate. To solve this problem, World Summit on Sustainable Development was held at Johannesburg in 2002.

An attempt has been made here to discuss those United Nations Organizations which have environment related activities especially their policies, programs, and actions.

Food and Agriculture Organization (FAO)

It deals with providing technical advice and assistance; collecting, analyzing and disseminating information on food, nutrition, agriculture, fisheries and forestry; offering independent advice to governments on agricultural policy; and providing

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a neutral forum where governments, international organizations and non-governmental organizations can meet to discuss food and agricultural issues (JACSES, 1996: 21). Overall objective is to ensure 'sustainable development' through food and agriculture development which is reflected in its commitment to fulfill its mandate established at UNCED for the Agenda 21, specifically related to issues planning and management of land resources, combating deforestation, integrated mountain development, and promoting sustainable agriculture and rural development. In November 1999 FAO created sustainable development department to promote appropriate and sustainable technologies through conserving natural resources, protecting the environment and helping communities to become self reliant (JACSES, 1996: 22).

United Nations Center for Human Settlements (UNCHS)

UNCHS acts as the secretariat to the intergovernmental policymaking body, the commission on human settlements. It has a number of environment related activities e.g. cities alliance, sustainable cities programme, urban management programme, disaster management programme, global urban observatory, localizing agenda 21 programme, safe cities programme, water in Africa cities, women, habitat programme etc (JACSES, 1996: 121-122).

United Nations Conference on Trade and Development (UNCTAD)

In addition to many cross cultural issues sustainable development has been integrated into the work of the organization (JACSES, 1996: 131). 'BIOTRADE' is an initiative of UNCTAD, aims to enhance developing country capability in the sustainable use of biodiversity. Additionally, in cooperation with environmental NGOs, UNCTAD organizes workshops to alert government officials and the business community in developing countries to the impact of commodity production and processing on the environment (JACSES, 1996: 137).

Dhaka University Institutional Repository

United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO's environmental activities cover earth sciences, terrestrial ecosystems, oceans, freshwater, and marine and terrestrial resources. In environmental area UNESCO is under taking research and training on promoting resources development, environmental protection and land-use planning, including waste disposal and natural disaster reduction. UNESCO has taken a number of initiatives in respect of environment such as The International Geological Correlation Programmes (IGCP), The Man and Biosphere (MAB), The International Hydrological Programme (HIP), Intergovernmental Oceanographic Commission (IOC) etc. The International Bioethics Committee of UNESCO (IBC) was created in 1993, the only body within the UN system to carryout ethical reflection on research in biology and genetics and their applications (NGLS, 2000: 184-185).

The United Nations Industrial Development Organization (UNIDO)

UNIDO is the specialized UN agency promoting sustainable and environmentally friendly industrial development to create employment and reduce poverty. Environment policy framework, UN framework convention on climate change and the Kyoto protocol, energy efficiency, rural energy development, cleaner production, pollution control and waste management, and the Montreal protocol on substances that deplete the ozone layer are the major field of concern of UNIDO (JACSES, 1996: 244)

World Food Program (WFP)

WFP's major areas of concern are agriculture and rural development, and human resources development. Emphasis is placed on land development, forestry, land rehabilitation, land management and fisheries development in agriculture and

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food production projects. Special importance has been given in WFP's project to the protection and improvement of the environment (JACSES, 1996: 298).

United Nations Institute for Training and Research (UNITAR)

Through its partnerships with other international organizations, UNITAR ensures that its programmes respond to the capacity building required for the application of international legal agreements and conventions on environment. UNITAR, in partnership with the Commission on Environmental Law of the IUCN and UNEP, launched a training programme in environmental law in 1996 designed to complement existing environmental law training efforts by other organizations.

United Nations Development Programme (UNDP)

UNDP is leading the United Nations effort for building national capacity for environmentally sustainable development by promoting global best practices and supporting strategic interventions (www.undp.org). The UNDP is engaged in a project initiative on poverty and the environment aimed at the identifying concrete policy recommendations and practical measures that address the environmental concerns of the poor in developing countries. Thus, UNDP helps countries adopt integrated approaches that focus on managing natural resources to improve the livelihoods of people living in poverty. It tries to ensure that actions to cope with immediate crisis do not interfere with the long-term sustainability of resources and development processes. UNDP plays an active role in the global Environment Fund Program (GEF), which provides grants to help developing countries reduce global warming, protect international waters, preserve biological diversity and prevent further depletion of the ozone layer. Within the GEF, the particular emphasis of UNDP is ensuring the development and management of capacity building programs and technical assistance projects. UNDP is also responsible for managing the Small Grants program, which

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supports community based NGO projects related to the GEF's global concerns, and has thus far provided more than 500 grants of $50,000 or less to grassroots groups in 33 developing countries (www.undp.org/info/envirn.htm). UNDP is assisting 78 countries to implement national programs to phase out chloroflorocarbons (CEF's), halons and other ozone depleting substances (ODS). UNDP is trying to do so through national country program formulation, institutional strengthening/ national capacity building, refrigerant management plans and its related activities. These related activities cover national recovery/recycling programs and end-user projects, methyl bromide elimination programs, and technology transfer investment projects (www.undp.org). UNDP takes program to Combat desertification and prevent drought in all affected program countries. Its water strategy is implemented at the global, regional and national levels. This water strategy is centered around the following three themes: support program countries' implementation of sustainable freshwater management program through the global water partnership and other partnerships; strengthen transboundary river initiatives through piloting activities; strengthen national and regional program in ocean and coastal zones management through the strategic initiative for ocean and coastal management (SIOCAM) (www.undp.org/seed/water/global/global.htm).UNDP is encouraging and supporting the UNDP country offices to involve and collaborate with international and national environmental NGOs. It has pursued the full participation of NGOs and Civil Society Organizations (CSOs) in all aspects of the work of the Global Environment Facility (GEF). UNDP was also instrumental in promoting and supporting Environmental Funds (EFs). Environmental Funds is another initiative of UNDP which are innovative financing mechanisms to cover the recurrent costs of parks and protected areas, support the overall goal of conserving biological diversity and promote sustainable development (NGLS, 2000: 154-156).

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All the concerned agencies have incorporated sustainable development concepts to their policies, projects, and program. But UNEP is conceived as a catalyzing agency for the entire United Nations family to help focus on environmental issues, monitor trends and facilitate coordinated international action to safeguard the environment.

United Nations Environment Programme (UNEP)

UNEP was the most tangible result of the 1972 Stockholm Conference on the Human Environment. The idea behind its establishment was to provide coherence and strengthen the varied environmental activities taking place throughout the United Nations system. UNEP was conceived as a catalyzing agency for the entire United Nations family to help focus on environmental issues, monitor trends and facilitate coordinated international action to safeguard the environment. The mission of the United Nations Environment Programme (UNEP) is to provide leadership and encourage partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations.

UNEP's activities cover a wide range of issues. It provides the world community with improved access to meaningful environmental data and information and to help increase the capacity of government to use environmental information for decision making and action planning for sustainable human development (http://www.unep.org/dewa/index.asp). UNEP's activities include analysis, review and development of environment related policies and articulation of policy positions in response to encouraging environmental issues and events. Development of new and strengthening of existing legal, economic, and other policy instruments, and institutional frameworks to make environmental policy more effective is the responsibility of UNEP. Its duties also cover to enhance environmental policy coordination and information exchange within and outside

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the United Nations System. UNEP promotes the involvement of the private sector, NGOs, and major interest groups in environmental policy dialogue and development(http://www.unep.org/Documents/Default.asp?DocumentID=43articleID=220). It provides technical assistance to developing countries and countries with economies in transition. It is providing liaison and back stopping on administrative and substantive matters with the six regional offices of UNEP, as well as ensures policy coherence during planning and implementation stages (http://www.unep.org/DRC/index.htm). It identifies synergies amongst environmental conventions; promote collaboration at national and international level on environmental conventions; contribute to the work program of environmental conventions; strengthen the regional seas conventions and action plans and support national action to implement environmental conventions (http://www.unep.org/convention). UNEP is catalyzing the development of scientific and technical analysis and advancing environmental management in GEF-financed activities. UNEP provides guidance on relating the GEF-financed activities to global, regional and national environmental assessments, policy frameworks and plans, and to international environmental agreements. As trustee for the environment, UNEP plays a distinctive and strategic role in the GEF. In fulfilling its role, UNEP takes advantage of its regional presence, its links with the secretariats of the relevant international conventions and legal instruments and its close contacts with other United Nations agencies and relevant bodies, including non-governmental organizations and scientific institutions and builds on its expertise and experience in sensing, assessing and catalyzing action in environmental matters (http://www.unep.org/gef/Introduction.htm). The following table depicts the overall picture of the role of the United Nations on environment.

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Table- 4.1: Role of the UN Agencies on environment

Organization	Funding sector	Specific Initiatives
FAO	Food and Nutrition,Agriculture, Fisheries, Forestry, Rural Development	Provides technical advice and assistance, Advises to government on agriculture policy, provides forum to discuss food and agriculture issues, Implements commitment to Agenda 21.
UNCHS	Urban Management,Disaster Management, Water, Woman, Habitat	Localizing agenda 21
UNCTAD	Biodiversity	Analyzes the impact of the commodity production and processing on the environment
UNESCO	Earth Sciences, Terrestrial ecosystem, Oceans, Fresh Water, Genetics, Marine Environment, Terrestrial Resources, Waste disposal, Natural disaster, Biosphere, Hydrology, Oceanography, Biology	International Geological Correlation Programmes, the Man and Biosphere, the International Hydrological Programmes, IntergovernmentalOceanographic Commission
UNIDO	Pollution, Waste Management, Energy	Formulates Environment Policy, Provides help in the case of environmental conventions
WFP	Land, Forest, Fisheries, Food	Different projects related to the protection and improvement of the environment
UNITAR	Training, Research	Builds capacity for the application of international legal agreements and conventions, Conducts training on Environmental Laws
UNDP	Natural resources, Global warming, International water,, Biological diversity, Ozone layer, Desertification	Assists countries in realizing the goals of Agenda 21, Formulates national country program, Builds institutional capacity
UNEP	Atmosphere and Terrestrial ecosystem, Environmental science and Information, Disaster and emergencies, Water, Agriculture, Chemicals, Energy, Ozone depletion, Pollution, Urban, Waste, Transport	Coordinates environmental conventions activities, develops policy instrument, Transfer technology, Develops environmental policy and law, Implements environmental policy, Increases the capacity of government to use environmental information for decision making, Prepares action plan for sustainable development, Coordinates Global Environmental Facility

World Bank

The World Bank is among the world's largest sources of development assistance, main focus is on helping the poorest people and poorest countries. For reducing poverty and promoting sustainable development, Bank systematically integrated the environmental concerns into the mainstream of the Bank's work. The World Bank's mission is to fight against poverty for lasting results and to help people

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help themselves and their environment by providing resources, sharing knowledge, building capacity, and forging partnerships in the public and private sectors (http:// www.worldbank.org/html/extdr/about/index.htm).

World Bank is taking different initiatives for better management of environment, the following discussion is the brief review of the principles and activities related to its environmental management.

World Bank put importance on **balance between environment and development**, and at the same time believes that this balance is not possible without investing **in people and efficient use of resources**. Investment in people includes population control, health facilities, education, and research (The World Bank, 1991: 19). The Bank has also continued to support countries efforts to promote **more efficient use of resources**. Efforts in this area are focused on improving energy efficiency, eliminating subsidies in other sectors, and understanding the links between economy-wide policies and the environment.

The World Bank tries to improve environmental management through **investing in the environment, supporting environmental planning, building the knowledge base.** World Bank has increased its **investment in environment** since the Rio Earth Summit. In the two years of the summit the Bank committed a record $ 4.4 billion in new loans and credits for 48 projects specifically designed to strengthen countries management of the environment (Serageldin, 1994: 27). The Bank is also supporting countries in preparing **National Environmental Action Plans (NEAPs).** In addition to national plans, regional plans and strategy have also been developed (Serageldin, 1994: 27). Another area of concern is **building the knowledge base.** Policy and research work on environment is conducted in all of the bank's sectors. Over the last five years the World Bank has developed important sectoral policies in the areas of forests,

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urban development, water resources management, energy efficiency and conservation, the electricity sector, dams and reservoirs, and wetlands (JACSES, 1996: 42). In addition to that research is undertaken on environmental economics at both the national and global levels (WB Report, 6).

World Bank is also conscious about **environmental sustainability of its lending**. This goal is reflected in the use of environmental assessment (EA) of the projects (http://wbln0018.worldbank.org/essd/essd.nsf). A review of Environmental Assessment (EA) experience in the past few years confirms that borrowers are making more productive use of environmental assessment in Bank-financed operations.

Bank has increased its attention **to global and regional environmental issues** over the past few years. Several policy and research activities have been stimulated to face the **global environmental issues**, especially: global warming, loss of biological diversity, pollution of international waters, and depletion of stratospheric ozone (Serageldin, 1994: 28). World Bank has extended its program to improve **regional environmental situation**. Its regional activities cover: developing national environmental strategies, action plans, issues papers, policy briefs and sector reports; the strengthening of institutional capacity; organizing a number of training courses (The World Bank, 1991:28-29).

Next table shows the role of World Bank in protecting environment

Table-4.ll: Role of World Bank in protecting environment

Organization	Funding Sector	Specific Initiatives
World Bank	Population, Health, Education, Forest, Urban and Rural Development, Water Resources, Energy, Electricity, Dams, Reservoir, Wetlands, Pollution, Natural Resources, Global Warming, Biological diversity, Research	Formulates national environmental action plan, Produces regional plans and strategy, Drafts sectoral Policies, Prepares country environmental issue paper, Transfer, Adaptation and development of technology, Builds environmental institution, Conducts training Courses, Ensures environment impact assessment

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The Regional Bank

The Regional Development Banks (the Asian Development Bank, the Inter-American Development Bank, and the African Development Bank) do not have a very strong record, usually the environmental concerns are ignored. But the activities of the last few years of ADB show that it has become quite active in environmental planning and management.

Asian Development Bank (ADB)

Promoting sustainable development and environmental protection is a key strategic development objective of ADB. ADB is committed to promoting environmentally sound development in the region. The Bank reviews the environmental impacts of its projects, programs, and policies to ensure that all potentially significant effects are identified, appropriate measures are taken to avoid adverse environmental impacts and, where possible, projects enhance the environment. ADB encourages developing member countries (DMCs) governments and executing agencies to incorporate environmental protection measures in their project design and implementation procedures, and provides technical assistance for this purpose. It promotes projects and programs that will protect, rehabilitate, and enhance the environment and the quality of life. The Bank also trains ADB and DMC staff in, and provides documentation on, environmental aspects of economic development. It is also promoting environmental awareness among Bank staff. The Bank is also serving as Resource Center by providing advice to executing agencies in the Bank's DMCs and preparing resource materials to promote sound environmental practices in the region (www.adb.org/environment). It has been sensitive to the environmental impact of projects, given the immense ecological fragility of the region in general and population problems in particular. The borrower governments, however, are considered responsible for the environmental assessments (Stein and Johnson, 1979: 34). ADB addresses environmental protection and conservation needs of

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its DMCs by integrating environmental considerations into its regional, country, and project-level operations. The Bank also supports the capacity building and policy reform efforts of its DMC governments. Again it also promotes projects and programs designed to protect, rehabilitate, and enhance the environment and quality of life in DMCs. This Bank trains staff and DMC counterparts and disseminates information for guidance in environmental aspects of economic development. ADB formulates its environment policy to complement its poverty reduction strategy with the purpose to assist DMCs to ensure that environmental resources on which the poor depend for their livelihoods are conserved, to integrate environmental objectives into the economic development process, to bring about institutional change, and to ensure accelerated flow of resources for environmental improvement (http://www.adb/environment/ envpol/consultation_policy.asp#need).

Following table presents ADB's position on environment

Table-4.lll: ADB's position on environment

Organization	Funding Sector	Specific Initiatives
ADB	EIA, Environmental awareness, Training, Institutional change	Ensures environmental impact assessment, Provides Technical Assistance, Encourages to incorporate environmental protection measures in their project design and implementation, Conducts training, Builds capacity, Reforms Policy, Reforms institutional, Ensures smooth flow of Information

Bilateral Development Agencies

For promoting sustainable development Bilateral Development Agencies systematically integrated the environmental concerns into the main stream of their work. USAID, DANIDA, CIDA, SIDA have important environmental work program.

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United States Agency for International Development (USAID)

For the last few years USAID has shifted its focus and now there is commitment to ecological issues such as water and air pollution, population, deforestation, energy etc. USAID breaks it's environment programs into six interweaving focus areas: protecting the world's environment for long-term sustainability; improving conservation of biologically significant habitats; reducing the threat of global climate change; improving the urban population's access to adequate environmental services; increasing the provision of environmentally sound energy services and promoting sustainable natural resource management (http;//www.usaid.gov/environment/whatwedo.htm). To encourage countries to develop national environmental management strategies, USAID helps developing country policy makers, and those who support them, better understand how policies affect the environment and the country's development processes. Its approach in a region often initially focuses on environmental policy reform and strategy development to set the stage for later program interventions. A high priority is facilitating participation in international environmental forums and treaties related to environment. Other environmental policy reform efforts focus on ensuring that nongovernmental organizations and citizens have accurate environmental information, are affiliated in networks, and have the capacity to engage local and national authorities concerning environmental policies. In other cases, USAID works at all levels to help improve and enforce key policies and legal frameworks conserving protected areas (http://www.usaid.gov/ Environment/intergovt.html). It pioneered and now supports one of the most comprehensive biodiversity conservation programs of any bilateral donor (http://www.usaid. gov/environment/ impcons.html). USAID has taken initiative to help USAID-assisted countries to respond to the threat of climate change (http://www, usaid. gov/environment/climate_change .html). Its urban programs improve the living conditions of the urban poor while protecting the well being of future generations. The AID spearheads the U.S. Government's

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efforts to help developing countries and economies in transition to design effective new strategies to meet growing energy demand. Its natural resources management programs work to strike a balance between the preservation and renewal of resources and their use for economic well-being and global stability. Among the problems that AID's programs address are artisanal fisheries competition with commercial trawlers; loss of forests affecting watersheds, biodiversity, and climate change; water consumption and management challenges; and wildlife utilization and wildlife population decline. These programs focus on working at the regional, national, and local level to devolve ownership and control of natural resources to local communities- promoting better management (http://www.usaid.gov/environment/promsust.html). In last few years, AID has provided funding to a number of US based non-governmental organization to strengthen their capacity to work in the field. AID has greatly increased its expenditure on projects designed to improve or enhance the environment. The expansion of lending for forestry projects and research has been particularly rapid.

Danish International Development Agency (DANIDA)

DANIDA, through its secretariat for Environment and Sustainable Development, channels global and regional support for environmental concerns. This secretariat is also responsible for monitoring DANIDA's contribution to implementing Agenda 21 (DANIDA, September 1995). It also supports environmental projects through various UN agencies and international organizations. The DANIDA Plan of Action for Environment and Development was prepared in 1989. This plan adopted sustainable development as a goal and instructed that environment should be regarded as an issue for all sectors of Danish assistance. The plan consisted of an overall strategy to be considered. The strategy put importance on environmental aspects in six sectors including agriculture, water resources management, and fisheries (DANIDA, 1988/89).

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This plan is considered to be one of the first cross-sectoral environmental policies in any bilateral agency (DANIDA, 1988/89). It was accompanied by Sectoral Issue Papers on water resources, agriculture in dry lands and humid areas, fisheries, urban development and health (DANIDA 1988a, DANIDA 1988b, DANIDA 1989a, DANIDA 1989b, DANIDA, 1989c, DANIDA, 1989d). These papers focused light on the various environmental issues involved in the sector and provide a framework for project identification. In addition to that, since the 1989 Plan of Action was produced, new sectoral policies on water supply and sanitation, energy, and fisheries have been enacted. DANIDA produced Country Environmental Profiles (Bangladesh, India, Kenya, Tanzania, and the Sudan) as part of its 1989 Plan of Action for Environment and Development (DANIDA, 1988/89), which provides a general orientation on the state of environment and natural resources in each country. It also identifies past and possible future projects for support in the field of environment. DANIDA has supported the preparation of an environmental management plan for a district in the Indian state of Karnataka, which it is hoped can be used as an example for other districts in the state. In 1995 DANIDA and DANCED prepared a joint environmental strategy covering 11 countries in the Southern African Development Community. These organizations are also involved in the development of strategic plans for the Zambezi river basin and coastal zones of Southern Africa and South East Asia.

Canadian International Development Agency (CIDA)

CIDA identifies six operational objectives for the integration of environmental considerations into decision-making and activities. The first objective is to ensure environmental considerations are integrated into sectoral and cross programmes, program, and project planning and implementations. Another objective is to promote and support environmental and broader socio-economic policy dialogue, programmes, and projects. Implement design measures that minimize

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negative environmental impacts and enhance environmental benefits of projects, or identify alternatives is the third purpose. To encourage and support Canadian, international and developing country partner organizations to develop policies, programs, and projects that further the objectives of environmental sustainability is identified as the next objective. To contribute to the development of knowledge and experience in Canada and in developing countries on environmentally sustainable development is the fifth objective. And to promote education and awareness among governments and the public both in Canada and developing countries of the importance of environmentally sustainable development approaches is treated as the final objective. CIDA has established a series of commitments to meet the goals of CIDA's Policy for Environmental Sustainability. These commitments include the preparation of an Agency Implementation Strategy for Environmental Sustainability; analyzing country environmental policies; capacity building related to environmental expertise within CIDA; and funding strategies to support environmentally sustainable programs. The Canadian Agency produces country or regional development policy frameworks. As part of individual country review documents, the Agency also produces Environmental Strategy Papers. The Agency has been monitoring and influencing the policies and performance of multilateral organizations with reference to Canadian priorities, including with regard to environmental issues. Also, an agency wide Environmental Assessment Coordinating Committee was created as a mechanism to coordinate environmental assessment issues and to ensure the integration of Environmental Assessment within all CIDA initiatives and strategies. CIDA's International Model Forest Program also includes the sustainable management of forests for timber. The Agency works with institutions in Canada and around the world to combat desertification. It is also responsible for the implementation of the convention and the integration of efforts to combat desertification in Canada's own affected areas (http://www.acdi_cida.gc.ca).

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Swedish International Development Agency (SIDA)

SIDA is responsible for support in the area of natural resources, forestry, agriculture, fishing and rural development (http://www.sida.se/ Sida/jsp/Crosslink.jsp? d=160&a=4123). SIDA tries to ensure that all works financed by it has taken the environment into account. Work on water resources, sustainable farming, forestry, land conservation, marine environment and urban issues are all given priority. Much of the SIDA's aid funding is administered by private Swedish organizations. These projects also have to take the environment into account. Swedish aid is intended to reinforce and develop cooperation and countries own abilities to analyze and deal with their environmental problems. Among other things, SIDA supports education on environmental issues, and the work of countries on establishing environmental issues, environmental institutions, drafting environmental legislation, and national environmental strategies. Environmental Impact Assessment (EIA) is made for all projects, which are supported by SIDA (http://www.sida.se/sida/jsp/Crosslink.jsp). The Agency also organizes training courses on various environmental issues.

At a glance Bilateral Development Agencies' role on environment are as follows.

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Table-4.IV: Bilateral Development Agencies' role on environment

Organization	Funding Sector	Specific Initiatives
USAID	Pollution, Population, Forestry, Energy, Biodiversity, Climate change, Urban development, Natural resources, Habitat	Reforms environment policy, Helps to improve and enforce key policies and legal framework, Conserves protected areas, Facilitates participation in international environmental forums and treaties related to environment, develops national environmental management strategies
DANIDA	Agriculture, Water resources, Fisheries, Urban development, Health, and sanitation, Energy	Implements Agenda 21, Produces country environmental profile, Formulates environmental management Plan, Drafts sectoral issue paper, Develops Strategic Plan
CIDA	Forest	Prepares Agency implementation strategy for Environmental Sustainability, Analyzes country environmental policies, Builds capacity related to environmental expertise, Funds strategy to Support environmentally sustainable program, Produces country or regional development policy framework, Produces Environmental Strategy Paper, Ensures environmental impact assessment, Supports the preparation of developing countries at key international environmental legislations
SIDA	Forestry, Agriculture, Fishing, Urban and Rural development, Water resources, Land, Marine environment, Environmental education, Natural resources	Establishes environmental institution, Drafts environmental legislation, Formulates national environmental strategy, Ensures environmental impact assessment, Conducts training courses

Following chart reveals the basic features of the international agencies discussed above in relation to their programs, projects, plan etc.

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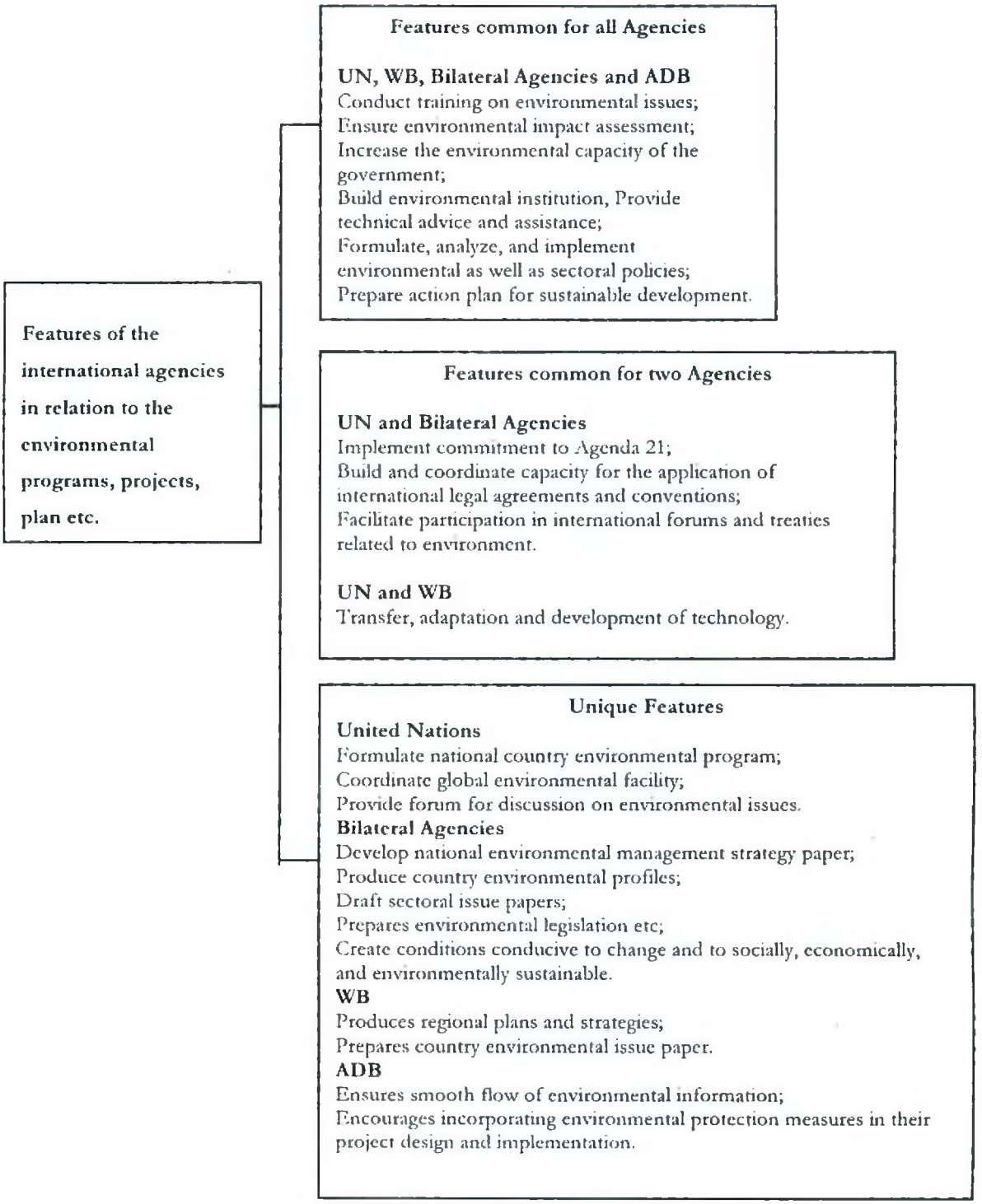
Figure- 4.I: Basic features of the International Agencies



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Conclusion

The preceding discussion gives a comprehensive picture of the international agencies assistance to the developing countries in protecting environment. Some common features of their assistance can be identified. These include supporting training on environmental issues; ensure environmental impact assessment; increase the environmental capacity of the government; build environmental institution, provide technical advice and assistance; formulate, analyze, and implement environmental as well as sectoral policies; prepare action plan for sustainable development. Bilateral and United Nations agencies also play the important role to implement commitment to Agenda 21. Both United Nations and Bilateral Agencies build and coordinate capacity for the application of international legal agreements and conventions. United Nations and World Bank have common role in transfer, adaptation and development of technology. Both of the organizations also facilitate participation in international forums and treaties related to environment. In spite of the common characteristics there are differences among and between international agencies regarding style and program. United Nations has some unique features: formulate national country environmental program, coordinate global environmental facility, provide forum for discussion on environmental issues. For their unique role United Nations was conceived as a role model for the developing countries to help focus on environmental issues. Where as Bilateral Agencies develop national environmental management strategy paper, produce country environmental profiles, draft sectoral issue papers, prepares environmental legislation etc. Bilateral Agencies' task is to create conditions conducive to change and to socially, economically, and environmentally sustainable. On the other hand World Bank produces regional plans and strategies and country environmental issue paper. Asian Development Bank assistance differs from others because it ensures smooth flow of environmental information. It also encourages incorporating environmental protection measures in their project design and implementation. All their activities prove that International agencies role is very crucial regarding the protection of global, regional, and national environment.

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Chapter-5

International Environmental Treaties

Introduction

This chapter attempts to make an overview of some important and relevant International Conventions, Treaties and Protocols (ICTPs) addressing global environment. These conventions, treaties and regulatory framework have had significant impact on the environmental policies of both developed and developing countries.

These international legal instruments are the principal means by which the world community expressed their consensus on measures to protect and preserve the environment for the benefit of the present and future generations in the context of sustainable development. International Conventions, Treaties, and Protocols (ICTPs) on environment also constitute one of the most important means for developing and consolidating new legal concepts and principles, such as the common heritage of mankind, common but differentiated responsibility, the polluter pays principle, and thereby promotes the progressive development of international law in the important area of environment and development (SACEP, UNEP, and NORAD, 1997: i). However all the protocols are not of same importance and significance and obviously not all are relevant for all countries. Considering this aspect, a number of ICTPs, and agreements, conferences have been identified and discussed in this chapter, which seem to be of importance from global, regional and national context. The following section concentrates on the discussion of ICTPs related to pollution, nuclear, ozone layer, plant, animal, timber, wetlands, continental shelf, climate change, biodiversity, desertification, and hazardous waste.

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Conventions Related to Pollution

A number of conventions are important related to pollution. **International Convention for the Prevention of Pollution of the Sea by Oil** was adopted in London in 1954, which came into force in 1958. The convention has adopted a number of provisions with the purpose to take action to prevent pollution of the sea by oil discharged from ships. But the convention states that the prohibition is not applicable in the case of a ship-the oil content of the discharge is less than 100 parts per million parts of the mixture, or the discharge is made as far as practicable from land. It is not also applicable in the case of a tanker-the total quantity of oil discharged on a ballast voyage does not exceed one fifteen-thousand of the total cargo-carrying capacity, or the tanker is more than 50 miles from the nearest land (http//sedac.ciesin.org / entri/texts/pollution.of.sea.by.oil. 1954.html). Later in 1969 **International Convention on Civil Liability for Oil Pollution Damage** was adopted with the aim to ensure that adequate compensation is available to persons who suffer from damage caused by pollution resulting from the escape or discharge of oil from ships. Another objective is to standardize international rules and procedures for determining questions of liability and adequate compensation in such areas. The convention also adopted provisions for preventive measures to be taken to stop or minimize such damage. This convention also specifies that when oil has been discharged from two or more ships, the owners of all the ships concerned would jointly and severally liable for all such damage and the owner of a ship should be required to maintain insurance or other financial security (www.imo.org/Conventions/main frame.asp?topic_id=258&doc_id=660) **International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, Brussels 1969** came into force in May 1975. The objective of this convention is to enable countries to take action on the high seas in cases of a maritime casualty resulting in danger of oil pollution of sea and coastlines. The convention specifies parties may take such measures on the high seas as may be necessary to prevent,

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mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil (Islam, 1996). Ten articles have been included in the **Protocol to the International Convention on Civil Liability for the Pollution Damage, 1979. Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other Than Oil,** was adopted in November 1973 in UK and entered into force in March 1983. **International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage** was framed in Brussels in 1971.This convention was framed keeping in mind a number of objectives. First objective is to supplement the International Convention on Civil Liability for Oil Pollution Damage, 1969. Second one is to ensure the availability compensation to those who suffer from the pollution resulting from the escape or by discharge of oil from ships. The last one is to ensure that the oil cargo interests bear a part of the economic consequences of such oil pollution damage, to the relief of the shipping industry (Islam, 1996). **International Convention for the Prevention of Pollution from Ships** was adopted in 1973. Prime concern of this convention is to preserve the marine environment by achieving the complete elimination of international pollution by oil and other harmful substances and minimization of accidental discharge of such substances. This convention shall apply to ships entitled to fly the flag of a party to the convention and ships not entitled to fly the flag of a party but which operate under the authority of a party. Any violation of the requirements of the present convention within the jurisdiction of any party to the convention shall be prohibited and sanctions shall be established therefore under the law of that party. All appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence shall be used. All possible efforts shall be made to avoid a ship being unduly detained or delayed (http://sedac.ciesin.org/entri/texts/pollution.from.ships.1973.html). **Protocol of 1978 Relating to the International Convention for the**

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Prevention of Pollution from Ships was adopted at London in February 1978 and came into force early October 1983. **Convention Concerning the Protection of Workers Against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration** was taken in Geneva 1977 with the purpose to protect workers against occupational hazards in the working environment. According to the convention measures shall be taken for the prevention and control of and protection against occupational hazards in the working environment due to air pollution, noise and vibration. It notes that these measures shall be prescribed by national laws and regulations. The competent authority shall establish the criteria for determining the hazards of exposure to air pollution, noise and vibration in the working environment and exposure limits on the basis of these criteria shall be established by the competent authority. These provisions are applied to all branches of economic activity, except where special problems of a substantial nature exist (Islam, 1996). **International Convention of Oil Pollution Preparedness, Response and Cooperation** was adopted in London in 1990. This convention focuses light on to strengthen the legal framework for the control of environmental pollution by oil, in general, and marine pollution by oil in particular. The convention aims at to doing so by providing a basis for preparedness, and for a response-capability, to deal with incidents of oil pollution in the marine environment. Each party shall establish a national system for responding promptly and effectively to oil pollution incidents (www.ipieca.org/downloads/GICommsPack/Conventions.doc).

Table-5.1 shows conventions related to pollution at a glance.

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Table-5.1: Conventions related to pollution

Convention	Objective	Year	Place
International Convention for the prevention of pollution of the sea by oil	To take action to prevent pollution of the sea by oil discharged from ships	1954	London
International convention on the civil liability for oil pollution	To ensure that adequate compensation is available to persons who suffer damage caused by pollution resulting from the escape or discharge of oil from ships and to standardize international rules and procedures for determining questions of liability and adequate compensation in such areas	1969	Brussels
International convention relating to intervention on the high seas in cases of oil pollution casualties	To take action on the high seas in cases of a maritime casualty resulting in danger of oil pollution of sea and coastlines and to establish that such action would not affect the principle of freedom of the high seas	1969	Brussels
International convention on the establishment of an international fund for compensation for oil pollution damage	To ensure that adequate compensation is available to persons who suffer damage caused by pollution resulting from the escape or by discharge of oil from ships, and to ensure that the oil cargo interests bear a part of the economic consequences of such oil pollution damage, to the relief of the shipping industry	1971	Brussels
International convention for the prevention of pollution from ships	To preserve the marine environment by achieving the complete elimination of international pollution by oil and other harmful substances and minimization of accidental discharge of such substances	1973	London
Convention concerning the protection of workers against occupational hazards in the working environment due to air pollution, noise and vibration	To protect workers against occupational hazards in the working environment	1977	Geneva
International convention of oil pollution preparedness, response and cooperation	To strengthen the legal framework for the control of environmental pollution by oil, in general and marine pollution by oil in particular by providing a basis for preparedness, and for a response-capability, to deal with incidents of oil pollution in the marine environment	1990	London

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Conventions Related to Nuclear

At least five important conventions on Nuclear were framed. In 1963 **Vienna Convention on Civil Liability for Nuclear Damage** was framed in Vienna, which entered into force in 1997. This convention aims to establish minimum standards to provide financial protection against damage resulting from peaceful uses of nuclear energy. This convention refers the operator of a nuclear installation to be liable for nuclear damage if it is proved that such damage is caused by an incident within the installation, or involving nuclear material originating there from or being sent thereto. The liability of the operator in such a case will be absolute. But the courts may make a finding of contributor negligence on the part of the person suffering such damage. However, the operator will not be liable if the nuclear incident was due directly to act of armed conflict, civil war, insurrection or a grave natural disaster of an exceptional character. The operator will not also be liable on provision of proof that such damage was caused by the negligence of the person suffering from such damage (Islam, 1996). In the same year **Treaty Banning Nuclear Weapon Tests in the Atmosphere in Outer Space and Under Water** was framed in Moscow. The convention puts weight on general and complete disarmament under strict international control in accordance with the objectives of the United Nations. It aims at putting an end to the armaments race. Another purpose is to eliminate incentives to the production and testing of all kinds of weapons, including nuclear weapons. Each of the parties to this treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction (http://search.msn.com/results.aspx?q=convention+on+Banning=nuclear=weapon&FORM=SMCRT). In London **Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil** thereof

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was signed in 1971. This convention excludes the seabed, the ocean floor and the subsoil thereof from the arms race as a step towards for disarmament, the reduction of international tensions and the maintenance of world peace. Parties undertake not to place on the seabed, on the ocean floor or in the subsoil thereof, nuclear weapons or other weapons of mass destruction, or structures for launching, storing, testing or using such weapons (Islam, 1996). Keeping in mind, to provide relevant information about nuclear accidents as early possible in order that transboundary radiological consequences can be minimized, **Convention on Early Notification of a Nuclear Accident** was adopted in Vienna in 1986. In the event of a nuclear accident the party will notify those states, which are or may be physically affected and the Agency of the nuclear accident about it's nature, the time of its occurrence and the exact location where appropriate. In the event of a nuclear accident the party referred to provide the states such available information relevant to minimizing the radiological consequences in those states (Islam, 1996). On the other hand **Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency,** aims at to facilitate the prompt provision of assistance in the event of a nuclear accident or radiological emergency. It was formulated in 1986 in Vienna. Under this convention, parties shall cooperate between themselves and with the International Atomic Energy Agency to facilitate prompt assistance in the event of a nuclear accident or radiological emergency. According to this convention parties shall request the Agency to promote, facilitate and support the cooperation between states parties (Islam, 1996).

Table –5.ll briefly presents the conventions related to nuclear.

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Table –5.ll: Conventions related to nuclear

Convention	Objective	Year	Place
Vienna convention on civil liability for nuclear damage	To establish minimum standards to provide financial protection against damage resulting from peaceful uses of nuclear energy	1963	Vienna
Treating banning nuclear weapon tests in the atmosphere in the outer space and under water	General and complete disarmament under strict international control in accordance with the objectives of the United Nations	1963	Moscow
Treaty on the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction on the seabed and the ocean floor and in the subsoil	To exclude the seabed, the ocean floor and in the subsoil thereof from the arms race as step towards for disarmament, the reduction of international tensions and the maintenance of world peace	1971	London
Convention on early notification of a nuclear accident	To provide relevant information about nuclear accidents as early possible in order that transboundary radiological consequences can be minimized	1986	Vienna
Convention on assistance in the case of a nuclear accident or radiological emergency	To facilitate the prompt provision of assistance in the event of a nuclear accident or radiological emergency	1986	Vienna

Conventions Related to Ozone Layer

Vienna Convention for the Protection of the Ozone Layer was adopted in 1985 in Austria and enforced in 1988 with the purpose to protect human health and the environment against adverse effects resulting from modifications of the ozone layer. This convention specifies to adopt appropriate legislative or administrative measures and co-operate in harmonizing appropriate policies to control, limit, reduce or prevent human activities under their jurisdiction or control should it be found that these activities have or are likely to have adverse effects resulting from modification or likely modification of the zone layer. The parties undertake to promote or establish, as appropriate, directly or through competent international bodies, joint or complementary programs for systematic observation of the state of the ozone layer and other relevant parameters. These activities will be done by taking fully into account national legislation and relevant

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on going activities at both the national and international levels (SACEP, UNEP, NORAD, 1997). **Montreal Protocol on Substances that Deplete the Ozone Layer** was adopted in Montreal in 1987. Aim of this convention is to protect the ozone layer by taking precautionary measures to control global emissions of substances that deplete it. The protocol provides for measures of exchange of technology and information, calculation of control levels and assessment and review of the progress achieved (SACEP, UNEP, NORAD, 1997). **London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer** framed in 1990 and entered into force in 1992. To make the Montreal Protocol on Substances that Deplete the Ozone Layer (1987) more effective this amendment was made. All the parties come to an agreement to amend the protocol to phase out the production of fully halogenated CFCs and Carbon tetrachloride by the year 2000, to phase out Methyl Chloroform by the year 2005, to gradually reduce and finally phase out the controlled substances between 1990 and 2005. It indicates that for effective implementation of the protocol a financial mechanism will be established, including a Multilateral Fund and a Clearing-house function (Islam, 1996).

Table- 5.lll depicts the main point related to conventions on ozone layer.

Table- 5.lll: conventions related to ozone layer

Convention	Objective	Year	Place
Vienna convention for the protection of the ozone layer	Protect human health and the environment against adverse effects resulting from modifications of the ozone layer	1985	Vienna
Montreal protocol on substances that deplete the ozone layer	To protect the ozone layer by taking precautionary measures to control global emissions of substances that deplete it	1987	Montreal
London amendment to the Montreal protocol on substances that deplete the ozone layer	To make the Montreal protocol on substances that deplete the ozone layer	1990	London

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Conventions Related to Plant, Animal, and Tropical Timbe r

International Convention for the Protection of Birds was framed in Paris in 1950 and entered into force in 1963. The general purpose of this convention is to protect birds in the wild state. This convention revealed that in the interest of science, the protection of nature and the economy of each nation, all birds should, as a matter of principle be protected. Protection shall be given to all birds, at least during their breeding season. Protection will also be given to migrants, during their return flight to their nesting ground and to species, which are in danger of extinction or are of scientific interest. It says that the import, export, transport, sale, offer for sale, giving or possession of any live or dead bird or any part of a bird killed or captured in contravention of the provisions of this convention, shall be prohibited (www.conama.cl/portal/790/printer-5758.html). **International Plant Protection Convention** adopted in 1951 in Italy and entered into force in 1952. Objectives of this convention are to maintain and increase international cooperation in controlling pests and diseases of plants and plant products, and in preventing their introduction and spread across national boundaries. Each contracting party shall make specific and regional agreements in conjunction with the Food and Agriculture Organization of the United Nations. In addition to that each party will set up an official plant protection organization. This organization will inspect areas under cultivation and consignments of plants in international traffic for existence or outbreak of plant pests or diseases (Islam, 1996). **Plant Protection Agreement for the Southeast Asia and Pacific Region** adopted in 1956 in Rome and come into force in 1956. This convention aims at preventing the introduction into and spread of destructive plant diseases and pests in the South-East Asia. Under the convention a Plant Protection Commission for the Asia and Pacific Region shall be established. The convention ensures that trade in plants and plant products shall be regulated by certification, prohibition, inspection, disinfection, quarantine, destruction, etc., as necessary (Islam, 1996). **Convention on International Trade in Endangered Species of**

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Wild Fauna and Flora was adopted in 1973 in USA and entered into force in 1975. This convention was framed to protect certain endangered species from over-exploitation by means of a system of import/export permits (SACEP, UNEP, NORAD, 1997). In 1979 **Convention on the Conservation of Migratory Species of Wild Animals** was adopted in Germany, which was executed in November 1983. This convention was framed to protect those species of wild animals that migrates across or outside national boundaries. The parties acknowledge the importance of migratory species being conserved and of Range states agreeing to take action to this end whenever possible and appropriate (SACEP, UNEP, NORAD, 1997). **Agreement on the Network of Aquaculture Centers in Asia and the Pacific** was framed in Bangkok in 1988. Purpose of this convention was revealed in this manner— 'to assist the member states in their efforts to expand aquaculture development'. To fulfill this purpose an organization for the Network of Aquaculture Centers in Asia and the Pacific (NACA) was planned to be established to share the responsibility of research, training and information exchange essential to aquaculture development in region. The responsibility also includes conducting disciplinary and interdisciplinary research on selected aqua farming systems for adaptation or improvement of technologies and for development of new technologies (Islam, 1996). **International Tropical Timber Agreement** was done in 1994 recognizing the sovereignty of members over their natural resources. The objective of this agreement is to provide an effective framework for consultation, international cooperation and policy development among all members with regard to all relevant aspects of the world timber economy. It provides a forum for consultation to promote non-discriminatory timber trade practices and contributes to the process of sustainable development. The agreement promotes and supports research and development with a view to improving forest management and efficiency of wood utilization. It also wants to increase the capacity to conserve and enhance other forest values in timber-producing tropical

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forests (SACEP, UNEP, NORAD, 1997).

The following table is showing the conventions related to Plant, Animal, and Tropical Timber

Table- 5.IV: Conventions related to plant, animal, and tropical timber

Convention	Objective	Year	Place
International convention for the protection of birds	To protect birds in the wild state	1950	Paris
International plant protection convention	To maintain and increase international cooperation in controlling pests and diseases of plants and plant products and in preventing their introduction and spread across national boundaries	1951	Rome
Plant protection agreement for the Southeast Asia and Pacific region	Preventing the introduction into and spread of destructive plant diseases and pests in the Southeast Asia	1956	Rome
Convention on international trade in endangered species of wild fauna and flora	To protect certain endangered species from over exploitation by means of a system of import/export permits	1973	USA
Convention on the conservation of migratory species of wild animals	To protect those species of wild animals that migrates across or outside national boundaries	1979	Germany
Agreement on the network of aquaculture centers in Asia and title pacific	To assist the member states in their efforts to expand aquaculture development	1988	Bangkok
International tropical timber agreement	To provide an effective framework for consultation, international cooperation and policy development among all members with regard to all relevant aspects of the world timber economy	1994	Japan

Convention Related to Wetlands, Continental Shelf and Climate Change

Convention on Wetlands of International Importance Especially as Waterfowl Habitat was formulated in 1971 in Ramsar, Iran and entered into force in 1975. Objective of this convention is to stem the progressive

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encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. According to the convention each contracting party shall designate suitable wetlands within its territory for inclusion in a list of wetlands of international importance. It put stress on formulation and implementation of the contracting parties planning so as to promote the conservation of the wetlands included in the list, and as far as possible the wise use of wetlands in their territory. It specifies each contracting party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands. In particular, it should create additional nature reserves for waterfowl and for the protection, either in the same area or elsewhere, of an adequate portion of the original habitat (SACEP, UNEP, NORAD, 1997). **Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat** was adopted in February 1982 at Paris and entered into force in October 1986. **Convention on the Continental Shelf** was done in April 1958 at Geneva and entered into force in June 1964. The convention is designed to define and delimit the rights of states to explore and exploit the natural resources of the continental shelf. It recognizes that coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal state may not impede the laying or maintenance of submarine cables or pipe lines on the continental shelf. The coastal state is obliged to undertake, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents. Where the same continental shelf is adjacent to the territories of two or more states whose coasts are opposite each other, the boundary of the continental shelf appertaining to such states shall be determined by agreement between them (www.britannica.com/search?query=continental+shelf+ecosystems&ct=&fuzzy)

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United Nations Framework Convention on Climate Change was signed in USA, in 1992 and entered into force in 1995. The ultimate objective of this convention is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow eco-systems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. The provision of this convention reveals that the specific needs and special circumstances of developing country parties and of those parties that would have to bear a disproportionate or abnormal burden under the convention, should be given full consideration. It also indicates that the parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigates its adverse effects taking into account different socio- economic contexts. The convention further mentions that policies and measures to protect the climate system should be appropriate for the specific conditions of each party and should be integrated with national development programmes (SACEP, UNEP, NORAD, 1997). **Kyoto protocol to the United Nations framework convention on climate change** was signed in Kyoto, Japan, in 1997 (SACEP, UNEP, NORAD, 1997).

Main purpose of the convention related to Wetlands, Continental Shelf and Climate Change is presented in the Table-5.V.

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Table-5.V: Convention related to wetlands, continental shelf and climate change

Conventions	Objective	Year	Place
Convention on wetlands of international importance especially as waterfowl habitat	To stem the progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value	1971	Iran
Convention on continental shelf	To define and delimit the rights of states to explore and exploit the natural resources of the continental shelf	1958	Switzerland
United nations framework convention on climate change	To achieve, in accordance with the relevant provisions of the convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system	1992	USA

Convention Related to Bio-diversity, Combat Desertification, and Hazardous Waste

Convention on Biological Diversity was framed in Rio de Janeiro in 1992, which was come into force in 1993. The main objective of this convention is the conservation of biological diversity. It aims at the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies. It is the responsibility of the states to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. The provisions of this convention shall be applied in relation to each contracting party in the case of components of biological diversity, in areas within the limits of its national jurisdiction. It can also be applied in the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction (SACEP, UNEP, NORAD, 1997). **International Convention to Combat**

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Desertification was adopted on 17 June 1994. The objective of this convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa. It will be done through effective action at all levels and by the support of international cooperation and partnership arrangements. The provision of this convention also states to take measures in the framework of an integrated approach, which is consistent with agenda 21, with a view to contributing to the achievement of sustainable development in affected areas. Achieving this objective will involve long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level (SACEP, UNEP, NORAD, 1997). **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and other Disposal** done at Basel, Switzerland in March 1989. Objectives of this convention is to reduce transboundary movements of wastes to a minimum consistent with the environmentally sound and efficient management of such wastes. It also aims at to minimize the amount and toxicity of hazardous wastes generated and ensuring their environmentally sound management (including disposal and recovery operations) as close as possible to the source of generation. Another objective is to assist developing countries in environmentally sound management of the hazardous and other wastes they generate. Parties exercising their right to prohibit the import of hazardous waste or other wastes for disposal shall inform the other parties of their decision. Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes to the parties, which have prohibited the import of such wastes. Each party shall take appropriate legal, administrative and other measures to implement and enforce the provisions of this convention (SACEP, UNEP, NORAD, 1997).

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Conventions related to Bio-diversity, Combat Desertification, and Hazardous Waste are shown in Table-5.VI.

Table-5.VI: Conventions related to bio-diversity, combat desertification, and hazardous waste

Convention	Objective	Year	Place
Convention on the biological diversity	The objective of this convention of biological diversity, the sustainable use of its components and the fair and equitable sharing the benefits arising out of the utilization of genetic resources, including by appropriate access to resources and by appropriate transfer to relevant technologies, and by appropriate funding	1992	Rio de Janeiro
International convention to combat desertification	To combat desertification and mitigate the effects of drought in countries experiencing serious	1994	Place is not found
Basel convention on the control of transboundary movements of hazardous wastes and other disposal	To reduce transboundary movements of wastes subject to the Basel convention to a minimum consistent with the environmentally sound and efficient management of such wastes, minimize the amount and toxicity of hazardous wastes generated and ensuring their environmentally sound management as close as possible to the source of generation, assist developing countries in environmentally sound management of the hazardous and other waste they generate	1989	Basel, Switzerland

Conclusion

During the last few decade or so people around the world have become relatively more conscious about environment and its conservation. The year 1972 was specially important because in that year the Stockholm Conference was held and that conference played a crucial role in creating awareness about the importance of environment in protecting the earth as well human civilization (Islam, 1996). From this awareness internationally and nationally a number of initiatives have taken to protect the environment and adopting ICTPs is one of the examples of these initiatives. From 1900 to 1996 total 185 (according to available materials) conventions were adopted, most of these (120 conventions) were signed between 1960 to 1989. After 1990 some important conventions (35 ICTPs) were framed.

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But most of the developing countries suffer from some problems regarding these ICTPs. In most of the cases decision makers are not aware about the need to implement the ICTPs and proper methodology for implementation are also absent. Often ICTPs are implemented due to donors' pressure without considering the national needs and priorities. This problem is mainly emerged due to the lack of expert and efficient people to deal with these conventions. The policy makers are not efficient to prioritize the urgency of these treaties in the light of national interests. Even, in most developing countries, no nodal agency is effectively earmarked for the implementation of particular ICTPs. Another critical problem is initiatives are not taken to review the existing laws and frame the new ones. As a matter of fact adopting conventions are not the end, for protecting the environment the efficient implementation of these conventions is needed. Appropriate legal basis, high technical and negotiation skills, expertise, coordination capacity with different national and international organizations and financial support must be ensured by the concerned government for proper implementation of the ICTPs.

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Chapter-6

Environmental Issues: South Asian Perspective

Introduction

The focus of attention of this chapter is to trace out the environmental issues of south Asian countries. More specifically, attempts have been made here to focus light on state of different sector and common environmental problems related to that sector.

South Asian countries face a number of common environmental problems though vary in terms of forms, severity and significance depending on the country's stage of development and economy. Among which destruction of forests, soils, aquifers, reefs, fisheries, and biological species; pollution of air, land, subterranean, and marine resources through human and industrial activities; and unsustainable environments caused by both anthropogenic and natural disasters are most visible. The environmental problems of developing countries emerged both from over development as well as underdevelopment. Demographic pressure, which has worsened the man land ratio causing severe strain on the ecological support base; developmental activities, which have resulted in indiscriminate attacks on the natural resource base; absence of adequate environmental legislation or the failure to implement such legislation to guarantee minimum protection to the environment, and natural disasters, whose frequency and ferocity appear to have increased in recent decades are considered the principal causes of environmental degradation in the subcontinent. On account of their interdependency and interrelatedness character, the impact of any one of these factors is bad enough, but the cumulative effect is proving to be disastrous (Sapru, 1990: 17). Most of the countries in this region are grappling with the problems of trade-off between environment and development. So these

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nations should try to strike balance between environment and development in order to achieve sustainable growth and rather than address environmental issues in isolation, decision makers in governments should consider the preservation of the environment through cooperation and mutual trust between these countries.

The following discussion is confined to major environmental sectors - population, land, forest, water, ocean and sea, biodiversity, human settlement, air, health and sanitation – of India, Pakistan, Nepal, Sri Lanka, Maldives, and Bhutan

India

The stresses of India's environmental resources come mainly from pressures for satisfying the basic needs of a large and growing populations. The rapidly growing population, along with increased economic development, has placed a strain on India's infrastructure, and also on the country's environment. Deforestation, soil erosion, water pollution and land degradation continue to worsen and are hindering economic development in rural India. Rapid industrialization and urbanization are also serious concerns of India (http://www.eia.doe.gov/emev/cabs/indiaenv.html).

Population

In India the population has increased from 238m in 1901 to 960m in 1999 and is projected to reach 1.16bn in 2010. With its current population growth rate of 2% per annum, India will have an estimated 480m or 41% of its total population living in urban areas by 2010. The rate of urban growth has also soared from 2.3% annually in 1951-56 to over 3.9% in 1990 (Centre for Science and Environment, 1987 & Population Reference Bureau, 1991).

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Land

India's wastelands areas affected seriously by salinity, alkalinity and wind and water erosion. Among Asian countries India has the highest proportion of its irrigated land affected by salinity (Vyas and Reddy, 1996:). Uncontrolled cultivation of mountain slopes without appropriate slope treatment and shifting cultivation have caused massive soil erosion. Faulty irrigation system and surface flooding due to natural topography and drainage congestion are estimated to have waterlogged a greater area. Use of pesticides and chemicals is another factor to have degraded the soil. The very process of industrialization based on fossil fuel technology involves extensive extraction of minerals. Mining on hill slopes disrupting the natural drainage destroys natural vegetation and retards natural regeneration (SAARC, 1992:27).

Forest

The official estimate of annual deforestation is about 48000 hectares as against the annual reforestation of 1,38,000 hectares in India. Official estimates show that forest cover has increased only by 0.7% since 1977-79, one of the lowest rate in Asia. (Vyas and Reddy, 1996:). The major causes of deforestation in India are encroachment of forest lands for cultivation, shifting cultivation, diversion of forest land to non-forest uses, grazing and forests, unauthorized and commercial filings and industrial use leading to floods and droughts. Coupled with these are the spawning population growth and migration of refugees from neighboring countries (SAARC, 1992:43).

Water

At present water pollution is at alarming stage in India. The total discharge of domestic waste in India is 33 million cu.m. India also uses about 5 million tones of chemical fertilizers and 77,000 tones of pesticides and insecticides. Pollution load from tanneries and dyeing units is also increasing, which usually find their

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way into rivers or into ground water without having effective treatment facilities and also pollute coastal water affecting marine life. Profuse use of organochlorine pesticides in India, though banned in developing countries has brought damage to the marine life. But more than 80% of the total pollution load comes from the municipal sewage (SAARC, 1992:27).

Ocean and Sea

The Indian marine environment is seriously affected by land-based sources of pollution and offshore activities (SAARC, 1992:77-78). Frequent and periodic mortality of marine fauna caused by an excess of ammonia, has been found near the discharge points of fertilizer factories. Heavy metal pollution in the sea round India is caused mostly by the discharge of municipal sewage and industrial effluents. The surface water of the Bay of Bengal shows a higher presence of almost all metals as compared to the Arabian Sea as the former receives the large river run off (Gaan, 2000:65).

Biodiversity

India is endowed with an immense variety of natural living resources in its animal and plant heritage, which sustains million of its people. However, under the relentless pressures of an exploding population and growing demands of industries, India's natural living resources are fast dwindling and several species of wildlife are being rapidly lost (Sapru, 1990:19). India has 17,270 plant taxas, of these 1,469 are rare and being threatened. Country has 341 known mammal species, of which 38 are being threatened. India has 400 species of reptiles of which 17 varieties are being threatened (Vyas and Reddy, 1996:).

Human Settlement

It is estimated that in India there are more than 6,00,000 human settlements of which nearly 3245 are urban. In the urban areas, the environmental problems are

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related to an onslaught of population growth and migration of the poor from small towns and villages. Despite heavy investments made in urban development, much to the neglect of rural areas, millions of urban inhabitants still continue to live with woefully inadequate housing, water supply, sanitation, transport, education, low enforcement and disease control (Sapru, 1990:21).

Air

India's most severe environmental problem is air pollution. According to the World Health Organization, the capital city of New Delhi is one of the top ten most polluted cities in the world. Surveys indicate that in New Delhi the incidence of respiratory diseases due to air pollution is about 12 times the national average. Sources of air pollution come in several forms, including vehicular emissions and untreated industrial smoke. Apart from rapid industrialization, urbanization has resulted in the emergence of industrial centers without a corresponding growth in civic amenities and pollution control mechanisms (http://www.eia.doe.gov/emev/cabs/indiaenv.html).

Health and Sanitation

There are only about 2.62 doctors per thousand population in India and about nine hospital beds per 1,000 people. And the rural urban disparities in this regard are very wide. Only 73 percent and 79 percent of the rural and urban population respectively, in India have access to safe drinking water, which is well below even the Asian standards. The condition of sanitation is still worse. Only 4 percent and 38 percent of the rural and urban population have access to sanitation facilities. Thousands of workers die every year because of occupational diseases, the gravest being caused by various types of dust (Vyas and Reddy, 1996:).

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Pakistan

Poor natural resource management over many years and continuing high population growth has had a negative impact on Pakistan's environment. Agricultural runoff--caused by ongoing deforestation--and industrial runoff have polluted water supplies. Factory and vehicle emissions have degraded air quality in the urban centers. Similar to other developing countries, Pakistan has focused on achieving self-sufficiency in food production, meeting energy demands containing its high rate of population growth rather than on curtailing pollution or other environmental hazards. As a result, "green" concerns have not been the government's top priority. Yet, as Pakistan's cities suffer from the effects of air pollution and unplanned development has caused degradation, environmental issues have become more salient.

Population

Pakistan has a population growth rate of 3%, the second highest in the region. As projected, the present 118 million will reach 195 million by 2010. Its urban population has also soared from 15.4% of the total in 1947 to 31% in 1988 (Environment and Urban Affairs Division, 1991: 10).

Land

Pakistan has a serious problem of soil salinity. Water logging and salinity are seen as major factors impeding agricultural productivity (SAARC, 1992: 29). It is estimated that about 4.45m hectare are threatened by water erosion and directly affected by loss of productivity, gullying and mass wastage of water (Haen, 1993: 505). In addition to the loss of valuable topsoil and water, the massive siltation in the downstream reservoirs, flood plains, riverbeds, canals and water distribution system virtually proves to be a phenomenal problem.

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Forest

Pakistan has one of the lowest forest endowments in the world. Forests have been mainly cleared for irrigation projects, farmlands, new townships, markets and roads and for producing timber for industries and fuel wood for the people. As estimated, nearly 50% of heating and cooking requirements are met by fuel wood every year (SAARC, 1992: 43). What has been a matter of concern are the exclusive dependence of over 80 million livestock and numerous wild animals on the country's degraded range and forest areas for grazing. This poses serious threat to the afforestation and regeneration programmes in all ecological zones (Hudson, 1992; 16-17).

Water

At present 60% of total culturable commanded area of canals is waterlogged. There is evidence of dropping water tables in 14 out of 45 canal commands (Environment and Urban Affairs Division, 1991: 49). The extension of the canal network coupled with lack of drainage system has led to an increase in the area of salinity and salinity afflicted land. Many factors are responsible for these water logging, salinity, and deterioration of ground water supplies problem in rural Pakistan e.g. Water mining, population pressure in urban areas, insufficient water and inadequate sewage disposal systems in industrial cities, large scale uncontrolled use of pesticides etc (Environment and Urban Affairs Division, 1991: 50).

Ocean and Sea

Untreated domestic sewage and industrial effluent causes deterioration in the marine environment. Pakistan has problem with thermal pollution from the Karachi nuclear power plant. A reduction in species diversity of marine organisms has been noticed near the warm water discharge point of power plant (Rizvi, 1985: 16). Dumping of garbage has contaminated channels and

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backwaters. The oil tanker route from the Middle East to the Far East and Japan, passing through the Arabian Sea, Southern Bay of Bengal and Malacca strait, is of direct concern to Pakistan, India, Sri Lanka and part of Maldives. The most common impacts is frequent mortality of the fauna, particularly shellfish (Rizvi, 1985: 22).

Air

The level of air pollution in Pakistan continues to rise. As industry has expanded, factories have emitted more and more toxic effluents into the air. The number of vehicles in Pakistan has swelled in recent years. With few controls on vehicular emissions and little enforcement, reports show that motor vehicle exhaust accounts for 90% of the pollutants in Pakistan's air. The government has begun to take notice of the degrading air quality in the capital, which adversely affects the health of some 16 million people.

Carbon Intensity

Pakistan's level of carbon intensity is high. Carbon emissions from vehicles are the main reason behind carbon intensity.

Nepal

In Nepal, the experience of the past 30 years of development has clearly shown that neglect of the environment is economically unfeasible in the long run. A degrading environment has increased the difficulties of poverty eradication, while the failure to overcome poverty has exacerbated environmental problems In many respects, the future economic development potential of Nepal will be greatly facilitated if natural resources and the environment are better managed (ADB& International Center for Integrated Mountain Development, 1992:13).

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Population

Nepal's population has steadily increased over the past few decades. Rapid decreases in infant and child mortality as well as persisting high fertility have been the main reasons for this growth. Nepal has also been experiencing a massive emigration in the last two decades (Gaan, 2000: 34).

Land

Land is depredated mostly due to the ecological fragility of the region, the overuse of marginal lands, overgrazing and high population densities in the hill and mountain areas. It is estimates that soil losses range from "normal figures" of 5-10 tons per hectare per year on well-managed land to high rates of 40-200 tons per hectare per year on degraded land (MoPE, 1998).

Forest

The threat of deforestation is another challenge for Nepal's fragile ecosystems. There are two factors in Nepal contributing to deforestation. First is, the conversion of trees covered land to cropland, resettlement areas and infrastructure development. Second, degradation of forest growing stock due to over cutting of biomass to meet growing energy and timber demands, overgrazing and forest fires (SAARC, 1992: 44-45).

Biological Diversity

Nepal's varied ecological settings also make it home to some of the most spectacular biodiversity in the world—a situation that is both a matter of national pride and a challenge to conservationists. Nepal boasts 136 ecosystems, each with their associated flora and fauna. It is the region of 75 types of vegetation, 35types of forests, 6500 of the world's flowering plants, 1500 species of fungus, 350 species of lichens, 4500 species of insects. Out of these insects 641 are butterflies, 844 different types of birds, 160 types of amphibians and reptiles, and

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181 different types of mammals (MoPE, 1998:). Therefore, conserving biodiversity has become an integral part of Nepal's national environmental policy, not only as an end in itself but also in order to promote tourism (United Nations System, 1999: 26).

Air

In Nepal different studies indicate that both air quality has deteriorate significantly over the past decade, especially in urban areas. A study conducted in 1998, estimated that Kathmandu's vehicles (buses, truck, tempos and two-stroke motorbikes) produce 7 tones of nitrogen oxides and 0.4 tones of sulphur oxides on a daily basis (MoPE, 1998). The lead content in dust particles along heavy traffic areas was found to be dangerously high, as were emissions from brick kilns and cement factories (United Nations System, 1999: 29).

Water and Sanitation

One of Nepal's greatest challenges lies in the area of sanitation, water and solid waste management. For instances, although drinking water access has improved in rural areas from 43 percent in 1991 to 61 percent in 1996, the same cannot be said for urban areas, which came down from 90 percent in 1991 to 85 percent in 1996. Water sources are severely polluted from industrial effluents, human and animal wastes, use of the river as a toilet facility, and by heavy silt load carried by rivers during the monsoons (FPAN/DISVI, 1988&1989).

Public Health

The present picture of health sector indicates both a serious lack of awareness about the relationship between health and hygiene as well as the lack of sanitary norms (The United Nations System, 1999: 28). The high rate of infant mortality, 108 to 144 deaths per 1000 live births, is a clear indicator of the low level of general health status. In addition, about 77,000 persons are estimated to be

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disabled due to blindness, deafness, paralysis, insanity, leprosy, polio and other causes. The maternity death rate in rural areas is also high due to lack of basic minimum medical care. Furthermore, environmental pollution in the urban areas has severely affected public health. Occurrences of respiratory diseases are frequent and are known to be caused by air pollution. Drinking water is heavily polluted in most of the urban centers. Water-borne diseases are very common and are very high during the monsoon season. Prevention of public health hazards has become increasingly difficult due to heavy investment requirements in areas such as solid and liquid waste management, clean water supply, urban planning, provision of health facilities, etc. (http://www.nepalhomepage.com /development/unced.html). The most toxic pesticides are being used throughout Nepal without restriction and are already reported to be causing serious health problems among applicators and consumers in some areas.

Natural Resource-related Disasters

The natural resource-related disasters are mainly man-induced and arise from mismanagement of natural resources. Forest, fires, landslides, and floods have been reported increasingly. While it is clear to what extent these are man-induced, there is growing concern that many disasters could be man-induced out of ignorance, need, or due to various actions upstream (ADB& International Centre for Integrated Mountain Development, 1992: 16).

Sri Lanka

Like other developing nations, Sri Lanka too is faced with the apparently conflicting demands of socio-economic development and environmental conservation. In the past, Sri Lanka's development planning had paid inadequate attention to the long-term impacts of the development processes on the natural resources base and the environment. The immediate aim was to promote strategies that would bring relief from poverty and other social inequalities.

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However, in recent years, the adoption of scientific principles and practices for sustainable development and the influence of emerging international thinking on these issues have led Sri Lankan policy makers to adopt measures to ensure that environmental considerations will be taken into account in all spheres of economic development. This recognition also stems from a realization that Sri Lanka has a relatively limited natural resource base upon which to build its economic development programme, which makes it imperative that this base be safeguarded so that development can be sustained (IUCN: 6-7).

Population

Sri Lanka's population soared from 12.3 million in 1971 to 18 million in 1993. The annual rate of growth is about 1.5%. The population will reach 25 million by 2025. With a land area of only 65,610 km2, Sri Lanka is among the most densely populated countries in the world (World Bank, 1995: 210).

Land

Sri Lanka being predominantly an agricultural country exhibits rampant soil erosion. Mining activities which include extraction of ceramic and cement raw materials, graphite stones, marble, dolomite, coral, rock and sand for building and road constructions and clay for brick and tile manufacture destroy the lands by the very nature of the enterprise. Deforestation on steep slopes of watersheds and removal of grass and other protective cover have been primarily responsible for severe soil erosion. Landslides add further to soil erosion especially in the hill. Water logging has been a problem in Sri Lanka's coastal areas of the wet zone (SAARC, 1991: 40). Large-scale application of pesticides, fungicides and weedicides has led to a concentration of toxic residues in the soil, ground water and surface water bodies (SAARC, 1991: 41).

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Water

Being influenced by the too strong rain bringing monsoons in Sri Lanka, except particular areas, a greater part are vulnerable to periodical deficit in water supply and is subject to long spells of drought. Water quality has deteriorated due to application of artificial chemicals in irrigated agricultural sector and release of untreated chemicals from factories and solid waste and untreated sewage disposal from the city (SAARC, 1991: 84).

Ocean and Sea

Untreated domestic sewage and industrial effluent are discharged from industrial units to contaminate waterways and coastal areas in Sri Lanka. As regards the disposal of solid waste, Sri Lanka uses solid wastes as landfill. Fiber wastes, sawdust, wood shaving, etc. are dumped in large quantities along riverbanks and beaches. Litter from industries located along rivers and canals are dumped in these waterways and get released on the coast polluting the beaches. Unrestricted coral mining for livelihood and sand mining and their uses for the construction of industry and cement kilns are destroying the natural buffer (UN ESCAP, 1984: 108). It is also apprehended that the continuous disposal of above said pollutants has been a threat to coral reefs, mangroves and other habitats (Gupta, 1990: 28-30).

Air

The chief sources of air pollution in Sri Lanka are vehicular and industrial emissions (SAARC, 1991:86). In recent days, Sri Lank has registered a considerable increase in motorized vehicular traffic. The lead content added to enhance the octane rating of the fuel, could cause serious air pollution. Other sources of pollution in Sri Lank comprise of 21 power plants of capacities ranging from 1 mw to 20 mw using gas, heavy fuel and diesel as fuel. The practice of refuse burning in public causes also pollutes air (Gaan, 2000: 71).

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Maldives

The problems of environment and development in small, archipelagos states such as the Republic of the Maldives differ considerably from those of land locked or coastal states with large land areas. Maldives government identified the following environmental issues to be addressed:

Population

Maldives is suffering from two problems related to population. One is high growth rate and another one is maldistribution of population. The growth rate was 3.2% during 1977-85. Considering the birth and death rate the total population in 1900 was estimated to be 214,139. 2,00,000 people are scattered over 202 residential islands and 73 resort and industrial islands whereas 30% of the total population is concentrated on Male Island alone (The Republic of Maldives, 1990:4).

Land

Wind driven sand, water logging, and salinity are mainly responsible for land degradation and soil erosion. There is a problem of wind driven sand on certain islands of Maldives, which causes the soil erosion and land degradation during dry months. There is water logging problem in the islands with central depression in which the rainwater accumulates during monsoon rains. Salinity problems affect the ground water on the islands where pumps are used to draw limited water due to saline water instruction (The Republic of Maldives, 1990:16).

Forest

Deforestation is the main problem in Maldives. The main causes of deforestation in Maldives have been the increasing requirement of fuel, timber for boat building, and shifting cultivation (The Republic of Maldives, 1990:19).

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Water

Maldives is facing fresh water scarcity due to contamination with faecal matter and the depletion of the limited fresh water aquifer lens due to the overuse. On some islands, the use of pumps to irrigate crops has depleted the fresh water aquifer resulting in saline water intrusion. In Male, the capital of Maldives, water pollution is most severe (The Republic of Maldives, 1990:27).

Ocean and Sea

In Maldives, Male is the only urban center. Its major problem has been identified as the direct disposal of wastes to the sea from the fish-canning factory. As studied, groynes, seawalls and jetties have affected sand movement around many islands causing erosion and deposition. Land reclamation for human habitation, coral mining and sand mining are also damaging some of the reefs and lagoons. Dynamite blasting of reefs has become a problem. Shells and other coral collections for the flourishing tourist industry exhibit environmental depletion (Gaan, 2000: 64-65).

Sea Level Rise

The average wave height around Maldives, which is 1-2m throughout the year, reaches the extremes of 3-4m from the directions of the monsoons. But most of Maldives islands do not rise more than 2 m above sea level and a great many are less than 1m above sea level (ms1). Most of Maldives population, industry and infrastructure lie within 0.8-2m of the mean sea level. There is the apprehension that if the trends in global warming continue, most of Maldives will affect seriously the fresh water aquifers over-whelming the coral reefs. Sea level changes along a specific coast will depend on global and local factors (Edwards, 1989: 1-5).

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Bhutan

Maintaining a balanced natural eco-system remains the central theme of Bhutan's development process. Bhutan's development policies disregard sacrificing its natural resource base for short-term economic gains and are consistent with the central tenets of sustainable development, environmental conservation and cultural values (http://members.tripod.com/~Tshewang). For the last few years, however, increasing population, change in consumer patterns and rapid urbanization have begun to put great pressure on the environment. This could potentially be a great threat to conservation and sustainable development (http://members.tripod.com/~Tshewang).

Population

In comparison to other states of South Asia, its growth rate has been lower. Due to declining infant mortality, if its population growth rate increases to 3% annually, the population would double in 2005 (Gaan, 2000: 35).

Land

Soil erosion has become a problem affecting the forest and grazing lands in Bhutan. Due to significant deforestation, part of southern Bhutan shows substantial evidence of soil erosion. Ubiquitous practice of shifting cultivation has been a prime factor for soil erosion in eastern and parts of southern Bhutan. Erosion due to overgrazing has been so far the most serious menace to the environment in Bhutan. On the other hand, erosion by rivers affects significant areas of limited flat lands in major agricultural values. The flood is estimated to have caused a loss of land (SAARC, 1992: 28).

Forest

Bhutan is the only in South Asia which retains as much as 69% (2.573 mha) of its land under forest. Nevertheless Bhutan's level of deforestation is increasing

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rapidly. About 172,000 ha of forestlands are today either barren or degraded in Bhutan. As per the records of the Department of Forestry, the annual deforestation rate stands at 2,000 ha caused mainly by shifting cultivation and illegal encroachment. Coupled with these over utilization of forests to meet the need for timber and firewood has also degraded the forest. In western Bhutan, extensive coniferous forests have been facing degradation due to insect and fungus infestation, over maturity and disease (SAARC, 1992: 44).

Water and Sanitation

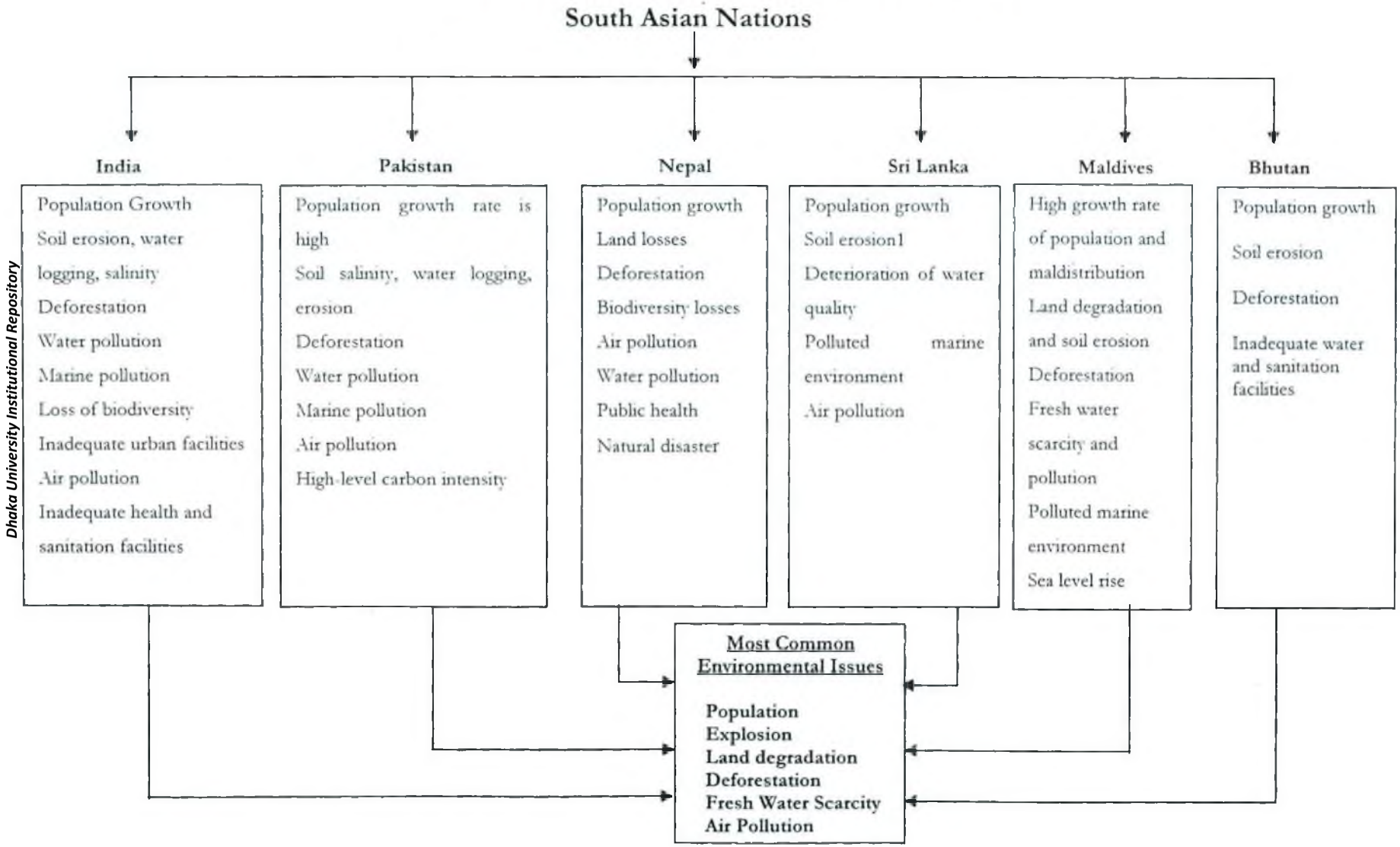
Most unique feature of Bhutan is that it does not have any sewerage system. Mass people do not have any access to flush toilets with septic tanks. Even these are not well maintained, overflows from badly maintained septic tank are discharged into residential quarters. Another problem is the lack of solid waste collection and disposal services. Most of the cases waste is discharges without any treatment to open drains and streams being used as disposal points for domestic garbage. Sullage water is generally collected in storm water drains and discharges without proper treatment. All these are polluting surface water in major urban centers (SAARC, 1992: 27; Gaan, 2000: 61).

Figure-6.1 exhibits the graphical presentation of the environmental issues of South Asian nations

Conclusion

Attempt has been made in this chapter to focus light on state of the environment of south Asia. Most vulnerable sectors have included here are population, forest, land, water, air, Ocean and sea, biodiversity etc. From this discussion we can identify a number of environmental issues. Though there are differences in respect of reasons but most of these issues are common for all south Asian nations. **Population explosion** is the most common problem. Rapid decrease in

Figure-6.1: Environmental issues of South Asian Nations



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infant and child mortality, high fertility rate, and massive immigration are common causes behind population growth. In comparison to other states of south Asia Bhutan's growth rate has been lower in spite of its declining infant mortality. Most of the areas of this region have been subject to **land degradation.** Soil erosion, water logging, salinity are common features related to land degradation. Most common causes are shifting cultivation, flood, use of pesticides and chemicals, overgrazing. Deforestation is directly related to land degradation. The common causes of **deforestation** are illegal encroachment and increasing requirement for fuel. A unique cause is responsible for deforestation in Maldives that is a large number of trees are cutting for boat building. **Fresh water scarcity and pollution** is another common environmental issue in this region. Root cause of water pollution in all the countries is inadequate sewage disposal system. Except Maldives and Bhutan, **Air pollution** is severe problem for all other countries of this region. Vehicular emissions, untreated industrial smoke, and urbanization are considered prime source of air pollution. India, Pakistan, Sri Lanka, and Maldives are suffering from marine pollution. Marine environment of these countries is polluting because of discharge of municipal sewage, industrial effluents, and offshore activities. Due to population explosion and growing demand of industries several species of wildlife are being rapidly lost in this region. This **loss of biodiversity** has become mainly problem for India. **Carbon emissions** is becoming as a matter of tension because of consumption of industrial, transport, and residential sector energy, and commercial activities, especially in Pakistan and India. Despite heavy investments made in urban development, millions of urban inhabitants still continue to live with **inadequate urban facilities.** It is a problem for rapidly growing countries, like India, where population growth and migration of the poor from small towns to village is higher. **Sea level rise** is becoming another problem especially in Maldives. Sea level changes depend on global and local factors such as global warming and human activities. South Asian countries have been severely affected by poor

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sanitary facilities, malnutrition, and lack of adequate health facilities, a poor number of people have access to **health and sanitation facilities. Natural disaster** is another problem for the south Asian nations. The natural resources related disasters are mainly man induced and arise from mismanagement of natural resources and out of ignorance, need or due to various human activities. The concept of 'environment' and 'environment protection' is comparatively new not only in this subcontinent but also at international level. Two international conferences are considered as milestone in this regard. One is United Nations Conference on Human Environment held in 1972 and another one is the Earth Summit held in Rio de Janeiro in 1992. After the first conference governments were becoming conscious about to protect environment. But the second conference drastically changes the attitudes of the government and mass people. Since that time south Asian governments are investing their time, energy, resources and best effort to protect and improve their environment.

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Chapter-7

Environmental Issues in Bangladesh

Introduction

Bangladesh is facing a number of serious environmental issues. These ranges from global warming that can have potential devastating effects on the country's people and its resources, to a variety of regional and national issues. This chapter summarizes different environmental problems facing Bangladesh.

Over the years, the country has undergone a process of environmental degradation, which is cause for great concern. These are illustrated by deforestation, destruction of wetlands and inland fisheries, soil nutrient depletion and inland salinity intrusion. Furthermore, natural calamities like floods, cyclones, tidal surges and tornadoes have resulted in severe socio -economic and environmental damage (MoEF, 1992: 5) by a combination of factors. These factors include: a large and rapidly growing population; industrial development without sufficient controls on industrial pollution; improper use of agricultural chemicals and pesticides; poorly designed flood control, drainage and irrigation works; over cutting and indiscriminate felling of forests, and artificially lowered stumpage prices and royalties for forest products; lack of community control over open-access resources; inadequate land use planning; and institutional weakness among the public agencies in charge of environmental protection and natural resource management (WRI report, 1990:2). The major root of man-made problems is lack of understanding of ecological principles, poverty and lack of adequate alternate resources (MoEF, 1992). The single most critical factor that will increasingly hamper development in Bangladesh, if not addressed properly, is the size and rate of growth of an already overwhelmingly large population. High growth rate with an existing large population will tremendously strain the

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country's limited land resource for development in the years ahead. The predominance of children and adolescents in the present age structure of the population is also likely to have substantive bearing on the environment and sustainable development of the country. As constitute about half of the population, women are also a potentially important agent of socio-economic dynamics and sustainable development (MoEF, 1992:5). Furthermore, poorly designed development activities, misguided policies, flawed development models, global changes and inequitable access to these resources can also contribute to the degradation of natural resources, as much or more than population pressure.

The following discussion concentrates on the sector-wise environmental issues.

Land Resources

The total area of Bangladesh is approximately14.40 million hectares of which 13.46 million ha are land surface and 0.94 million hectares are rivers and other inland water bodies (MoEF, 1991: 8). The total land area of 14.40 million hectares is distributed according to different form of land use. The agricultural land is classified into following categories: Very good agricultural land (1.5%), good agricultural land (34.2%), moderate agricultural land (39.3%), poor agricultural land (16.0%), very poor agricultural land (9.0%).

Key environmental issues of land resources can be listed in the following way:

- Despite general land shortage much derelict and unused land exists in urban areas.
- In several coastal polders land is being converted to shrimp farming and this has adversely affected agricultural production, caused loss of productive trees and has led to substantial shrinking of mangrove forests.
- Agricultural land is being lost to the expansion of urban settlements, for sand and gravel mining, transport, brickfields and industrial development.

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- Land fragmentation continues to render many families functionally landless.
- Short term leasing and share cropping precludes the right to land purchase over the long term.
- Land tenure and ownership patterns are unclear in many areas preventing long-term investment in land productivity.
- Unregulated encroachment into forestlands leads to unsustainable agricultural exploitation of the land (short-terms) due to uncertainty.
- Use of pesticides for crop protection causes toxicity in soil and affects adversely the aquatic fauna particularly fish production (MoEF, 1994:83-84; MoEF, 1991:76).

Forest Resources

According to a recent estimate, total forestland in Bangladesh is about 2.6 million hectares, or 18 percent of the land surface of the country. In Bangladesh both public and private sectors are controlling forestland, of which 2.2 million hectares are estimated as state forestland where as 0.4 million hectares are categorized as private forestland. Of the state forestland, 1.3 million hectares of natural forests and plantations are under the jurisdiction of the forest department and 0.9 million hectares are administered by the Ministry of Land through local authorities, termed as unclassified state forest. Included in the forestland are also village forests and homesteads throughout the country; and tea estates and rubber plantations (Gain, 1998:69).

There are officially three forested areas in Bangladesh under the jurisdiction of the forest department.

a) The hill forests -eastern districts of Sylhet, Chittagong, Chittagong Hill Tracts and Cox's Bazaar- are classified as tropical evergreen/ semi evergreen (640,000 hectares).

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b) Tidal mangrove forests along the coasts- the Sundarbans in the southwest of the Khulna and the Chakaria mangrove forest near Cox's Bazaar (520,000 hectares).

c) The *Sal* forests- in the central plain north of Dhaka and between the present and the old main channels of the Brahmaputra- are classified as moist/dry deciduous (122,000 hectares) (Treygo & Dean, 1989: 15).

Hill forests account for 40% of the commercial timber production. In these forests bamboo covers approximately 0.13% hectares. Besides providing raw materials for pulp and paper, timber for construction, firewood and other materials, the hill forests provide protection for the Karnaphuli River Watershed and for the remaining elephant population (about 400) in Bangladesh (MoEF, 1992:14). Bangladesh has one of the largest mangrove ecosystems in the world and this ecosystem provides the country with a number of services: food source and nursery for the offshore fishery; coastal protection from storm surges and cyclones; domestic and commercial forest products; recreation and tourist spots; essential element for onshore shrimp cultivation; habitat for the Royal Bengal Tiger and other national heritage (Treygo & Dean, 1989: 17). The plain forests are largely composed of two remnant tracts of "*Sal*" woodlands; the Madhupur tract which extends over one 114,000 hectares. In the districts of Tangail and Mymensingh, and the Barind Tract, and in the northwestern districts, there are scattered patches of some 14,000 hectares (MoEF, 1992:14). The village forests provide most of the timber and fuel wood requirements of the country (70% and 90% respectively). Species contained in these forests include mixed fruit trees, shrubs, timber trees, bamboo and palms. They contribute to farming systems and increase their income generating capability (MoEF, 1992:14).

Key environmental issues in Bangladesh associated with forests include the following:

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- Top dying of *sundri* in the Sundarbans.
- Encroachment of forestland for agriculture and human settlement.
- Uncontrolled depletion of forest resources and replacement by commercial forest stands cause not only the loss of forests, but lead to increased soil erosion, increased possibility of flash-flooding and diminishing bio-diversity.
- Salinity intrusion due to reduced fresh water flow in the Ganges system, owing mainly to withdrawal of a large quantity of water in the upper riparian reaches, is affecting the vegetation of the Sunderban smangrove forest.
- Inadequate resources and enforcement mechanisms for the protection of designated areas is leading to their inexorable degradation.
- Inadequate protective mechanisms to maintain unclassed state forests is leading to their decline in area and bio-diversity due to exploitation and encroachment (MoEF, 1994: 73).

Agriculture

Agriculture is the most important component in the use of land and economy. The agro-ecological environment of Bangladesh has been classified into 30 major regions and 88 sub-regions. This regional diversity of topography, parent materials, soil conditions, flooding and moisture regimes coupled with local variations enable a broad range of cropping practices. While economic need is the optimum use of the potential land resource to produce economic crops, the political slogan is food autarky. Traditionally, rice is the staple food of the population and more than 80% of the cultivable land is under paddy cultivation. In an attempt to grow more rice, all the infrastructure have been developed for increasing production of rice at the expense of other food items of more nutritional value like pulses, oilseeds, fruits and vegetables. The major cash crops are jute and sugarcane. It is to be accepted that growing all the agriculture-based

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food items from limited land resource for the growing population will be increasingly difficult and the attempt at intensive cultivation of rice by using improved technology and HYV seeds, flood control, drainage and irrigation development, increased use of fertilizers and pesticides will be associated with conservation and environmental hazards which are being felt at varying degrees at different localities at present. However, it is imperative to use advanced technology and other aids to agricultural production, including credits to farmers for using minimum land for maximum food production, thereby making more land available for cash crops, forest and other purposes.

Most pressing environmental issues:

- Indications of decrease in soil fertility and organic matter.
- Loss of bio-diversity through the conversion of land to agriculture.
- Depletion of soil resources due to intensive cropping, principally a reduction in soil nutrients and organic matter.
- Desertification (in the Barind Tract for example) has resulted from deforestation for agricultural development.
- Increased (and often inappropriate) use of agro-chemicals raises the possibility of pollution.

Fisheries Resources

'Inland fisheries' and 'marine fisheries' are two main divisions of the Bangladesh fisheries sector. Of the total inland water of 4.3 million hectares, 65.3% are flood plain, 3.8% are ponds and 3.3% are coastal farms (Alam, 1996: 262-263). Bangladesh's rivers and other inland water bodies are the habitats of 260 indigenous fish species (belonging to 55 families) and 150 species of birds. The inland water bodies now are also the habitat of 12 exotic species and 24 shrimp species. Several species of snails and shells also grow in the inland waters. The inland fisheries are divided into two broad categories: open (or capture) and

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closed (culture). The open or capture fishery is "self sustaining and self-reproducing". On the other hand, closed or culture fishery is not "self-sustaining and self-reproducing" and needs direct inputs and human care for its sustenance (Sarker and Sarker, 1988). The marine water bodies covering an area of 166,000 sq. km is also remarkable for being habitat to 475 fish species. There are also at least 16 species of marine shrimps. In addition, several species of crabs and 31 species of turtles and tortoises of which 24 live in freshwater are found in Bangladesh (Sarker and Sarker, 1988). The marine fishery, a renewable resource, is totally open. Marine fisheries are of two categories: industrial and artisanal. The contribution of the inland fisheries is 77 per cent to the total catch while the marine's contribution is 23 per cent (industrial 6% and artisanal 17%) (Gain, 1998:96).

Key issues related to fisheries resources are as follows:

- Water abstraction from permanent water bodies, like *beels* and *haors,* during the dry season reduces the available habitat for fisheries.
- Inadequate regulation of shrimp culture in the coastal belt has contributed to increased soil salinity and damage to sensitive ecosystems like mangrove forests, apart from the socio-economic impacts.
- The auction of freshwater bodies on a lease basis has lead to over-exploitation of fish resources to maximize short-term profits.
- Over-fishing and harvesting of small fish fries are contributing significantly to depletion of fish resources (MoEF, 1994:87; Treygo & Dean, 1989:23; MoEF, 1991).

Industry

The industrial sector in Bangladesh is small, but has potential for growth. From 1985 to 1990, this sector achieved an average annual growth rate of 4.02%. Production of major items, however, was low due to a depressed demand for

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manufacturing goods in the domestic market. In their place, non-traditional exports such as garments and frozen foods have become important sources of industrial growth (MoEF, 1992:20). Industries in Bangladesh are broadly categorized as (BBS, 1993) (a) Manufacturing; (b) Mining and (c) Electricity production (BBS, 1993). The major types of industry include jute, pulp and paper, textiles, fertilizers, rubber and plastic, leather, food and beverages, sugar, pharmaceuticals, tobacco, distilleries etc. Of these, the main polluting industries are tanneries, pulp and paper, fertilizer, distilleries, sugar and chemicals (Gain, 1998:116). The agrarian nature of the economy and the availability of local agricultural raw materials influenced the initial effort for industrialization. Subsequently forests, livestock, natural gas and import based industries got preference. The industrial sector has yet to record growth in terms of output, market sales, employment, and contribution to national GDP.

The sections concerned identified the following environmental issues related to industrial sectors:

- Pollution arises from various industrial processes and plants throughout the country causing varying degrees of degradation to the receiving environment (air, land and water).
- Concentration of industries results in pollution in specific areas which exacerbate localized environmental degradation and leads to exceeding of the carrying capacity of the receiving environmental.
- Unplanned industrial development has resulted in several industries being located within or close to residential areas, which adversely affects human health and the quality of the human environment.
- Setting up of industries at the cost of good agricultural lands and in the residential areas is another negative development (MoEF, 1994:53-54).

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Energy

Among its energy resources, Bangladesh has a vast deposit of natural gas, some hydroelectricity and coal and large amount of fuel wood, crop residue, cow dung etc. Fifty-five percent of the total energy consumed in Bangladesh is collected from the traditional organic fuels. Natural gas meets 24% of the country's total fuel needs, while hydroelectricity provides 2% of the needs. Nineteen percent of the fuel consumption in the country comes from imported coal and mineral oil (World Bank, 1995). In Bangladesh, annual per capita energy consumption is approximately 100 kgoe (kilogram of oil equivalent). This is among the lowest energy consumption in the world. The per capita consumption of commercial fuel is 45 kgoe, which is increasing gradually (Gain, 1998:148). The known energy sources of Bangladesh are natural gas, electricity, solar energy, oil, hydropower, commercial energy, biomass fuels, minerals etc.

Key issues related to energy resources are:

- The great demand of biomass fuels is depleting soil nutrients and forest reserve.
- The use of livestock manure for fuel in rural areas deprives the soil of natural fertilizer and leads to nutrient depletion and the loss of soil organic matter.
- There has been a general reluctance to develop alternative renewable rural energy sources (such as solar energy, wind and micro-hydropower) and the technological base in Bangladesh for developing such sources is inadequate.
- Air and thermal pollution of water bodies arises from power stations. This affects human and leads to loss of aquatic diversity and fish productivity (Treygo & Dean, 1989:24;MoEF, 1994:65).

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Biodiversity

Diversity, frequency and variety in genes, species and ecosystems in the biosphere are termed as Biodiversity (Khan, 1998:115). There is a great potential in Bangladesh for biodiversity based sustainable development. The country has a rich fauna (both land and aquatic) and flora and it contributes to the international biodiversity pool, particularly with its rich genetic pool of rice varieties and with one of the world's few surviving tiger populations. The rural population relies heavily on the economic benefits gained from the productivity and variety of the natural base (Ambrose and Ali, 1995: 11). It is clear from different studies that many wildlife species have been exterminated in Bangladesh and many more are threatened with extinction. It was revealed that the country has lost 10% of its mammalian fauna, 3% avifauna and 4% reptiles over the last 100 years. More than 50 species are critically endangered in Bangladesh, of which 23 species are already declared as endangered in the red data book of IUCN. In addition, 83 species are commercially threatened. Elephant, tiger, wildcat, leopard, serao, dolphin among mammals; white-winged duck, comb duck, stork and crane, pheasant and partridge among birds; and crocodile, python, monitor lizard, tiver terrapin, roofed turtle, soft turtle and all marine turtles among reptiles are identified as most endangered species of the country (Khan, 1998: 119).

Key environmental issues associated with bio-diversities are:

- Inadequate protective mechanisms to forest, fisheries and agriculture are leading to their decline.
- The protected areas of Bangladesh, where economic interests are high and biological knowledge poor, are poorly protected and managed due to the absence of any organization.
- There is a great apathy towards nature and its conservation because of large-scale ignorance about the importance of protecting genetic resources (MoEF, 1991:118-120).

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Natural Disasters

Bangladesh is a disaster- prone country. The physiography, morphology and other natural conditions have made her vulnerable to disasters and environmental hazards. The major elements in the process are: floods, cyclones and storm surges; droughts; abnormal rainfall, hailstorm and lighting; nor'westers and tornadoes; earthquakes; saline intrusion; industrial and other pollution; deforestation and depletion of forests. Environmental degradation and hazards associated with ecological imbalances cause emission of greenhouse gases, global warming, sea level rise and depletion of ozone layer (Rahman et al, 1994:134). Cyclones, floods, droughts, riverbank erosion, tornadoes, and earthquakes are most devastating.

Key Environmental Issues are:

- In all cases of disasters, the poor who are the prime sufferers do not have their own means of rehabilitation.
- Sometimes it is not possible to take preventive measures and sometimes it is not economically viable.
- There is no permanent body or well coordinated network within the government system on disaster management (MoEF, 1991:166-167).

Health and Sanitation

The poor health status of the people of Bangladesh is related to poor environmental condition. A high rate of mortality and morbidity exist in the country. The common diseases prevalent are mostly due to unsanitary conditions, paucity of safe drinking water and malnutrition, initiated and complicated by poverty and illiteracy. Diarrhea diseases occur frequently and spread through polluted water. Infectious diseases are common among people living in unsanitary conditions. Infant and child mortality rates are alarmingly high at 110-125 deaths out of 25,000 live births respectively. Only 30-50% of the children in

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the country are immunized. Maternal mortality in Bangladesh, quoted as 6 per 1000 live births caused by hemorrhage, infections and toxemia, is one of the highest in the world (MoEF, 1991:142). Medical facilities in Bangladesh are extremely poor. Except for a few facilities offered by the government, the common people cannot afford medical treatment as required. In Bangladesh, a person requires 2039 calories per day; but per capita daily calorie intake is 1868. However, the average caloric intake is better in rural areas than in the urban areas.

Key environmental issues related to health and sanitation:

- Protein caloric intake is extremely low in rural areas and it contributes to high infant mortality rate and a low level of disease resistance amongst the population in general.
- Low literacy rates greatly impede the dissemination of information on environmental health.
- Unplanned urban development (particularly in traditionally rural areas) has resulted in acute shortage of provisions for water supply and sanitation.
- In most towns, the disposal mechanism for human and industrial waste is inadequate.
- A major portion of the ever-increasing population remains deprived of health care facilities.
- Poor sanitary condition all around and paucity of pure drinking water generally cause spread of diseases and create health problems.
- There is lack of hygiene and environmental education and awareness among people in general about protection, maintenance and improvement of their surroundings for a better life for present and future generations (MoEF, 1994:104; MoEF, 1991: 146-147).

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Water Resources

Water is the most essential resource for sustenance of life. In Bangladesh the rapid population growth and increasing demand for water have seriously strained the availability of water resources (Rahman et al, 1994:102). A contrasting feature in the annual water cycle dominates life in Bangladesh: excessive water during the monsoon causing flood and insufficient water during the dry season creating a drought-like situation. Each year about 26,000 sq. km or 18% of the country is flooded by monsoon rains (BARC/IUCN, 1987). The floodplain ecosystem has adapted to this flooding regime over the millennia. The waters seep into the soils and percolate down to recharge the underground aquifers. *Haors, beels* and *baors* (ox bow lakes, abandoned water courses largely in the south west) are filled providing spawning habitat for fish, winter habitat for migratory birds from frosty zones and groundwater recharge well into the dry season. The silt load carries nutrients to fertilize the soils. The onset of the floods initiates spawning cycles in fish, each species seeking out a specific habitat. Finally, as the pressure of the fresh water reaches the coastal areas, both on the surface and underground, it pushes back the inland intrusion of salt water (Treygo and Dean, 1989:8).

Some of The key issues of concern are as follows:

- The status of aquifer recharge is not certain. There are signs that the water table (or water tables) is (are) being lowered.
- Increased salinity in coastal areas due to insufficient dry season river flow.
- Wetlands are being modified through drainage schemes and have important uses, which compete, usually unsuccessfully, with agricultural production.
- Reductions in freshwater fish populations and harvest as a result of habitat loss or spawning interruption.
- Dieback of the Sundarbans forest from saline intrusion.

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- Increase in water pollution from industrial and domestic sources.
- Major changes in the watersheds outside Bangladesh could drastically reduce the minimum water volumes used as present day baseline data for planning and development.

Finally, although environmental issues related to housing and urbanization, transportation and communication, education and awareness are still secondary; they are expected to increase and gain importance rapidly. Early anticipation and prevention of major upcoming environmental crises in these areas will undoubtedly produce enormous benefits in the long run (MoEF, 1992).

Conclusion

Key sectors of the Bangladesh economy are linked through the ecological system. Each of the sectors can be said to have major impacts on one another and other sectors through the environment. As for example, the agriculture sector has multiple linkages with nearly all-major sectors in Bangladesh economy. The scale and ubiquitous nature of agricultural practices mean that trends within the sector are generally substantial in their effect. Agricultural inputs and agricultural land use practices are linked to the following trends in other sectors: decreased production in the fisheries and forestry sectors; negative impacts on water quality and nutrition in health sectors; increased urban migration in the human settlements sector; decreased availability of fuel woods in the energy sector as well as decreased tree cover, and decreased supply in the water sector because of lowered water tables and increased salinization. The industrial sector has significant impacts on the water, health, fisheries and human settlements sectors. Trends toward increased industrial production contribute concretely to the following trends in other sectors: decreased water quality in the water sector; increased morbidity and mortality in health sector; decreased production and quality of production in the fisheries sector; decreased quality of community life

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in human settlements sector. The human settlements sector, with its trends toward increasing population, and increased density in urban areas, will have significant impacts on the fisheries, forestry, agriculture, water, energy and health sectors. The forestry sector with its increasing trends toward deforestation will have significant impacts on agriculture, urban settlement, water level, and coastal areas. The above discussion point to the urgency of addressing environmental issues that presently hamper sustainable development. In view of Bangladesh's limited resources, it is essential to focus on parallel efforts to slow down population growth on the one hand, and adequately address the problems of depletion of forest, loss of inland wetlands, over exploitation of fisheries, destruction of fish habitats and larva, and poor land and soil symptoms of environmental disequilibrium that already exist in the country. It is especially applicable for the prevailing nature of rural economies in Bangladesh, as most households are still directly dependent on the continued productivity of soils, forests, and fisheries resources. These resources are becoming increasingly vulnerable to overuse and degradation. In such a densely settled environment, heavy-handed interventions, which affect the resource base, can also have an impact on a large number of households. Overuse and destruction of natural resources are already have negative impact on the welfare of millions of people in Bangladesh, and threatening their food security and quality of life. In Bangladesh, because of the inherent environmental vulnerability of the country and its overwhelming population size, sustainable development will be jeopardized unless linkages between the sectors are well integrated into the planning process.

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Chapter-8

Institutional Framework of Environmental Management in Bangladesh

Introduction

A number of agencies deal with aspects of environmental issues, these include Government, Academia, NGOs, and Donors. But the regulatory control is vested in the hand of Ministry of Environment and Forest (MoEF) and Department of Environment (DoE). Here, an attempt has been made to discuss briefly the structure and functions of MoEF and DoE.

Before 1970 there was no separate establishment and legislative provision to face environmental challenges, more specifically environmental pollution. During that time pollution was considered as the most important environmental problem by the government. These problems were basically tackled through local municipal bodies by laws (Ambrose and Ali, 1995: 14). Serious initiative for protection of environment in Bangladesh dates back to as early as 1972 when the United Nations Conference on Human Environment was held at Stockholm from June 5 to 16. Considering the need for common outlook and for common principles to inspire and guide peoples around the world in preservation and betterment of the human environment, the Stockholm conference was organized. As a follow up action of the conference, the government of Bangladesh (GoB) had taken up a number of initiatives. A project, primarily aiming at water pollution control through promulgating Water Pollution Control Ordinance, was undertaken in 1973 under the aegis of the Department of Public Health Engineering (DPHE) with a manpower of 27 (Department of Environment, nd: 1). In 1977, the Environment Pollution Control Cell was established with 26 personnel headed by a director. In the same year, the Environment Pollution Control Board was

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established with 16 members headed by a member of the Planning Commission. Later, the board was transformed into Department of Environment Pollution Control (DEPC) with a staff of 70 persons (World Resources Institute, 1990: 29). The DEPC was under the Ministry of LGRD and until 1989 it was the only government agency dealing specifically with environmental matters. DEPC was mainly working on pollution and for carrying out activities throughout the country, it established branch offices in Chittagong, Khulna, and Bogra. DEPC was the authorized government agency for liaising with the UNEP and was also the national agency participating in the global programs. But the DEPC had been suffering from some limitations: theoretically it was assigned to deal with all environment related activities but practically DEPC's activities were confined to dealing with environment pollution only; it was working under the Ministry of LGRD, which was inappropriate; when sources of industrial pollution were clearly identified, DEPC found itself to be a very weak adversary in any confrontation with the industries concerned; the department was under funded and has been handicapped by an inadequate number of well-trained staff.

Because of the above problems and the importance of environment as a cross-sectoral issue, the need to provide a single oversight ministry covering all environmental issues was felt by all sections of society. A number of scientists, non-government organizations, and others had also been advocating the creation of a department of environment and even if necessary, a ministry of environment (Rahman et al, 1994: 83). In August 1989, therefore, the government of Bangladesh created a new Ministry of Forest and Environment (MoEF) by a fusion of DEPC, which had been under the Ministry of Local Government and Rural Development, and the Department of Forestry, formerly part of the Ministry of Agriculture. The Ministry incorporated the Department of Forests (previously under the Ministry of Agriculture and Forest) and created a new Department of Environment (DoE) based on DEPC but with greatly expanded

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terms of reference and manpower. This act at once elevated environment as an issue within the government (Rahman et al, 1994: 83) and the government of Bangladesh recognized the importance of environmental protection and sound management practice as the basis for long-term sustainable development in the country (MoEF, 1995). To materialize the feelings, a wide array of administrative and research institutions has also been established for working on environmental issues. But among all these, the MoEF and its agency the DoE are supposed to be the main regulatory bodies (See Appendix-8.1)

Ministry of Forest and Environment (MoEF)

At present, from the standpoint of environmental protection and natural resource management issues, MoEF is the most important administrative structure. This is the major decision making body for policy issues and also for approval of all public investment projects. MoEF is the marked environmental ministry dealing with planning, reviewing and monitoring of environmental initiatives, and shouldering responsibilities for ensuring that environmental concerns are properly integrated into the natural development process. The ministry has also a role in working with other ministries to ensure that environmental concerns are given due recognition in their development program. The ministry plays a most vital role in policy advice and environmental action planning and also in coordinating and overseeing the implementation of action plans. The ministry reviews and monitors the impact of development initiatives on the environment across all sectors (MoEF, 1995). The Rules of Business (Al-Faruque, 1996: 67) delineated scope of MoEF in the following way:

- Environment and ecology.
- Matters relating to environment pollution control.
- Conservation of forests and development of forest resources (government and private), forest inventory, grading and quality control of forest products.

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- Afforestation and regeneration after extraction of forest products.
- Plantation of exotic cinchona and rubber.
- Botanical gardens and Botanical surveys.
- Tree plantation.
- Planning cell preparation of schemes and coordination in respect of forest.
- Research and training in forestry.
- Mechanized forestry operation.
- Protection of wild birds and animals and established sanctuaries.
- Matters relating to marketing of forest products.
- Administration of BCS (forest).
- Liaison with international organizations on matters relating to treaties and agreements with other countries and world bodies relating to subjects allotted to this ministry.
- All laws on subjects allotted to this ministry.
- Inquiries and statistics on any of the subjects allotted to this ministry.
- Free in respect of any of the subjects allotted to this ministry except fees in courts.

The ministry oversees the activities of the Department of Environment, Bangladesh Forest Research Institute, the Institute of Forestry (Chittagong University), Forestry Division of Bangladesh, Agriculture Research Council and the National Herbarium, Forest Department, Bangladesh Forest Industries Development Corporation, and Bangladesh Rice Research Institute (Hasan, 2000).

Following weaknesses of the MoEF can be identified (Hasan, 2000; MoEF, 1995):

- This ministry is quite small compared to the responsibilities vested on it.

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- The secretary and other senior officers of MoEF are changed very frequently.
- A strong functioning planning cell is absent in the ministry.
- The ministry has yet to develop a strong database on resources and areas of environmental concern.
- It lacks the necessary basic technical expertise to effectively assess and monitor projects for their environmental impacts.
- It suffers from shortage of basic facilities, equipment and logistic support.
- The Bangladesh Civil Service (BCS) cadre officers in the MoEF are enjoying major share of the facilities, including foreign training, seminars, workshops, and consultations held abroad on environment related subjects, depriving the departmental professionals in many cases.
- Institutional capacity for implementing the various action measures identified for fulfilling the primary functions of environmental planning, monitoring and enforcement remains extremely weak.

Department of Environment (DoE)

The DoE's scope of activities goes beyond the normal limits. Its activities touch every sector of the socio-economic system and spreads across the length and breadth of the country. At present there are four regional offices, to administer the process, situated at Dhaka, Chittagong, Khulna and Rajshahi with the headquarters situated at Dhaka. In total, 173 personnel are working in DoE. Among them 57 are first-class, 28 second-class, 62 third class and 26 is fourth-class employees. The Director General is the head of the department, and he is assisted at the headquarters by Director (Technical) and Director (Administration). A Director heads Chittagong and Khulna divisional offices, whereas Dhaka and Rajshahi divisional offices are leaded by a Deputy Director (Department of Environment, nd: 1).

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The principal activities of DoE comprise the following:

- Analysis of surface water quality, groundwater quality, water at the specified, water quality on request from any person/organization, ambient air quality, industrial wastes.
- Monitoring stations for the Global Environment Monitoring System (GEMS)
- Surveillance of drinking water quality.
- Identifying polluting industries and encouraging them to take necessary measures in pollution minimization/control through motivational and instructional practices.
- Issuing environmental clearance to new industries/ development projects through inspection of their sites as well as examination and assessment of their impacts on the environment.
- Undertaking automobile pollution survey on a regular basis.
- Providing comments based on review of EIA reports of various industries/projects.
- Determining pesticide residues as well as quantities of heavy metals present in the surface water such as water bodies, wetlands, rivers, streams in the country.
- Issuing clearance for ship breaking.
- Investigation into and disposal of various complaints.
- Publicizing various environment-related slogans in the mass media.
- Making statements on various environment related topics, distribution of posters bearing slogans on environment conservation.
- Providing library facilities on environment.
- Observing of the World Environment Day, The World Desertification Day and the International Ozone Day.

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- Making documentaries and telops on environment and ensuring their publicity.
- Organizing local seminars, conferences, workshops, and training programs on various environmental issues.
- Maintaining regular contact and coordination with various international and regional fora related to environment.
- Undertaking follow-up actions of the Earth Summit, 1992.
- Providing environmental data and information to the United Nations Commission on Sustainable Development (UNCSD).
- Providing data, information, reports to the secretariats of United Nations Framework Convention on Climate Change (UNFCCC), Montreal Protocol on Substances that Deplete the Ozone Layer, Basel Convention on Control of Transboundary Movement of Toxic and Hazardous Substances and Their Disposal, United Nations Convention on Combating Desertification, United Nations Convention on Biological Diversity, etc.
- Undertaking programmes under various international conventions (Department of Environment, nd: 7).

In spite of its long list of achievements DoE is suffering from a number of limitations (Personal communication):

- The DoE is highly understaffed, and has shortage of adequate and appropriate manpower.
- It does not have any comprehensive blueprint for indicating programming and project priorities.
- The department receives a modest operating budget, which by all accounts is insufficient to effectively carry out its mandate.
- Shortage of trained and experienced manpower. There is a need for expertise in the disciplines of biological and geo-sciences, hydrology, social and socio-economic sciences in addition to engineering.

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- Lack of capacity for planning. Weakness in planning can be attributed to several factors. These include lack of knowledge and capacity and a lack of appreciation of the need for strategic planning.
- Lack of an information management system supported by a strong data bank to back up planning, policies and monitoring activities.
- Lack of expertise on environmental impact assessment and environmental quality standard.
- Absence of regular training to support staff development.
- At present the ministry and department is not staffed or equipped to carry out many other responsibilities.

In addition to the MoEF and the Department of Environment, a number of other government agencies deal with different aspects of environmental issues. Some of the organizations are described below.

Forest Department (FD)

The forest department is primarily involved in the management and development of forestry resources in Bangladesh (MoEF, 1995). FD is also assigned to increase forest resources outside the forest areas e.g. marginal land, community land through social forestry, to provide education and training to their personnel, to ensure wildlife conservation and also to provide recreational facilities in National Parks and Botanical Gardens. The department of forestry is slowly adopting from a custodial role of keeping people out of government managed forests to a people oriented role of working with local populations to protect, maintain develop and use the forests. Improvements in the department of forestry's institutional capacity are also under consideration of the government FD discharges the following additional responsibilities such as (a) establish and maintain a forest management system which is needed for achieving economic, environmental and social goals, (b) improve productivity of the government

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owned forests in order to meet, as much as possible, the country's wood and energy needs and (c) protect the country's environment, ecology and bio-diversity. Activities of FD were greatly expanded since preparation of the Forestry Master Plan, 1993 and enactment of the National Forestry Policy, 1994 (Hasan, 2000). Forestry resource management project funded by IDA includes the establishment of an Environmental Management Division within the Forest Department to help strengthen the environmental management of its programs (MoEF, 1995).

National Environmental Council

In September 1992, the National Environmental Council (NEC) was established just before the Rio Conference, chaired and convened by the Prime Minister. This council was formed with a long list of members e.g. ministers, secretaries, parliamentarians, vice chancellors, and eleven representatives from NGOs, civil society, and professional associates. Responsibilities of NEC include: to review implementation of the National Environment Policy and other programs; to implement the resolutions of UNCED; to implement the National Environment Policy; and to take necessary action for resolving environment related issues and obligations that Bangladesh may face from time to time. The Executive Committee (EC) that is headed by MoEF Secretary assists NEC in discharging its obligations. But since its inception, the EC is suffering from technical incapacity. The committee is assisted by a body that is not capable enough to deal with global and national environmental issues (Hasan, 2000).

As a matter of fact, many other organizations are involved in the environment sector, almost every ministry/department has environment related programs. Sector (only major sectors) specific institutions are shown in the Appendix-8.2.

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There are also important non-governmental organizations (NGOs) in Bangladesh taking interest in environmental issues. These include: National EIA Association, International Center for Living Aquatic Resources Management (ICLARM), Environment and GIS Support for Water Sector Planning Project (EGIS), Adhumpayee Samaj Unnayan Shangtha, Banchte Sheka, Bangladesh Indigenous and Hill People's Association for Advancement (BIHPAA), Bangladesh Institute of Development Studies (BIDS), BD POUSH, CARE- International, CARITAS-BD, Center for Mass Education in Science (CMES), Center for Urban Studies, Christian Commission for Development in BD (CCDB), Community Development Library, Dhaka Ahsania Mission, DRIK Picture Library, Environment and Social Development Organization (ESDO), Friends in Village Development, Bangladesh (FIVDB), Heath Education and Economic Development (HEED), Naripokkho, Nature Conservation Movement (NACOM), NGO forum for Drinking Water Supply and Sanitation, Nejara Kori, OXFAM, Prodipan, Research and Advisory Services, Shamunnay, Unnayan Shahojogy Team (UST), Uttaran etc. Some international NGOs are also working in the environmental field: International Institute for Environment and Development; World Resource Institute; World Wildlife Fund; Friends of the Earth International; Green Peace; International Organization of Consumers Unions; International Union for Conservation of Nature and Natural Resources; Pesticide Action Network (See Appendix-8.3).

Conclusion

From the above discussion it is clear that not only MoEF and DoE are responsible for environmental matters in Bangladesh. There are also a number of other government agencies – ministries, departments, boards, and commissions - that are involved in environmental activities. But there are some common institutional problems. Most of these agencies are understaffed and few of them are adequately trained. Their lack of technical skill hinders individuals from

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discussing in depth technical matters among themselves. The normal approach for carrying government business does not allow the opportunity for inter-ministerial discussion and the mechanism for this to take place is weak. There is no coordinating effort between and among the agencies. Even within the same ministry, there is hardly any relation between the departments. Another important issue is cooperation between public agencies and the non-government agencies. Over the past few years, government agencies in Bangladesh have shown the limitations of their capability in pursuing the environmental objectives. As a result, some of the major donors have begun to take an active interest in non-governmental organizations as vehicles for the pursuit of this objective. Several environmental NGOs have emerged in the last few years. Many important NGOs are involved in environmental matters, ranging from the very small to the very big in a wide variety of areas. On the one hand NGOs are implementing their own projects and on the other hand, in collaboration with government this sector is planning and implementing environmental projects. Though various government and non-government organizations are involved, MoEF and DoE are acting as regulatory bodies. These bodies are working in cooperation with other government and non-government agencies and exerting influence on other agencies and vice versa.

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Chapter-9

Dynamics of Public Policy Making In Bangladesh

Introduction

This chapter attempts to examine and analyze the dynamics of the formulation of the 'National Environment Policy 1992'. It mainly focuses on the role of major actors and factors in the policy formulation process, intensity of involvement, and the extent of interactive relationships between and among those factors and actors.

Policy outcome mainly depends on the environment in which it is conditioned. Policy environment is the combination of a number of actors and factors. It consists of varieties of factors, such as economic, social, political, geographical, demographical, religious, international etc. Policy makers, consultants, donors, mass people, political parties, pressure groups, and many other actors are also active in policy environment. Some of these are involved in the process due to their formal authority to formulate the policy, some to provide technical, financial or other kinds of support, while others are to advocate their own interests. Policy is not constructed in vacuum, it is the result of interaction of all these actors and background factors with the desires, interest, and decisions of those who makes policies. So neither individual decision makers nor the nature of the system appears capable alone of explaining policy outcomes. Instead, policy outcome depends on the one hand on nature, interest, capability, technical knowledge, power of the actors and on the other hand on intensity of the importance of the factors, and above all on the dynamics of the role of these factors and actors. These actors and factors are playing a role at different stages of policy making such as: problem identification, policy demand, policy agenda,

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policy formulation and adoption, policy implementation and policy evaluation. Component of policy environment may vary depending on the socio-economic, cultural and political situation of the country as well as on the nature of the policy.

A review of the general framework of policy formulation in Bangladesh has been summarized in Figure – 9.1.

As a result of international and domestic processes, environmental protection emerged as a noticeable issue in Bangladesh in the eighties. An important step in this regard was the formulation of the 'National Environmental Policy', which was approved by the cabinet in 1992. The government realized the fact that the relevant environmental problems could be tackled and the commitments can be fulfilled only within the gamut of a well-directed framework. Creation of a widespread mass awareness programme; active participation of the people at all levels; immediate and long term solution of natural disasters treated as integral parts of environmental protection and development. Management of resources is identified as essential elements in the formulation of the Environmental Policy (Islam: 51).

This chapter focuses on dynamics of formulation of 'Environmental Policy 1992'.

Policy Demand

Mass people, political parties, pressure/interest groups/stakeholders, media, advocacy groups/lobbyists, international agencies, donor agencies, regional bodies, international conventions, incremental learning of bureaucracy and feedback etc are some actors and factors who are involved at this stage (See figure-9.1). These are responsible for convincing government that policy is needed

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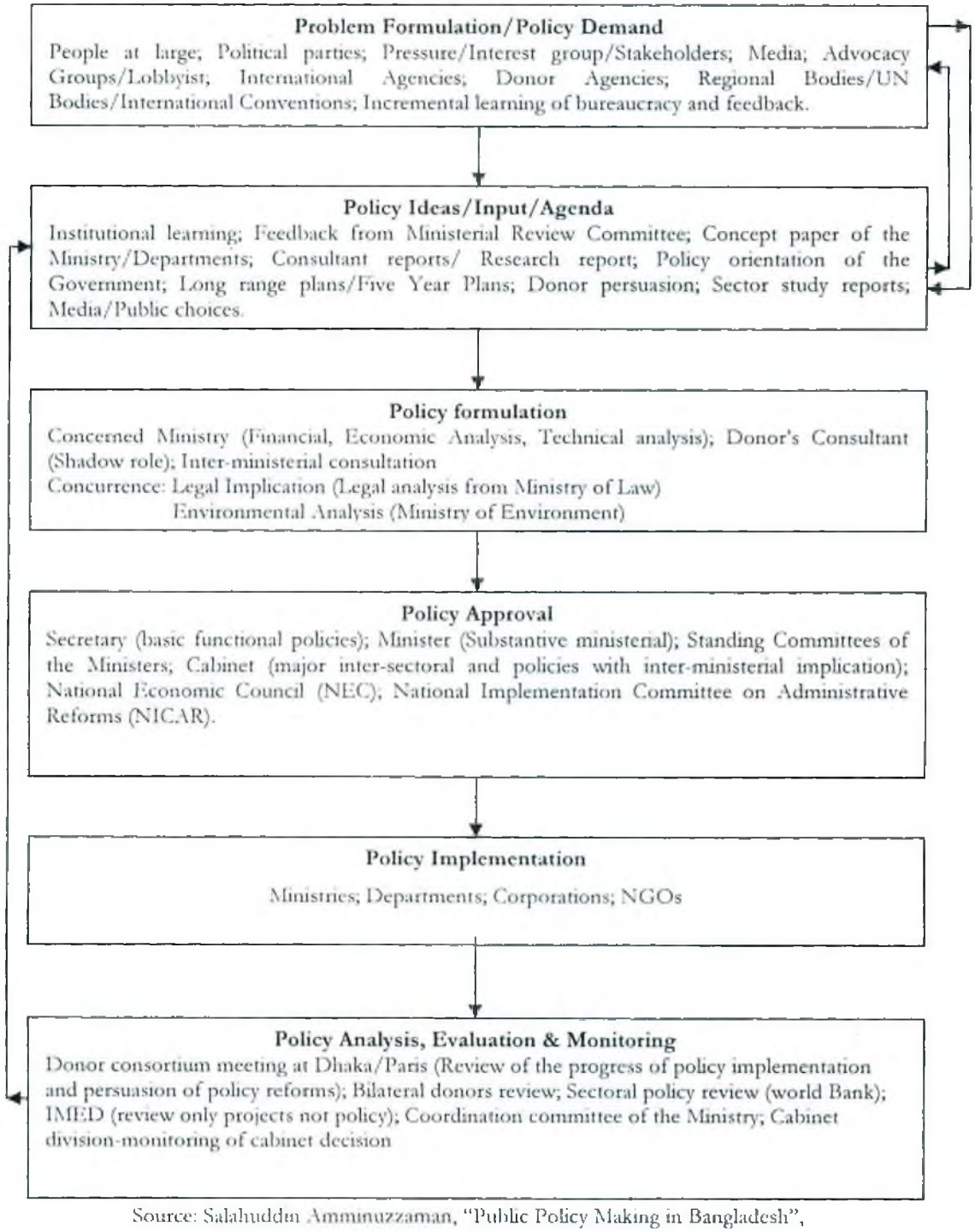
Figure-9.1: Dynamics of policy making



Source: Salahuddin Amminuzzaman, "Public Policy Making in Bangladesh", *Public Money and Management*, Vol 2, June 2002

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for addressing a particular problem. A set of international, regional, and national factors and actors had created the demand for an environment policy. The following section concentrates on those factors and actors.

The United Nations Conference on the Human Environment held in 1972 was a landmark event in the growth of international environmentalism. The Stockholm conference played the pioneer role in creating environmental awareness in the international community. It was one of the most important international responses to the world environmental problems and challenges. The Stockholm conference was the occasion on which the political, social, and economic problems of the global environment were discussed at an inter-governmental forum with a view to taking corrective action. Stockholm placed the environment on the international agenda for the first time and set the stage for international actions over the course of the next twenty years.

After the 1980s the conventional assumption that developed or industrialized nations are responsible for environmental degradation and it is their responsibility to find out their own ways to solve this problem began to change. Since the 1980s the developing countries began to realize that environmental problems are not confined to the industrial societies alone, but it can also occur in less developed societies, often as a consequence of misguided development efforts. By the mid '80s most of the countries in the world had already recognized the importance of creating an appropriate legal basis for the prevention of continued environmental degradation and for the protection of natural resource base. The United Nations General Assembly passed a resolution in 1983 and created a commission named 'The World Commission on Environment and Development'. The World Commission on Environment and

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Development'[1]was given the responsibility of addressing the question of relationship between environment and development. The report of the Commission was published as 'Our Common Future', in 1987.[2] It also formed the basis for Agenda 21 and the UN Conference on Environment and Development (UNCED), held in Rio de Janeiro in June 1992. This conference is known as the 'Earth Summit'

'Earth Summit 1992'was a follow up conference of Stockholm Conference. It was decided that the conference would be held on the 20th anniversary of the first International Conference on the Human Environment (Stockholm Conference) to assess the amount of achievements and failures during the last 20 years since the 1972 Stockholm Conference and took decisions accordingly. The decision to convene 'the Earth Summit' created enormous pressure on the Bangladesh government.

At around the same time, Bangladesh's major development partners started showing interest in environmental matters. Most donors became more and more involved in environmental assistance at the government level and side-by-side NGO level. Environmental programmes were initiated due to environmental concerns in home countries or headquarters rather than in the Bangladesh offices. Consequently, both the government and NGOs became interested to take environment-related projects to fulfill the conditions of some loan

[1] The World Commission on Environment and Development held its first meeting in Geneva in October 1984, chaired by Gro Harlem Brundtland, the former Prime Minister of Norway. The Commission had 23 members - 12 from the Third World, 7 from the industrialized world and 4 from the Communist bloc. The Commission selected key eight issues (including energy, industry, food security, human settlements, and international economic relations), and examined them from the perspective of the year 2000.

[2] This report developed the theme of sustainable development and concluded that environment and development were inextricable, and the existing policy responses were handicapped by the fact that existing institutions tended to be independent, fragmented, too narrowly focused, and too concerned that environment policy was too often accorded a secondary status, environmental agencies often learned of new initiatives in economic, trade or energy policy long after the effective decisions had been taken. It was time that the ecological dimensions of policy were considered at the same times as the economic, trade, energy, agricultural, industrial, and other dimensions- on the same agenda and in the same national and international institutions.

Dhaka University Institutional Repository

agreements made with various donor agencies. The donors framed a Local Consultative Group, which meet in Dhaka periodically, coordinated by UNDP, to share information on different donors' activities on environmental issues.

During that period, NGOs also began to show greater interest in environmental matters. As a result, a number of NGOs[3] started to work exclusively for protecting environment or facilitating mobilization of people for environment. The NGO sector started to take different projects and programs on environment. It played a very important role in creating awareness about environmental issues at the grassroots level and also at the policy-making level. The sector deserves the credit for making the government conscious about its responsibility in 'environment protection'. NGOs have positively influenced the government to think that the environment sector needs special attention and care.

Influenced by the emergence of non-government organizations and expert groups and activities undertaken by the environmental NGOs as well as to secure funds from both bilateral and multilateral development agencies, the government has taken a wide range of initiatives. The severe floods of 1987 and 1988, and the countrywide resurgence of concern about environmental issues, have heightened interest in improving environmental management in Bangladesh. Since the mid

[3] Bangladesh Centre for Advance Studies (BCAS), International Institute for Environmental Studies and Disaster Management (IIESDM), Multidisciplinary Action Research Centre (MARC), National Oceanographic and Maritime Institute (NOAMI), Centre for Sustainable Development (CSD), Society for the Conservation and Protection of the Environment (SCOPE), Friends of the Earth-Bangladesh, Bangladesh Wildlife Society, Barind Protection Society, Forum of Environment Journalists (FEJB), Coastal Area Resource Development and Management Association (CARDMA), Monsoon Region Environment Society (MONRES), Consumers Association of Bangladesh (CAB), Bangladesh Wildlife and Nature Conservation Society, Prothikrit, Devpress, Bangladesh Birds Prevention Society, Bangladesh Zoological Society, International Institute for Environment and Development (IIED), World Resources Institute, World Wildlife Fund, Friends of the Earth International, Green Peace, International Organization of Consumers Unions, International Union of Conservation of Nature and Resources (IUCN), Pesticide Action Network. These NGOs can be divided into several categories with respect to their main activities such as: Research NGO, Awareness/ Media NGO, Activist NGO, and Development NGO.

Dhaka University Institutional Repository

eighties the government has been making a number of moves[4] to protect the environment. But conservation and development of environment and ecology involve several regulatory measures for prevention of air and water pollution, diversion of forest lands, etc. which cannot be enforced without a legal basis. A legal framework for environment has evolved through the enactment and amendment of necessary laws and formulation of sectoral policies. But for addressing environmental problems properly the government must be assumed to be responsible for creating a comprehensive policy framework that is conducive to addressing environmental issues and degradation. This realization formed the strong basis for the formulation of the environment policy.

In 1986, International Union of Conservation of Nature and Resources (IUCN) and the Bangladesh Center for Advance Studies (BCAS) organized a seminar on conservation and development held in Dhaka. The seminar recommended that a National Conservation Strategy (NCS) be prepared for Bangladesh. Following the recommendations of the seminar, the GoB decided to prepare NCS. After three years of NCS, the decision to formulate the National Environment Management Action Plan (NEMAP) was taken by the government. IUCN played a crucial role

[4]The government declared 1990 as 'the year of the environment' and the following decade as the 'decade of the environment'; in the fourth five year plan started in July 1990, environmental protection was given due importance to make development projects environmentally sound; the government created a new ministry called the MoEF and 'Department of Environment' in August 1989; the government has approved in principle to expand core strength of the department from present 70 to 388 personnel and approved an additional 98 positions; the MoEF has been made a permanent member of the Executive Committee of the National Economic Council; it has been declared that EIA would be required for all development projects, all new projects relating to development will need environmental examination and clearance from the MoEF; 'Bangladesh Environment Preservation Ordinance' was approved; the government has undertaken preparation of National Conservation Strategy; the government has also identified 25 major ecologically critical areas and suitable projects for environmental up gradation in those areas; major polluting industries/establishments have been identified; the uses of fuel wood in brick building and further cutting in forest reserves have been banned; a forestry master plan was prepared and the Forest Act of 1927 has amended; an integrated improvement project for Barind area-central northwest part of the country-where traces of desertification has been observed was formulated. It has constituted Master Plan Organization to help the government to better manage and improve the water resources; established the 'International Institute for Environmental Studies and Disaster Management' in Dhaka. It has formulated 'Coastal Environment Management Plan' and has banned export of frogs. The government has also banned export of all kinds of birds and animals; it has stressed on conservation of energy. Use of improved varieties of oven has been undertaken as a priority programs. The government has prepared a Flood Action Plan incorporating 26 different components to combat the vagaries of floods in BD and has introduced environment as a separate subject in school. An Environmental Protection Bill has been passed.

Dhaka University Institutional Repository

in formulating the NEMAP. Virtually IUCN prepared the first draft of the NEMAP before finalizing it with the active participation of different stakeholders and people at the grassroots level. One of the important decisions of the GoB, during that period, was to incorporate environmental matters in the Fourth Five Year Plan.

Against this backdrop, the government felt that implementation of government commitment to the environment and mitigation of other environment-related problems is possible only through a well-defined national policy.

The environmental policy was formulated at the peak period of the global environmentalism. In fact, all the important initiatives were taken from 1972 to 1992 not only in developing countries but also in developed countries. South Asian scenario was also the same, which had inspired the Bangladesh government to take positive action on the issue.

Briefly speaking, on the one hand evolution of environmentalism and on the other hand recognition of the importance of proper environmental protection and management by GoB played an active role in creating the background for environment policy in Bangladesh. At the same time both external and internal actors were active.

Table-9.1 shows the actors and factors involved at the policy demand level and their role.

Policy Agenda

Different problems, issues and needs are presented to government for action. But all the problems cannot draw attention of the government. Depending on the power, status, number of the people lobbying and the government priority-- only

Table -9.l: Actors and factors involved at the policy demand level and their role

Types of Actors/Factors	Actors	Factors	Role Played
▪ External	▪ United Nations	▪ Convene of Stockholm conference ▪ Creation of the World Commission on Environment and Development ▪ Decision to hold the UNCED in 1992	▪ Building of environmental awareness among the international community ▪ Development of the assumption that environmental problems can occur in developing countries also ▪ Creation of the demand for a legal basis for protecting environment
▪ External	▪ Donor Agency	▪ Greater interest in environmental matters ▪ Conditions imposed on loan agreements ▪ Environmental assistance	▪ Putting of direct pressure
▪ External	▪ South Asian Nations	▪ Evolution of environmentalism in this region	▪ Increasing of consciousness
▪ Internal	▪ Government of Bangladesh	▪ Recognition of the importance of proper environmental protection and management	▪ Building of commitment
▪ Internal	▪ Environmental NGOs	▪ Mobilization of people for environment ▪ Different projects and program for environment ▪ Personal relation	▪ Building of awareness at the grassroots and Policy Making level
▪ Internal	▪ MoEF ▪ Planning Commission	▪ Environmental initiatives taken by the government ▪ Decision to prepare NCS ▪ Decision to formulate NEMAP ▪ Decision to incorporate environmental matters in Fourth-Five Year Plan	▪ Creating of demand for legal basis

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Dhaka University Institutional Repository

a few of these get a patient hearing or cognizance. The 'few', which are taken into consideration by the government, become policy agenda. Initiative has taken here to discuss those actors and factors depending on which government put the 'Environment Policy' on the agenda.

At Stockholm, the decision was taken to convene another conference on the 20th anniversary of the conference to assess the progress since 1972. The countries were advised to prepare a country report, for presenting at the Rio conference in 1992, which could be considered a progress report. Like many other countries, Bangladesh, based on the recommendations of the Stockholm conference, prepared a country report highlighting development trends and environmental impacts, and response to environmental/development issues. The Bangladesh government felt the need to have an environment policy before preparing the final draft of the country report, as an indicator of progress. Different international organizations have helped the taskforce, comprising three members[5], formed for preparing the draft of the report.

Recommendations of the report of 'Our Common Future' published in 1987 by the World Commission on Environment and Development had also expedited the Environment Policy formulation process.

Preparatory committee meeting of UNCED played a major role in that respect. The United Nations General Assembly passed resolution 44/228 December 1989, based on which The United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro in June 1992. One of the most important phenomenons of Resolution 44/228 of December 1989 was the organization of a large number of preparatory meetings. In fact, the two-week

[5] Following members of public bureaucracy were the members of the taskforce: M. Anwarul Islam (DoE), Md. Fazlul Haque (MoEF), M.Akramul Aziz (MoEF).

Dhaka University Institutional Repository

Earth Summit was the climax of a process that began in December 1989, of planning, education and negotiations among all member states of the United Nations. Bangladesh attended almost every preparatory committee meetings. An opinion expressed from the preparatory committee was that a country should formulate an environment policy. The government felt enormous pressure to formulate an environment policy to fulfill this commitment. In this context, policy advocates in Bangladesh felt it urgent to have an environment policy in order to both represent the country in the global forum and for inter-governmental negotiations.

One of the principal areas where donors' opinion carries importance is the formulation and conduct of policy. In Bangladesh, donors have tended to freely express their views on the suitability of various policies enacted by the government, the quality of administration and the integrity of the political leadership. The same thing had happened in the case of Environment Policy. In Bangladesh, among donor agencies, first IDA, NORAD, USAID, CIDA, UNDP, ESCAP, ADB showed interest about environmental issues. These donor agencies had undertaken a wide range of studies[6] both of the state of the environment as a whole and of specific areas of particular concern. On the basis of these studies the donor agencies suggested different measures to be taken by the government. To formulate environment policy was one of the conditions for loan disbursement for different projects, which is reflected in the following quotation, "Ministry sources say if the policy is not approved immediately, disbursement of

[6] IDA carried out an environmental assessment and published an Environmental Profile of Bangladesh in 1990; NORAD carried out an environmental assessment of their development strategy in Bangladesh in 1990. it has developed NORAD environmental Strategy for Bangladesh with inputs from BCAS and Norwegian experts; USAID carried out an environmental assessment by the World Resource Institute which was published as Environment and Natural Resource Assessment of Bangladesh in 1991.The World Bank brought out a report on Bangladesh Environment Strategy Report in 1991; CIDA published a report on environment and development in Bangladesh in 1990; UNDP supported the development of the NEMAP in 1991. UNDP is also the representative in Bangladesh of UNEP and the Global Environmental Facility; ESCAP has developed a Coastal Environmental Management Plan with inputs from Bangladesh experts. ADB has developed a country paper and also started funding to strengthen the DOE. A number of donors such as Asian Development Bank and UNDP have supported projects to strengthen the department and ministry of environment.

Dhaka University Institutional Repository

the aid money for many of the development projects will be delayed. Donors are attaching importance to the policy".[7] The GoB had to comply with the conditions suggested by the donors, otherwise international agencies will not support Bangladesh[8].

Though a number of environmental NGOs were working during that period but very few environmental NGOs were closely working with the government. Bangladesh Center for Advance Studies (BCAS), Coastal Area Resource Development and Management Association (CARDMA), International Union of Conservation of Nature and Resource (IUCN), and Forum of Environmental Journalists of Bangladesh (FEJB) had strong links with the government and consequently were able to exercise influence on government. The non-government sector had made commendable advancement in this respect through creating awareness, implementing projects, and organizing workshops/ seminars/ conferences etc. Through their activities this sector directly or indirectly pressurized the government to formulate an environment policy.

BCAS was established in 1986 and over the years has grown into a leading research and policy institute in the non-government sector working on environment and development related issues in both the national and international areas.[9] BCAS has conducted a number of interdisciplinary studies, including assessments of the environmental impact of groundwater removals, flood control and drainage projects, shrimp cultivation in coastal areas, and the impact of flood control embankments on fisheries. BCAS has also prepared an

[7] *The Daily Star*, 26 January 1992
[8] This opinion was expressed by Mr. Fazlul Haq (retired joint secretary)
[9] The organization is presently serving as a leading Bangladeshi organization working on Resource Management, Environment and Development (RMED) and sustainable development issues; a focal point of the existing, but often diffused, intellectual and scientific energy and manpower to develop national capacity to address and focus on RMED issues particularly in multidisciplinary areas; a policy institute or think-tank to address RMED and sustainable development issues.

Dhaka University Institutional Repository

environmental profile for Bangladesh, and sponsored the preparation of a report on the state of the environment.

CARDMA is a NGO specializing in coastal sustainable development and was registered in 1987. As a pioneer environmental organization in Bangladesh, it initiated the following national programs: set the guidelines towards the country's first environmental and coastal policy; lobbied for a separate ministry for environment; proposed Coastal Guard for the protection of coastal population during natural disasters, to stop fish piracy, over-fishing; initiated Bangladesh Coastal Green Belt Movement in 1988. It also initiated Coastal afforestation program under roads and highways in 1988;launched a national movement for saving country's only coral island, St.Martin's Island, as a protected marine park; organized several national workshops on Coastal Area Resource Development and Management. CARDMA organized international conference on Greenhouse effect and Coastal Area of Bangladesh and South Asian Conference on Women and Environment, Ganges Water Conflict, Wetlands of Bangladesh and People's Initiative for Water Sharing. It also published several books and articles on environment and coastal areas of Bangladesh.

IUCN has grown and multiplied its activities in such spheres as environmental policies, institutional capacity building, environmental planning and assessment, sustainable management of natural resources, ecosystem management and habitat conservation, biodiversity conservation, demonstration through field-level implementation, environmental awareness and education, and environmental law. Its involvement in the effort to prepare National Conservation Strategy (NCS) is the most important contribution made by the organization. NCS has played an important pioneering role in catalyzing environmental awareness and the development of environmental policy in Bangladesh. It facilitated creation of the Department of Environment within MoEF (1989) and the progressive

Dhaka University Institutional Repository

development of different versions of the NEMAP starting in 1992 up to the adoption of its final version in 1995. IUCN had also lobbied for the Policy.

FEJB is basically committed to sensitizing the media people on issues of environment. Since its founding, FEJB organized a number of workshops, seminars, field-trip programs and environment impact studies focusing on widening of capacity building of the environmental journalists as well as helping to raise awareness among the people about country's major environmental concerns[10].

In addition to the above-mentioned activities, a number of conferences/workshops organized by the NGOs/media had played an important role in putting the matter on the agenda:

A workshop was held at Dhaka on 'Bangladesh Coastal Area Resource Development and Management' on 3-4 October 1988 organized by CARDMA. It was a unique and pioneering initiative to bring together on the one hand the people's representatives i.e. the members of parliament and on the other the experts, scientists and policy-makers. The then president, Hossain Mohammad Ershad, of the country was the chief guest and gave the inaugural speech at the opening ceremony, which was attended by the Prime Minister and all the cabinet members. MPs- particularly of the coastal constituencies, the elite of the diplomatic core, the leading policy-makers, government officials, experts, scientists, researchers, and academics from the universities, and the government and research institutes and representatives of the donor community also participated at the meeting. A series of actionable recommendations were

[10] FEJB organized seminars on different core environmental problems and covered topics like: Coastal Environment of Bangladesh (1986), Environment and Human Habitat (1987), Development and Environment (1988). The FEJB regularly organizes symposia and discussion meetings by inviting environmental experts visiting Bangladesh to speak on the environment issues. A two-day workshop on environmental reporting was organized in December1988.

Dhaka University Institutional Repository

prepared and presented to the parliamentary committee and government. The conference expressed, "Environmental concern is now a global issue and must be addressed by all. In Bangladesh there is a lack of integration of ecological environment considerations into planning—for a truly multi-sectoral approach to project design and implementation. Without such an approach development efforts cannot be sustained over the long run. Declaration of a national policy of integration of environmental consideration into development projects particularly in ecologically sensitive and fragile ecosystem is essential".

The international seminar on 'The Greenhouse Effect and Coastal Areas of Bangladesh' held on 5th March 1989 was organized by CARDMA. The then President, Vice President, Prime Minister, Deputy Prime Minister, members of the council of the ministers, members of parliament and many international and national experts took part at this meeting. The chairman[11] of CARDMA noted, ".... As the Fourth Five Year Plan and the Annual Development Plan for the next fiscal year are going to be effective from now, I take advantage of this gathering of policy-makers to emphasize the need for not only making environmental impact assessment a must for every project, but also to take up a number of imaginative projects to improve and enhance our environment". She also expressed her hope that the proceedings of this conference will provide some useful inputs into various future action plans in this field at national, regional and international levels. At the inaugural session the president declared 1990 as the Year of the Environment, and 1990-1999 as the Decade of Environment in Bangladesh. The chairperson of CARDMA, as an MP and wife of the then Vice President[12], had good relations with the government and she also had a close contact with the donors. Using these opportunities, she mobilized funds for the conferences and invited environmental experts and influential people to those

[11] Hasna J. Maudud, the Chairman of CARDMA
[12] Barrister Maudud Ahmed, the then Vice President of Bangladesh

Dhaka University Institutional Repository

conferences. The chairperson played an important role, through these conferences, in convincing the government to take particular initiatives. Consequently, there was declaration of an environment year, declaration of environment decade, and the move to establish an environment ministry was made. Many other environmental decisions and the decision to formulate environmental policy were also taken.

An international seminar on "Bangladesh Floods: Regional and Global Environmental Perspectives" was organized in Dhaka from 4th to 7th March 1989 by the Bangladesh Research Bureau (BRB). The sincere cooperation and assistance provided by the President[13]. The political advisor to the President and Deputy Prime Minister[14] as chairman of the seminar co-ordination committee played a very effective role in the successful holding of the seminar, which of course would not have been possible without the government's all-out assistance. This conference had some positive influence on taking the decision to formulate an environment policy. The seminar was attended and participated by a galaxy of eminent world scientists and scholars from 17 countries. The seminar recommended, "The formulation of a legal framework so that it would be possible to examine and apply international laws governing environmental issues and riparian relations at all levels. To achieve these objectives and following the suggestions made by the president, it was resolved that an International Institute for Environmental Studies and Disaster Management would be established in Dhaka". The organizer[15] of this conference had close relations with the President and Deputy Prime Minister. This conference had given the organizer the opportunity to convince the government about the severity of the environmental problems. As a result the government has taken different measures, including adoption of Environment Policy, to face environmental obligation.

[13] Hossain Mohammad Ershad, President of the then Bangladesh
[14] Kazi Zafar Ahmed, Deputy Prime Minister of the then Bangladesh Government
[15] Professor Safiullah of Chemistry Department of Jahangir Nagar University

Dhaka University Institutional Repository

Centre for Sustainable Development (CFSD), organized a workshop at BARD, Comilla, from 21-24 March 1988, which is considered the first media workshop on environmental degradation and in launching campaigns against environmental degradation. The workshop recommended along with other suggestions[16] formulation of a comprehensive national environmental policy by the government in collaboration with scientists, NGOs, relevant departments and interested persons concerned with environment and development issues. Consequently, the recommendations were sent to the government.

NCS and NEMAP played a very crucial role in taking Environment Policy as a policy agenda. More specifically, Environment Policy is considered as the byproduct of National Conservation Strategies (NCS) and National Environment Management Action Plan (NEMAP). The Bangladesh government decided to formulate NCS in 1986 and after a number of workshops, NCS was finalized in 1991. NCS has played an important pioneering role in catalyzing environmental awareness and the development of an environmental policy in Bangladesh in 1992. On the basis of NCS recommendations a plan was taken to formulate NEMAP. NEMAP was initiated in 1989-1990 by MoEF with the funding from the UNDP and completed in 1992. But without a policy a plan is not logical because policy is higher-level decisions, plan is mid-level decisions and project is lower-level decisions. To maintain the logical sequence, Environment Policy was formulated. From this point of view, NEMAP and NCS had a great influence on the formulation of the environment policy.

[16] Other recommendations of the workshop were undertaking of an in-depth study on the state of environment in Bangladesh. It also recommended that the environment pollution control department be reactivated and transformed into a high powered body at the national level directly under the chief executive of the government and entrusting it with the responsibility of ensuring proper implementation of policies and programs concerning the environmental issues; the establishment of a fully fledged environment wing in the Planning Commission; prior assessment of possible environmental impacts of any development project be made compulsory; formulation of rules providing for the representation of environment workers in NEC, ECNEC and similar organizations concerned with development.

Dhaka University Institutional Repository

The Fourth Five-year Plan (1990-1995) was the first important planning and policy document of the government where government talked about environmental issues. In order to promote, nurture, protect and expand nature and natural resources and link all developmental activities with environment towards improving the quality of life, the plan incorporates the following objectives: to control and prevent environmental pollution and degradation related to soil, water and air; to promote environment-friendly activities in development areas; to preserve, protect and develop natural resource bases; to strengthen the capabilities of public and private sectors to manage environment concerns as a basic requisite for sustainable development; and to create people's awareness for participation in environment promotion activities. In order to realize the above-mentioned objectives, along with a set of strategies[17], formulation of a policy was emphasized.

Over the last few decades, Bangladesh, in collaboration with the other members of the international community, has managed and adopted a significant number of Multilateral Conventions, Treaties and Protocols (ICTPs) with a view to

[17] The strategies were: Identification of the environmental priorities and integrating them with the national economic and social development program; identification and designing environmental norms, quality standards and enforcing them to regulate industrial, domestic and other discharges/emissions; establishment of pollution monitoring system and monitoring network in order to obtain reliable information and process and analyze them through using modern technology and make them available to planners and decision makers. Incorporation of EIA and cost-benefit analysis in decision making on development projects and programs; promotion of an environmentally acceptable sanitation and water use management; delineation of the existing ecological resource zones in the country with a view to preparing an appropriate plan of action; enhancing the institutional capacity through extending support for necessary legislation, policy formulation, developing professional expertise, installing laboratory facilities, holding training and building other infrastructures. Introduction of industrial waste permit system and inspection procedures and their effective enforcement; evolving an appropriate environment friendly technology locally so as to ensure sustainable development and expand such promotional activities; implementation of rural energy saving and environmentally sustainable programs; undertaking massive afforestation programs all over the country as a major component of environment protection plan; involving institutions, mass media and NGOs in dissemination of knowledge, motivation of people to undertake environment programs; encouraging the private sector and NGOs to support and complement National Environment Action Plan; strengthening public sector institutions and organizations with appropriate manpower and logistic facilities for effective formulation and implementation of environment action plan; making the MOEF the focal point for consultation and guidance to ensure coordination between and within sectors having environmental bearing. Formulation of appropriate legislation with the assistance of all concerned ministries/divisions; consideration of regional and international issues in preparation of the Environment Action Plan; and Encouraging research, field studies and public debates on various environmental issues.

Dhaka University Institutional Repository

addressing major global environmental problems. They vary in their importance, effectiveness, level of commitment and urgency to act on. Often the implementation of ICTPs, whatever is implemented, has been found 'donor driven' and is not initiated by the country on the basis of its own understanding. Donors gave importance to formulating environmental policies for effective implementation of ICTPs. The Bangladesh government felt the need to have an environment policy to fulfill the donors' requirements as well as demand for legal framework supportive to the effective implementation and compliance with environmental treaty obligations.

Political will was another important factor. The Jatiya Party (JP) and the Bangladesh Nationalist Party (BNP) had ruled the country from 1989 to 1992. Especially, the JP deserves appreciation for its efforts. The President of the country[18] and other leaders of the party in power and his associates were very enthusiastic about environmental concerns, which was reflected by their policies and initiatives pursued in the area of environment. The party talked of protecting the environment, rallied behind international initiatives and upheld different treaties and conventions to protect the nature.

From the above discussion it is identified that a number of actors and factors were responsible for crating demand for an environment policy. Gradually, those actors and factors intensified their role and new actors and factors joined the queue. Consequently, demand for an environment policy got a new impetus and status. Their pressure, influence, and activities pushed the environment policy from policy demand to the policy agenda level. That means the government began to think seriously to formulate an environment policy and both internal and external influence played sensible role at this stage.

Table-9.ll: shows actors and factors involved at policy agenda level and their role.

[18] Hossain Mohammad Ershad

Table-9.ll: Actors and factors involved at policy agenda level and their role

Types	Actors	Factors	Role Played
▪ External	▪ United Nations	▪ Recommendations of the Stockholm conference country report prepared for Rio conference ▪ Recommendations of 'Our Common Future' published by the World Commission on Environment and Development ▪ Resolution 44/228 of UN general assembly which contained the decision to start the preparatory process ▪ Opinion expressed at the preparatory committee meeting	▪ Putting of direct pressure
▪ External	▪ Donor Agencies- IDA, NORAD, USAID, CIDA, UNDP, ESCAP, ADB	▪ Conditions imposed on loan agreements ▪ Donors' requirement for environment policy for the effective implementation of different environmental projects	▪ Putting of direct pressure
▪ External	▪ International Forum/Organizations	▪ Demand for legal framework conducive to implementation of ICTPs	▪ Creation of moral obligation
▪ Internal	▪ NGOs- BCAS, CARDMA, IUCN, FEJB	▪ NGOs' environment related activities ▪ Workshops/seminars/conferences etc organized by NGOs	▪ Building of awareness ▪ Putting of direct or indirect pressure
▪ Internal	▪ MoEF, Planning Commission, DoE	▪ Formulation of NEMAP and NCS ▪ Incorporation of environmental matters in Fourth Five Year Plan	▪ Creation of demand for legal basis
▪ Internal	▪ Political Party- Jatiya Party, Bangladesh Nationalist Party ▪ Political Persons	▪ Political will	▪ Building of commitment

Dhaka University Institutional Repository

Dhaka University Institutional Repository

Policy Formulation

Policy formulation means drafting the policy document. It deals with what should be included and excluded in the policy content. Final policy document is prepared at this stage after many consultation and discussion with different persons and organizations. During the formulation period, different persons and organizations, e.g. concerned ministries, donor consultants, NGOs played an active role. Policy makers had to take into consideration different factors. This section tries to find out who played the crucial role and what factors environmental policy makers had to consider.

MoEF was responsible for drafting the policy, which was a group effort. Some officials of the MoEF and DoE prepared the draft with the help of NGOs/civil society. No separate fund was allocated for Environment Policy. It was going parallel with NEMAP, NCS, and other environmental projects of the government and was financially supported by those projects. Interesting enough that the same group of persons[19] prepared the first draft of Environment Policy, NEMAP, and NCS. Basically those persons were consultants for the NEMAP project and in addition to that, the consultants had to prepare the draft of Environment Policy[20]. Afterwards the responsibility was shifted to many other persons, a former deputy director[21] of DoE drafted a certain portion of the policy.

Some officials within the ministry also played an important role in drafting the policy, as for example one deputy secretary[22]. The then environment Minister gave him the responsibility to make arrangement for formulating an environmental policy. With this purpose, a 'drafting committee' was formed with

[19] Dr. Monwar Hossain (chief, Multidisciplinary Action Research Centre), Dr. Harun-Ur-Rashid (head of the Department of environment, Independent University) and some other persons
[20] Opinion expressed by M.A.H.Pramanic (director general, DoE)
[21] Mr. Anwar Islam (former deputy director, DoE)
[22] Mr. Fazlul Haque, (former deputy secretary)

Dhaka University Institutional Repository

one deputy secretary[23], and two assistant secretaries[24]. The deputy secretary along with his colleagues took an active initiative to formulate the policy. The then ministers[25] of the MoEF seriously cooperated with the officers in this respect. One[26] of the ministers was very enthusiastic and he is still remembered for his positive role in formulating Environment Policy.

Inputs for the contents of Environment Policy were picked from the following sources:

- Environmental policy, laws, and acts collected from India, Sri Lanka, Nepal, Singapore, and Thailand, especially Pakistan FYP.
- Recommendations of Stockholm Conference 1972.
- Recommendations of World Commission on Environment and Development.
- Recommendations of national conferences, seminars, workshops.
- Media.
- Individual interests.
- Research findings.
- Conditions imposed on the loan agreement.
- Fourth Five -Year Plan.

The UNCED preparatory process itself was an important source of policy input. The establishment of a PrepCom was an extremely important administrative step in the process of the conference because it refined conference issues in seeking consensus. When world leaders met at the conference itself, their only task was to approve pre-negotiated documents. The policy makers seriously took opinions expressed at the preparatory committee meetings into consideration. Through

[23] Mr.Fazlul Haque
[24] Humayan Kabir
[25] Abdullah Al Noman, Jafar Imam, and Akbar Hossain
[26] Jafar Imam

Dhaka University Institutional Repository

formulating the policy, the GoB tried to fulfill the commitment made at the preparatory committee meeting.

A workshop was organized on 9 November 1991 sponsored by ADAB, NGO Affairs Bureau and UNDP with the purpose of facilitating Bangladeshi NGO's substantive contribution to UNCED. A Task force coordinated the workshop while the Centre for Mass Education in Science (CMES) organized it. A total number of 256 delegates of NGOs from all over the country participated. Representatives from relevant government ministries and some government and semi-government organizations also participated. The minister of MoEF inaugurated the workshop. Principal secretary to the Prime Minister presided over the inaugural session. During this session, various recommendations were discussed and adopted. Along with many other recommendations they suggested "National policies to be meaningful, not framed bureaucratically at the top. These should be the result of the widest possible discussions and consultations among the people and should include inputs from NGOs. Only such policies can be effectively implemented." Policy makers considered the recommendations of this workshop in making environment policy.

As per recommendation of the UN General Assembly, Bangladesh also participated at a number of regional meetings. The recommendations of these meetings had greatly influenced the Environmental Policy contents and also expedited the process. Some examples are as follows:

The Ministerial-level Conference on Environment and Development in Asia and the Pacific held at Bangkok in October 1990 organized by ESCAP reviewed the state of the environment in the region and examined the implications of global environmental problems, such as the depletion of the ozone layer, climate change and the rise in sea-level. The ministers proposed to establish institutional

Dhaka University Institutional Repository

mechanisms to foster regional cooperation and formulated a strategy to achieve environmentally sound and sustainable development. The meeting also emphasized the need to prepare a regional input to the UNCED, 1992. The meeting proclaimed: "We the ministers believe that to achieve sustainable development, policies must be based on the precautionary principles". "We welcome and encourage efforts to establish research, training, policy and other instruments/centers dealing with environment and development activities. With a view to promoting exchange of information, technical assistance and regional cooperation to activities relevant to environmentally sound and sustainable development, and agree that ESCAP should play an important role in promoting the formulation of a regional network of such institute centre. "

A number of non-governmental organization symposiums have been organized in the region, of which a particularly important one, the NGO/Media Symposium on Communication for Environment. The symposium was held in conjunction with the ministerial level conference at Bangkok in October 1990. A major achievement of that symposium was the formulation of the Universal Code of Environmental Conduct, outlining clearly the responsibilities of individuals towards the environment.

The Second Ministerial Conference of Developing Countries on Environment and Development was held in Kuala Lumpur, Malaysia from April 26 to 29, 1992. With many other countries, Bangladesh also participated at the conference.

Prior to the Rio Earth Summit, the South Asian Environment Ministers meetings organized in Delhi in April 1992 by SAARC outlined eight basic principles of fundamental importance to guide future international cooperation in the areas of environment and development: "The integration of environmental concerns into economic development policies and programs should be carried out without

Dhaka University Institutional Repository

introducing any conditionality in aid or in development financing. Such integration should also not be used as a pretext for erecting trade barriers". The 1992 Delhi meeting of SAARC environmental ministers, held before the Rio Earth Summit, also identified several specific areas where urgent international actions were necessary to ensure the protection of the environment and to reverse the process of its further unabated degradation, as well as to halt the extinction of nature's rich biodiversity in different parts of planet earth.

From inception to approval (1989-1992), Environment Policy has been changed several times. It has gone through a lengthy modification process and ultimately took the final shape. The policy was drafted at the ministry level, and then it was sent to DoE and other concerned ministries and departments for opinion and recommendations. Several inter ministerial meeting were held.

At the inter- ministerial meeting, NGOs and civil society members, e.g. IUCN, BCAS, FEJB, ADAB, were invited to give their opinions and were given full freedom to express their opinions[27]. Following the inter-ministerial meetings, MoEF enlisted the opinions of ministries, divisions, and concerned sections. The draft of Environment Policy and Action Plan was modified on the recommendations of inter-ministerial meetings. After much deliberation at different stages and comments made by different ministries the final draft was prepared[28]

At the formulation stage internal actors, the bureaucracy in particular played the crucial role. Though the bureaucracy played the most active role but the

[27] Opinion expressed by Mr. Fazlul Haque (former deputy secretary of the GoB).

[28] Ministry of: Agriculture, Commerce, Industries, Fisheries and Livestock, Jute, Irrigation, Water Development and Flood control, Energy and Mineral Resources, Textiles, Planning, Land, Works, Health and Family Planning, Shipping, Foreign Affairs, Communication, Defense, Public Works, Information, Food, Civil Aviation and Tourism, Labor and Manpower, Women's Affairs, Education, Religion, Social Welfare, Law Justice, and other concerned ministries.

Dhaka University Institutional Repository

bureaucrats were very much influenced by politicians and civil society members. No doubt, policy makers had to give considerable attention to the recommendations made by international and regional actors but the policy document was prepared keeping in mind of our own environmental situation.

Table-9.lll presents the actors and factors involved at policy formulation level and their role.

Policy Approval

Policy can be approved at different levels. In Bangladesh, Secretaries to the government (basic functional policies), ministers (substantive ministerial), Standing Committees of Ministers, cabinet (major inter-sectoral and policies with inter-ministerial implications), National Economic Council (NEC), National Implementation Committee on Administrative Reforms (NICAR) are involved at the policy approval level (see the figure-9.l).

The Environment Policy 1992 was approved by the cabinet. After preparing the final draft it was placed before the cabinet and discussion was held among the cabinet members[29]. Different comments were passed in favor of and against the policy. Despite difference of opinion, the policy was unanimously approved on April 13, 1992 at the cabinet meeting.

Table-9.lV shows actors and factors involved at policy approval level and their role.

[29] The then cabinet members were: Begum Khaleda Zia, Miza Golam Hafiz, Major General (Ret.) Md. Majidul Haq, A.S.M.Mustafizur Rahman, Md.Saifur Rahman, Abdus Salam Talukdar, Oli Ahmed, Md. Keramat Ali, A.K.M. Anwar, Shamsul Islam Khan, Kamal Ibne Usuf, Tariqul Islam, Shamsul Islam, Barrister Nazmul Huda, Abdul Matin Choudhury, Dr. Khandakar Musarraf Hossain, Barrister Rafiqul Islam Mian, Mannan Bhuyan, Barrister Jamiruddin Sircar, Abdullah Al Noman, Hannan Shah, A.M. Jahir Uddin Khan, Akbar Hossain (Information collected from the Cabinet Division)

Table-9.111: Actors and factors involved at policy formulation level and their role

Types	Actors	Factor	Role Played
▪ Internal	▪ MoEF ▪ DoE ▪ Bureaucrats ▪ Consultants	▪ Country report prepared by government ▪ NCS, NEMAP, Fourth five Year Plan	▪ Preparation of draft ▪ Giving of inspiration
▪ Internal	▪ Concerned Ministries	▪ Inter ministerial meeting	▪ Participation in discussion ▪ Giving of Suggestions
▪ Internal	▪ NGO and Civil society members	▪ Inter ministerial meeting ▪ Conference/seminar/workshops	▪ Participation in discussion ▪ Giving of suggestions
▪ Internal	▪ ADAB, and NGO affairs Bureau	▪ Workshop organized with the purpose of facilitating Bangladeshi's NGOs contribution to UNCED	▪ Making of recommendations
▪ External	▪ Regional Organization: ESCAP, SAARC	▪ Regional meetings and conferences	▪ Making of recommendations
▪ External	▪ Regional Countries (India, Sri Lanka, Nepal, Singapore, Thailand, Pakistan)	▪ Environmental policy, laws, and acts collected from different countries	▪ Providing of policy input
▪ External	▪ United Nations	▪ Stockholm Conference Report ▪ Report of World Commission on Environment and Development ▪ Preparatory committee meeting	▪ Providing of policy Input
▪ External	▪ Donors	▪ Condition imposed on loan agreement	▪ Providing of financial support ▪ Providing policy input

Dhaka University Institutional Repository

Table-9.IV: Actors and factors involved at policy approval level and their role

Types	Actors	Factors	Role Played
▪ Internal	▪ Prime Minister ▪ Cabinet members	▪ Views expressed at the preparatory committee meeting ▪ Local needs	▪ Participation in deliberation and discussion

Dhaka University Institutional Repository

Dhaka University Institutional Repository

Actors, factors and their role presented in above-mentioned tables could be summarized in the following way:

Common Categories of Actors:

International agencies (UN), Donor agencies, Regional organizations, Government organizations, Bureaucrats, Politicians, NGOs/Civil Society and Consultants.

Common Categories of Factors:

Worldwide Environmental Degradation: Environmental degradation means lowering of environmental qualities because of adverse changes brought in by human activities in the basic structure of the components of the environment. Environmental degradation at present is a global problem. These are wide-ranging and all encompassing: deforestation, biodiversity losses, soil erosion, ozone depletion, global warming, sea-level rise, pollution, desertification, and natural disasters. Environmental degradation has become so acute that the future of mankind is threatened with destruction. Against backdrop, worldwide environmental protection emerged as a noticeable issue in the eighties. The governments of developed and developing countries came forward for protecting the environment. The overall situation suggests that environmental protection is required. Like many other countries, Bangladesh government also felt alarmed by these disturbing trends and came forward with some plans and activities. An important development in this regard was the formulation of 'Environment Policy 1992'.

Dhaka University Institutional Repository

Participation of NGOs and Civil Society at the inter-ministerial meeting: Some of the NGOs and civil society members were invited to express their opinions at the inter- ministerial meeting. Most of them were mainly environment activists, and environment experts. In addition to that, those NGOs and Civil Society members were consulted informally from time to time by the persons who were responsible for drafting the policy.

Political Will: The political scenario in the field of environment is interesting in Bangladesh. A party is very serious about environmental issues when it is in power and it becomes obligatory for the elected party to talk about environment as part of governance. Once it is out of power, the promises are forgotten. Following this trend the parties, which were in power during that period, made commendable achievements in the area of environment. Formulation of Environmental Policy was one of those achievements.

Responsiveness to International Initiatives: One important point to be mentioned here is that the Bangladesh government is very responsive to the international initiatives. It signed a number of ICTPs and participated in all major international conferences on environment, each having a number of commitments and consequent implications. For effective implementation of these commitments a legal basis was needed. From this realization, the government felt the need for formulating a policy on the environment

Enthusiasm: Some officials within the bureaucracy were very much interested about that policy. Those officials positively influenced the government (president, vice-president, ministers) to take a serious initiative about the environment policy.

Dhaka University Institutional Repository

Personal Relations: Personal relations played an important role. Some persons, who were very close to the party in power, convinced the most powerful persons in the government to patronize the activities concerning environment protection. The persons made the government understand that certain steps, to protect and improve the environment, should be taken. Those close to the power centre included bureaucrats, MPs, and NGO personalities.

Different Activities Related to Environment: Since 1972, the government has taken a number of programs, projects, and policies. Not only the government, the NGO sector also undertook different activities to protect the environment. But there was no right direction for their activities. For facilitating NGO initiatives and activities, and to implement its own environment related activities, the government felt the need to formulate a policy.

Certain Important Decisions: Some important decision at the international and national level greatly influenced the government to formulate an environment policy i.e. to hold the UNCED in 1992, to start the preparatory process of UNCED, to prepare NCS and NEMAP, to incorporate environmental matters in the Fourth-Five Year Plan. The government realized that without any sound environment policy it was not possible to execute these decisions.

Different Seminars/Workshops: Recommendations of different forums have enriched the policy document. During drafting policy makers had to take into consideration the recommendations of the seminars, symposiums organized by NGOs. Besides, at the regional level a number of conferences were organized by the regional forums, which also had a positive influence.

Some Important Documents: Two important documents, which influenced formulation of an environment policy, were NEMAP and NCS. From initiation

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to approval those documents had a commendable impact. Ideas were also picked from environment policy, acts, and laws, collected from India, Pakistan, Nepal, Singapore, and Thailand. The Five-Year Plan of Pakistan was another important document. The 'Country Report' prepared by GoB for presenting at the Rio conference was one of the major important documents.

Donors' Interest: Donor agencies have shown greater interest about environmental programs/projects and consequently began to finance environment related activities. For mobilizing the fund from donor agencies, the government laid importance on formulation of Environment Policy.

Common Categories of Roles:

Building of awareness, Creation of demand for legal basis, Putting of direct and indirect pressure, Building of commitment, Creation of moral obligation, Preparation of draft, Giving of inspiration, Participation in discussion and deliberation, Giving of suggestions, Making of recommendations, Providing of policy input, Providing of financial support.

Figure –9.II: depicts the graphical presentation of the actors, factors and their role in the formulation process of 'Environment Policy 1992'.

Those actors and factors were both internal and external type. International agencies (UN), Donor agencies, Regional organizations are **external actors** whereas Government organizations, Bureaucrats, Politicians, NGOs/Civil Society and Consultants are **internal actors. External actors** played the main role at the policy demand and pushing policy agenda as well as played some role at formulation level too. Whereas **internal actors,** role ranges from policy demand to policy approval but their main role was at the formulation and approval level.

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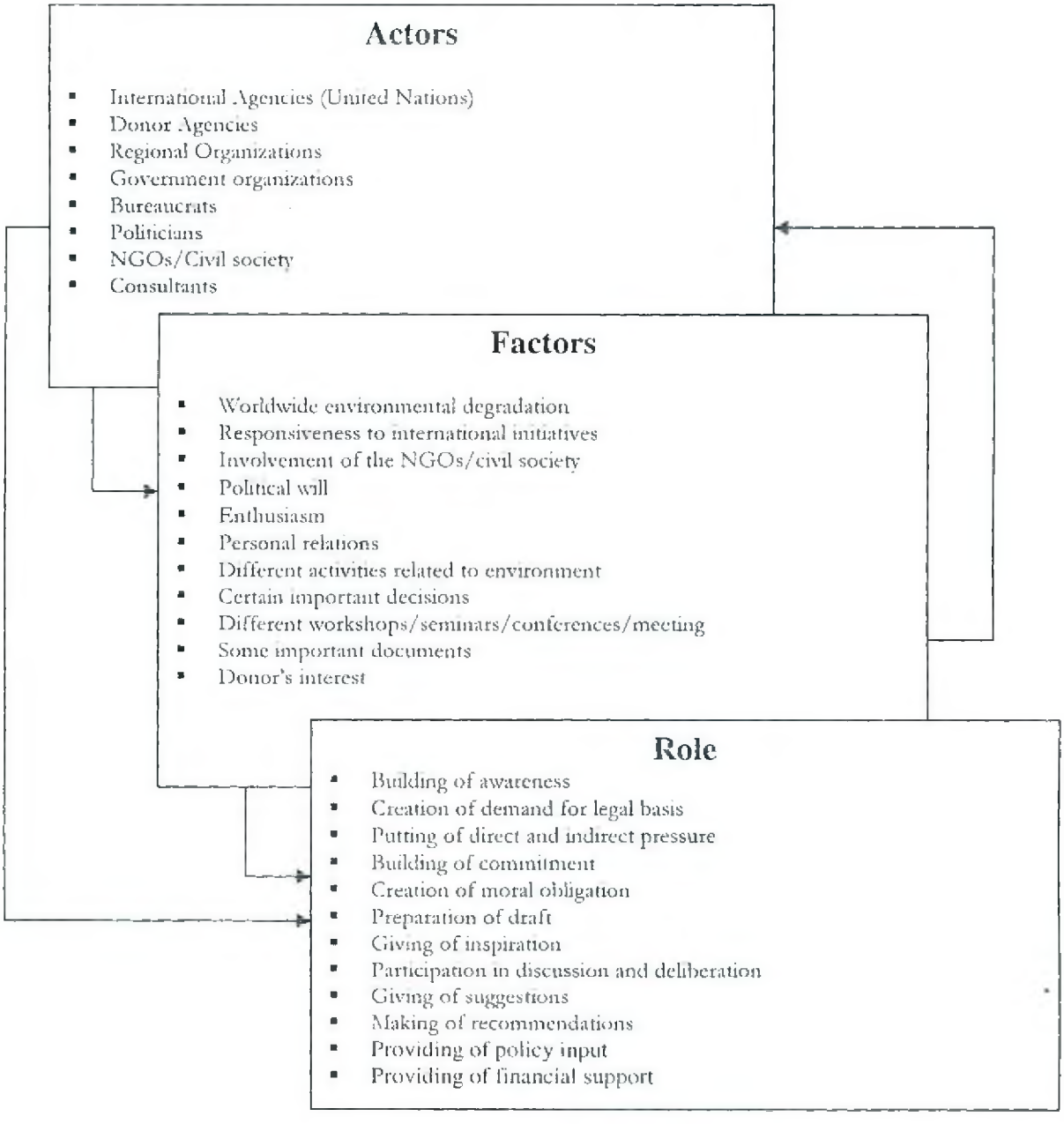
Figure –9.ll: Actors, factors and their role in policy making process



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Responsiveness to international initiatives, Political will, involvement of NGOs/civil society, Enthusiasm, Personal relations, Different activities related to environment are the example of **internal factors**. Worldwide environmental degradation, certain important decisions, different workshops/seminars, and some important decisions are the **mixture of both internal and external** components. And donors' interest is the **external type of factor**. All the factors had a role in formulating Environment Policy and every stage of policy making is the amalgamation of these factors.

The above-mentioned actors and factors played both **formal and informal** role.

It has already been discussed that a number of actors were active from initiation to approval of 'Environment Policy'. Among these most important role-played by **International Agencies (UN)** and the **Government of Bangladesh (bureaucracy)**. Environmental issues and predicament are not new in Bangladesh and different initiatives have been taken locally to protect the land, soil and surroundings. But initiatives of International Agencies stimulated the serious thinking to save the environment at the national level. Bangladesh responding to the United Nation's initiative, like many other developing countries, adopted 'Environment Policy' along with other environmental activities. The government tried to fulfill its commitment made with the UN. The interesting point to be noted here is that **NGOs and civil society** also responded to the loud chorus of international groups on environmental issues. Consequently, the member of the sector became conscious about the whole environmental scenario. NGOs are not able to formulate policies, sign treaties, and pass legislation like the government. However, it can lobby for such actions to be taken. It also can pressurize the government to take certain initiatives. NGOs also have a role in an advisory capacity with governments. As a result, NGOs have become the well-organized lobby for Environment Policy. From its

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inception to adoption, **civil society exercised an informal but very strong influence**. The influence was informal in the sense that the civil society could not participate in the formal formulation process. Donor agencies and politicians exercised strong influence whereas consultants and regional organizations exerted moderate influence. But the important fact is that the United Nations exerted indirect influence on every actor involved in the policy-making process.

Three types of influence have been exerted by the factors. There were some factors, which influenced very strongly, e.g. some important decisions of GoB and UN, responsiveness to international initiatives, worldwide environmental degradation, and participation of NGOs/civil society in international meeting. There were many other factors, which exercised strong influence and few other factors had moderate influence. Another important point to be mentioned here that is there was "inter-influence" among and between these factors and it was mostly **indirect** influence.

Following figure (figure- lll) presents the intensity of influence of different actors and factors

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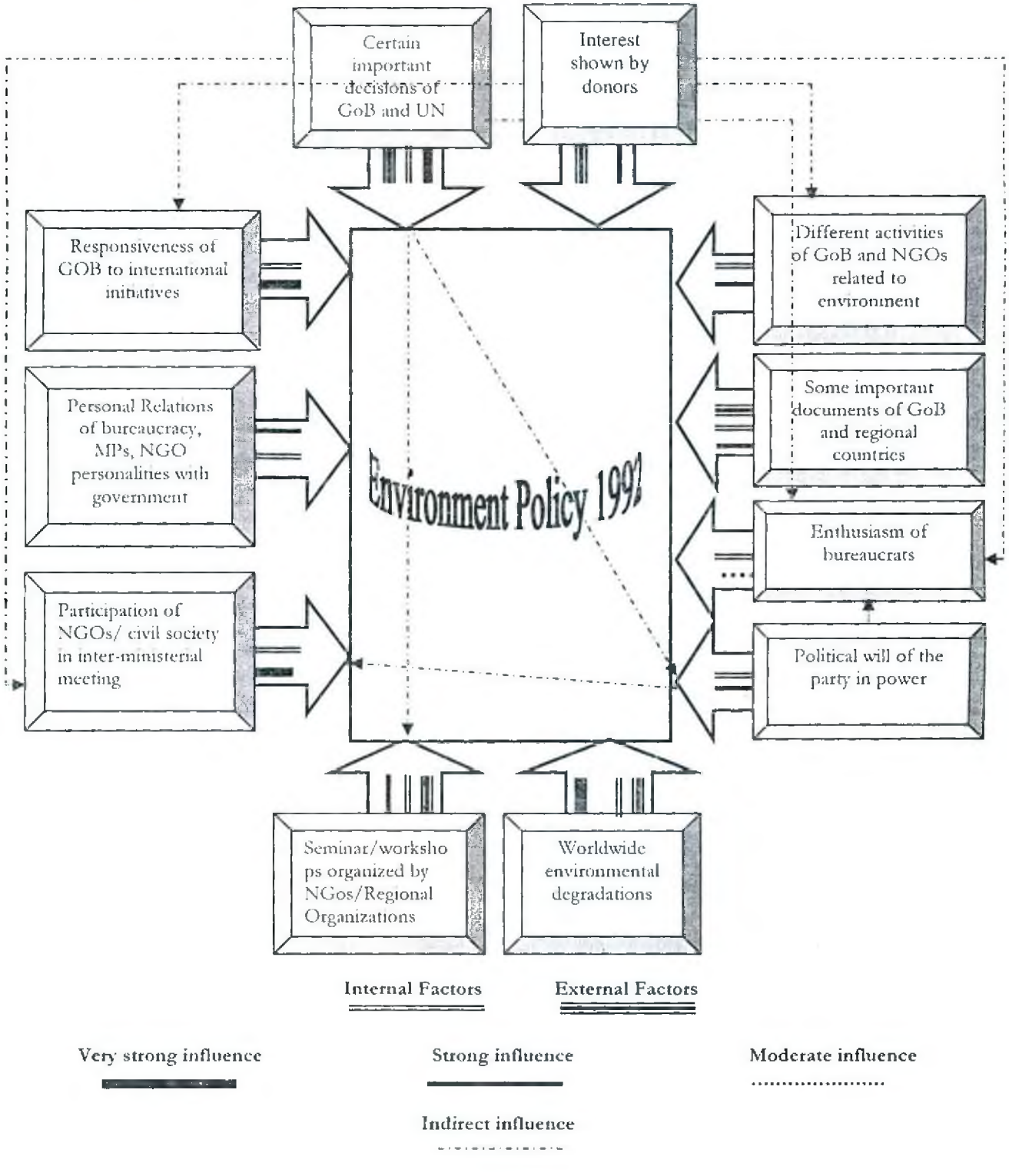
Figure-9.III: Intensity of influence of different actors and factors



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Conclusion

Dynamics of environment policy making in Bangladesh can be explained by group and elite model of policy making. It can also be analyzed by global interdependence theory of development.

Main proposition of the group theory is that policy is the outcome of the interaction among different groups. These groups serve as a media between the individual and the government. After analyzing the whole policy making process, the researcher has identified that Environment Policy is perhaps to a great extent the result of interaction of different groups. A number of groups have played role at policy demand, policy agenda, policy formulation and policy approval stages of policy-making. From initiation to approval UN agencies, donor agencies, regional organizations, environmental NGOs, politicians, bureaucrats, and consultants had contributed to the policy, but at different levels their role was different. In brief, at the policy demand and policy agenda levels, groups outside the government played the major role, whereas at the formulation and approval stage the bureaucracy was the key player. These role ranges from awareness building to policy approval. In the whole environmental policy making process, international agencies especially international agencies (UN), GoB (bureaucracy) and NGO/civil society played the most significant role. In a sense GoB/bureaucrats played the formal and active role where as international agencies (UN) and NGOs basically played informal but very influential role. Role of the significant groups are presented in the following.

Influence of these groups was determined by their organizational strength, expertise, access to decision makers, political will, enthusiasm, personal relation, and international cohesion.

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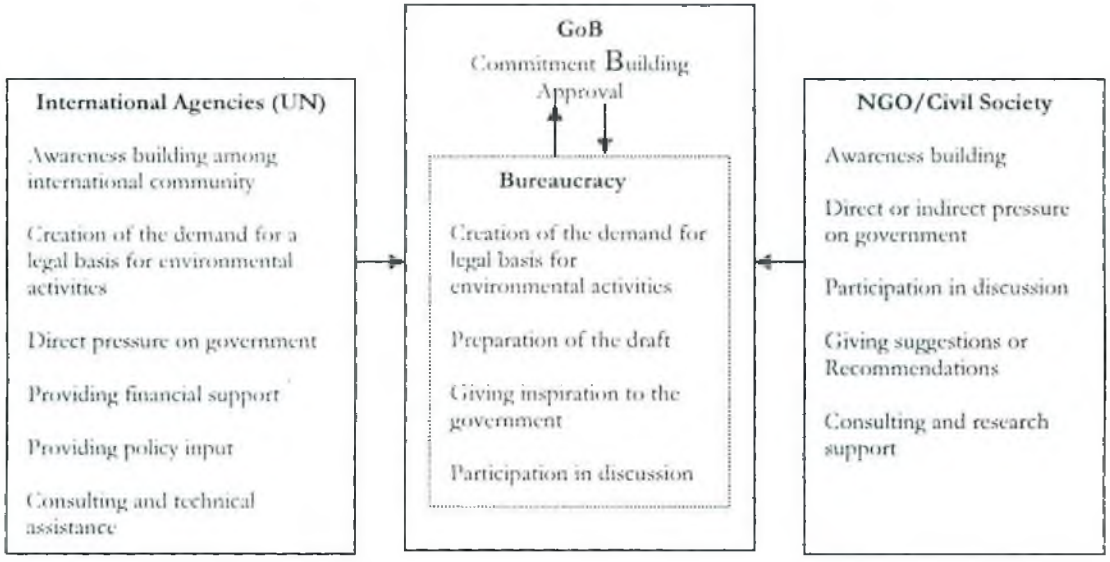
Figure- 9.IV: Role of the significant groups



This policy making process can also be analyzed by elite theory of policy making. Environment policy may be viewed as the reflection of the opinion of the elite. This policy started its journey in 1989. At that time very few persons inside and out side the government had degree, training, and research experience on environment. Naturally the government officials who were aquatinted with the environmental matters played the leading role. At the same time selective NGOs were working in environmental field. Within the span of time, because of the commitment and expertise, the NGO experts achieved commendable success in promoting environmental issues and could draw the attention of the GoB. Consequently government asked the support of the NGO personalities/civil society members who were working on the environment. This created a small group of 'professional elite' to take a lead role in the policy issues.

This policy can also be explained through the theory of global interdependence. This theory deals with the interdependence between developing countries and industrial countries. It says that no nation can achieve developmental goal

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without depending on other nations and their activities are also interrelated and interconnected. This theory suggests that the developed countries and international agencies should provide technical and financial support to the developing countries to initiate developmental process, which in turn will bring benefits for developed countries. The new concept of development is sustainable development. It is the economic and social development without destroying or undermining the natural resource base. It says that environmental and development objectives are not contradictory. In other words, the need is to promote a form of development compatible with the assimilative and regenerative capacity of the biosphere. Environment Policy is the prescription of the international agencies for ensuring sustainable development in developing countries. If it is possible to ensure sustainable development in LDCs, then the industrial countries will also enjoy the benefits of this development too.

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Chapter-10

Observations and Conclusions

Introduction

This chapter attempts to draw broad conclusion of the study by presenting the important findings and put forward recommendations for policy options for future policymaking exercise.

To enhance the process of 'development' is the most common objective of any country. But to achieve this objective is a challenging task. The governments of most of the developing countries are going through 'trial and error' to find out the means to achieve the desired development objectives. Adoption of sound policies is taken as an important mechanism for achieving this purpose. Public policy is, basically, the reflection of a government's intensions. Public policy is a guideline under which all the relevant activities are undertaken and it helps society to move along the right track. Policy output mostly depends on the actors and factors involved in making policy, their influence on the policy and inter-relations among themselves. This study centers on identifying this fact, which has been presented in the previous chapter.

The findings of the study boil down to the following conclusions:

A large number of actors and factors were involved in the Environment Policy formulation process. These can be divided into external and internal as well as formal and informal types. Among all the actors United Nations and its specialized bodies and the bureaucracy played the most critical and decisive role. Informally the civil society also exerted considerable influence in shaping the policy content.

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Whatever may be identified as motivating actors/factors for environment policy, United Nations and selected donor agencies were active behind the scene. Their thinking and doings greatly influenced the government and that got reflected in the policy document. The specialized bodies of UN had also indirectly influenced all the actors and factors.

As a matter of fact 'Environmental Policy of 1992' was not an outcome of the effective participation of all disadvantaged stakeholders e.g. farmers, weavers, small traders, fisher folks, village women, professionals. But the point that must be taken note of is that selected NGOs played an important role. NGOs played a strong role in influencing the government's position from policy initiation to approval process through participating in ministerial meeting, undertaking awareness building initiatives, and exerting direct or indirect pressure.

The study revealed that there were interrelationship between and among the major actors and factors. As for example 'enthusiasm of bureaucrats' was the result of the political will of the party in power, interest shown by donors, and certain important decisions of GoB and UN agencies. On the other hand 'political will' of the party in power was the outcome of the certain important decisions of the GoB and UN, and interest of donor agencies.

Critics tend to complain that GoB makes commitment at different international and regional forum without considering its capability and in most of the cases the government fails to translate those commitments into specific action. The findings of this study however disprove the fact keeping environment policy in focus. It was revealed from the study that the GoB was sincere to its 'commitment' on the Stockholm Conference protocols and preparatory committee meeting of UNCED. In response to its commitment, GoB formulated its Environment Policy before the Rio Conference held in 1992.

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Environment Policy was conceived not from perceived immediate necessity but from external pressure, which was channeled through the international development, aid, lending agencies and NGOs. As a result, the perspective of national planning, resource availability, and allocation principles became secondary consideration and consequently environmental policy proved highly ambitious.

The study highlighted that 'personal relationship' of NGOs and civil society with the government could be considered as an important factor in achieving policy goals. Personal relationship of some NGO personalities with the then government worked as a motivating force to make the government politically committed towards making a national policy on environment.

Political leaders showed a bit contradictory attitudes during the environment formulation process. When the leaders were in power they acted as a 'catalyst' for making the environment policy and while the same persons when remaining in opposition tend to maintain an inactive role in influencing the policy issues concerning environment.

Power elite like - President, Vice President, Ministers, Prime Ministers, senior bureaucrats - of the government did show a noticeable interest in environmental matters. Their interest about Environment Policy trickled down to the lower level of the administration, which in turn ensured the quick and timely formulation of the policy.

During that period when the policy was formulated, there was an acute shortage of environmental expertise in Bangladesh, both inside and outside the government. A team headed by the same person produced the National Conservation Strategy, early drafts of National Environment Management Action Plan, and the first draft of Environment Policy. Although the contents of these

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reports were presented in different structure and form, the findings, conclusions and future strategies were fairly similar. Early drafts of the three documents were the brainchild of the same persons and remained essentially within same mode of thinking.

Finding of this study tend to prove that international pressure is not always harmful, sometimes it can bring good results for a developing country like Bangladesh. A significant number of important policy measures taken since independence in Bangladesh were found to be donor driven which in turn emphasized the need for Bangladesh's capacity to coup up with advancements in challenging international context.

It is often heard that irrationality and traditional thinking persist even among the highly educated bureaucrats. Bureaucrats are very much confined within themselves and are not interested to cooperate with NGOs and civil society members. But this study reveals the fact that if situation demand bureaucracy could go beyond their limit.

Lack of systematic data on natural resources was a hindrance to developing the Environmentally Policy. Because of lack of strong data bank, the government had to collect relevant data, information and documents from Netherlands, Singapore, India, Pakistan, Sri Lanka through Bangladesh High Commission for preparing the policy, which was very much a time consuming process.

The government acknowledged that an effective plan could be made with the combination of theoretical knowledge and practical experiences. In the formulation of Environment Policy, the practical experience of the NGO and civil society and the wisdom of experts have been blended together, which is another learning for Bangladesh.

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The study noted that international consultants are not necessarily an imperative for producing a policy document. The government did not hire any international consultant and engaged only two national consultants for a short period of time. Virtually the policy document was produced by the taskforce with the help of NGO and civil society members.

Based on the empirical observations the study put forward the following broad policy options and recommendations:

Policy should be a synthesis of perceptions of the government, NGOs and the people on environmental issues and the actions required to address them. A proactive public consultation process, where people would have an opportunity to define their environmental concerns, prioritize problems, and suggest solutions, should be created.

In the whole policy formulation process both politicians and bureaucrats showed to a great extent a supportive attitude. So attempt should be made to create and keep a favorable policy environment to elicit the best performance from them.

The government should attach due importance not only to consultation with NGOs and civil society but should also be serious in developing institutional means to consolidate their views in the policymaking process.

NGOs play an important role in creating public awareness. Technical assistance could be provided to further enhance the NGOs' knowledge of environmental and legal matters and to promote their participation in the development process.

Environmental policies must be made on the basis of the country's environmental and natural resources profiles and other information on developmental priorities. For realizing this purpose, existing information and

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expertise can be used to initiate an environmental information system and more importance should be given to environmental research.

Cooperation between the government and the donors found to be effective and should be strengthened to further ensure technical, administrative, financial support for sound environmental planning and policy.

Conclusion

Like many other policies in Bangladesh, the bureaucracy played the most crucial role in the formulation of Environment Policy. Another important actor in the formulation of the policy was the selected agencies of United Nations. In a sense the UN worked as a source of inspiration, especially the important decision to hold the Rio conference acted as a booster. The United Nations through its decisions, documents, and meetings had influenced the government to formulate the policy. Environment Policy was thus the outcome of the dynamic interaction among different actors and factors within the government. The special feature of this policy was the first ever-direct involvement of civil society and NGOs. There is no such culture in Bangladesh public administration to involve and or consult with civil society and NGOs in policy-making and planning initiatives. Members of the bureaucracy have been traditionally very much confined within themselves and tend to maintain "resistance to change" of the system, process and maintenance of their "exclusive domain". Through the formulation process of the Environment Policy, for the first time in its history, Bangladesh government took a progressive step to get the bureaucracy out from the conventional boundary. The participatory approach was followed with the active assistance of civil society members and NGOs. Civil society members and NGOs have been involved in working at the grassroots level keeping direct contacts with the mass people. Such departure of the institutional role of bureaucracy has been a

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remarkable shift and has set a new perspective in the whole process of policy formulation.

The non-government sector deserves the credit for building awareness not only among mass people but also among the policy makers at the national level. This sector succeeded in convincing the government that Bangladesh should develop an Environment Policy based on participative approaches and models.

From the above analysis following broad conclusions can be drawn:

The focal point of all the governmental activities is people. Thus for preparing long-term plans and policies due importance should be given to mass people. Their opinions, practical experiences, and suggestions must be reflected in the policy documents. NGOs and Civil Society can be considered as important agents through which 'peoples views' can be reached to the policy makers. Environment Policy 1992 has shown a definite space for NGO and civil society in linking 'people' with government. The researcher strongly believes that policy relevance would be far more if such link is further institutionalized.

External agents especially UN bodies play a non-threatening role on policy process and thus far more effective and as a strategy for external collaboration, government should try to develop and sustain mutually benefiting long term institutional ties with the specialized development agencies under the UN umbrella.

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http://www.unep.org/gef/Introduction.htm

http:// www.worldbank.org/html/extdr/about/index.htm

World Bank Group-Environment
[http://wbln0018.worldbank.org/essd/essd.nsf]

World Bank Group-Environment
[http://www.worldbank.org/environment/partnership.htm.]

http://www.usaid.gov/environment/whatwedo.htm

http://www.usaid.gov/environment/intergovt.html

http://www.usaid.gov/environment/impcons.html

Dhaka University Institutional Repository

USAID- Climate Change Program
[http://www, usaid.gov/environment/climate_change.html]

USAID – Policy Development
[http://www.usaid.gov/environment/promsust.html]

SIDA- SIDA's Organization
[http://www.sida.se/Sida/jsp/Crosslink.jsp?d=160&a=4123]

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Appendix

Appendix –6.1

Conventions/Treaties/Protocols/Agreements adopted since 1900

Year	Conventions/Treaties/Protocols/Agreements
1900-1929	▪ London Convention on Protection of Wild Fauna in Africa (1900; never ratified) ▪ Convention for the Protection of Birds Useful to Agriculture (1902) ▪ Convention Concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation (1906) US-Mexico ▪ Boundary Waters Treaty Concluded between Great Britain (on behalf of Canada) and the United States (1909) ▪ Convention for the Preservation and Protection of Fur Seals (1911)
1930-1959	▪ London Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933) ▪ Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere 12 October 1940 ▪ Chicago Convention on International Civil Aviation (1944) Institutional Secretariat: International Civil Aviation Organization ▪ International Convention for the Regulation of Whaling 2 December 1946 ▪ General Agreement on Tariffs and Trade, 1947 ▪ Agreement for the Establishment of a General Fisheries Council for the Mediterranean (as amended) 24 September 1949 ▪ Convention for the Establishment of an Inter-American Tropical Tuna Commission 31 May 1949 ▪ International Convention for the Protection of Birds 18 October 1950 ▪ International Plant Protection Convention 6 December 1951 ▪ Convention for the Establishment of the European and Mediterranean Plant Protection Organization (as amended 18 April 1951 PARIS) 18 April 1951 ▪ International Convention for the High Seas Fisheries of the North Pacific Ocean (as amended) 9 May 1952 ▪ Agreement Concerning Measures for Protection of the Stocks of Deep-Sea Prawns (Pandalus borealis), European Lobsters (Homarus vulaaris), Norway Lobsters (Nephropsnorveaicus) and Crabs (Cancer Paqur us) (as amended) 7 March 1952 ▪ International Convention for the Prevention of Pollution of the Sea by Oil (as amended on 11 April 1962 and 21October 1969) 12 May 1954 ▪ Plant Protection Agreement for the South-East Asia and Pacific Region (as amended) 27 February 1956 ▪ Interim Convention on Conservation of North Pacific Fur Seals 9 February 1957 ▪ International Convention Relating to the Limitation of the Liability of Owners of Sea-Going Ships 10 October 1957 ▪ Convention on the High Seas 29 April 1958 ▪ Convention on the Territorial Sea & the Contiguous Zone 29 April 58 ▪ Wages, Hours of Work and Manning (Sea) Convention (Revised), 1958 ▪ Convention on Fishing and Conservation of the Living Resources of the High Seas 29 April 1958 ▪ Optional Protocol of Signature Concerning the Compulsory Settlement of Disputes Arising out of the United Nations Conference on the Law of the Sea 29 April 1958 ▪ Convention Concerning Fishing in the Black Sea (as amended) 7 July 1959 ▪ Accommodation of Crews Convention (Revised) 29 January 1953 Agreement Concerning Cooperation in the Quarantine of Plants and Their Protection Against Pests and Diseases 14 December 1959 ▪ Antarctic Treaty 1 Dec 1959 ▪ North-East Atlantic Fisheries Convention 24 January 1959
1960-1989	▪ Steckborn Convention on the protection of Lake Constance against Pollution (1960) ▪ International Convention for the Safety of Life at Sea 17 June 1960 ▪ Agreement Concerning Cooperation in Marine Fishing 28 July 1962 ▪ Convention of the African Migratory Locust Organization 25 May 1962 ▪ Agreement for the Establishment of a Commission for Controlling the Desert Locust in the Eastern

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Region of its Distribution Area in South-West Asia (as amended) 3 December 1963

- Berne Convention on the International Commission for the Protection of the Rhine against Pollution (1963)
- Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water 10 October 1963
- Convention for the International Council for the Exploration of the Sea (as amended) 12 September 1964
- Agreed Measures for the Conservation of Antarctic Fauna and Flora 2 June 1964
- Agreement for the Establishment of a Commission for Controlling the Desert Locust in the Near East (as amended) 2 July 1965
- International Convention for the Conservation of Atlantic Tunas 14 May 1966
- European Agreement on the Restriction of the Use of Certain Detergents in Washing and Cleaning Products 16 September 1968
- European Convention for the Protection of Animals During International Transport 13 December 1968
- International Convention on Civil Liability for Oil Pollution Damage 29 November 1969
- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 29 November 1969
- Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil 9 June 1969
- Vienna Convention on the Law of Treaties 23 May 1969
- Benelux Convention on Hunting and the Protection of Birds (1970)
- Agreement for the Establishment of a Commission for Controlling the Desert Locust in North-West Africa (as amended) 1 November 1970
- Benelux Convention on the Hunting and Protection of Birds (as amended) 10 June 1970
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 18 December 1971
- Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil Concerning the Protection of the Great Barrier Reef 12 October 1971
- Agreement Concerning Cooperation in Taking Measures Against Pollution of the Sea by Oil 16 September 1971
- Convention for the Protection of the World Cultural and Natural Heritage 23 November 1972
- Convention for the Conservation of Antarctic Seals 1 June 1972
- Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (as amended) 15 February 1972
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 29 December 1972
- (OECD) Environment and Economics Guiding Principles Concerning International Economic Aspects of Environmental Policies 26 May 1972
- (OECD) Measures to Reduce All Man-Made Emissions of Mercury to The Environment 18 September 1973
- (OECD)Protection of the Environment by Control of Polychlorinated Biphenyls 13 September 1973Convention on International Trade in Endangered Species of Wild Fauna and Flora 3 March 1973
- Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and Belts 13 September 1973
- International Convention for the Prevention of Pollution from Ships 2 November 1973
- Agreement on Conservation of Polar Bears 15 November 1973
- Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances Other than Oil 2 November 1973
- Nordic Environmental Protection Convention 19 February 1974
- Convention on the Prevention of Marine Pollution from Land-based Sources 4 June 1974
- (OECD) Implementation of the Polluter-Pays Principle 14 November 1974
- (OECD) Control of Eutrophication of Waters 14 November 1974
- (OECD) Declaration on Environmental Policy 14 November 1974
- (OECD) Energy and the Environment 14 November 1974
- (OECD) Strategies for Specific Water Pollutants Control 4 November 1974
- Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft 16 February 1976
- Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and

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	Other Harmful Substances in Cases of Emergency 2 February 1976 ▪ (OECD) Comprehensive Waste Management Policy 28 September 1976 ▪ Convention for the Protection of the Mediterranean Sea Against Pollution 16 February 1976 ▪ European Convention for the Protection of Animals Kept for Farming Purposes 10 March 1976 ▪ Convention on Conservation of Nature in the South Pacific 12 June 1976 ▪ Protocol to the International Convention on Civil Liability for Oil Pollution Damage 19 November 1976 ▪ Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 19 November 1976 ▪ Agreement Concerning the Protection of the Waters of the Mediterranean Shores 10 May 1976 ▪ United Nations Conference on Desertification (UNCOD) Plan of Action to Combat Desertification and General Assembly Resolutions 29-9 August 1977 (200k file!!) ▪ Treaty for Amazonian Cooperation 3 July 1978 ▪ Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships 17 February 1978 ▪ Agreement Between The United States and Canada on Great Lakes Water Quality 1978 ▪ Amendments to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter Concerning Settlement of Disputes 12 October 1978 ▪ International Tropical Timber Agreement 26 January 1994 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution 24 April 1978 ▪ Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Long-Term Financing of Cooperative ▪ South Pacific Forum Fisheries Agency Convention 10 July 1979 ▪ (OECD) Assessment of Projects with Significant Impact on the Environment 8 May 1979 ▪ European Convention for the Protection of Animals for Slaughter 10 May 1979 ▪ Convention for the Conservation and Management of the Vicuna 20 December 1979 ▪ Convention on Long-Range Transboundary Air Pollution 13 November 1979 ▪ Convention on the Conservation of European Wildlife and Natural Habitats 19 September 1979 ▪ Convention on the Conservation of Migratory Species of Wild Animals 23 June 1979 ▪ (OECD) Declaration of Anticipatory Environmental Policies 8 May 1979 ▪ Protocol Amending the International Convention Relating to the Limitation of the Liability of Owners of Sea-Going Ships 21 December 1979 ▪ Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources 17 May 1980 ▪ Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries 18 November 1980 ▪ (OECD) Waste Paper Recovery 30 January 1980 ▪ 1980 Protocol Amending the Interim Convention on Conservation of North Pacific Fur Seals Convention on the Conservation of Antarctic Marine Living Resources 20 May 1980 ▪ Amendment to the Annex to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 24 September 1980 ▪ Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Hydrocarbons and Other Harmful Substances in Cases of Emergency 12 November 1981 ▪ Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific 12 November 1981 ▪ Protocol Concerning Cooperation in Combating Pollution in Cases of Emergency 21 March 1981 ▪ Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region 23 March 1981 ▪ Agreement Concerning Interim Arrangements Relating to Polymetallic Nodules of the Deep Sea 2 September 1982 ▪ Benelux Convention on Nature Conservation and Landscape Protection 8 June 1982 ▪ Convention for the Conservation of Salmon in the North Atlantic Ocean 2 March 1982 ▪ Protocol Concerning Mediterranean Specially Protected Areas 3 April 1982 ▪ Protocol Concerning Regional Cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency 14 February 1982 ▪ Protocol to Amend the Convention on Wetlands of International Importance Especialas Waterfowl Habitat 3 December 1982 ▪ Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment 14 February 1982 ▪ World Charter for Nature 1982

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- United Nations Convention on the Law of the Sea 10 December 1982
- Supplementary Protocol to the Agreement on Regional Co-Operation in Combating Pollution of the South-East Pacific by Hydrocarbons or Other Harmful Substances 22 July 1983
- Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances 13 September 1983
- Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region 24 March 1983
- Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region 24 March 1983
- International Tropical Timber Agreement 18 November 1983
- MARPOL Optional Annex Annex IV: Regulations for the Prevention of Pollution by Sewage from Ships
- (OECD) International Conference on Environment and Economics: Conclusions 21 July 1984
- 1984 Protocol Amending the Interim Convention on Conservation of North Pacific Fur Seals 12 October 1984
- Protocol to Amend the International Convention on Civil Liability for Oil Pollution Damage 25 May 1984
- Programme for Monitoring and Evaluation of the Long-Range Transmissio ns of Air Pollutants in Europe (EMEP) 28 September 1984
- Protocol to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 25 May 1984
- Tropical forest Action Plan (1986)
- South Pacific Nuclear Free Zone Treaty 6 August 1985
- Vienna Convention for the Protection of the Ozone Layer 22 March 1985
- International Agreement on the Use of INMARSAT Ship Earth Stations within the Territorial Sea and Ports 16 October 1985
- (OECD) Control of Air Pollution from Fossil Fuel Combustion 20 June 1985
- (OECD) Declaration on Environment Resources for the Future 20 June 1985
- ASEAN Agreement on the Conservation of Nature and Natural Resources 9 July 1985
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region 21 June 1985
- Convention for the Protection of the Natural Resources and Environment of the South Pacific Region 24 November 1986
- Agreement Between the Government of the United States of America and the Government of Canada Concerning the Transboundary Movement of Hazardous Wastes 1986
- Protocol Concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region 25 November 1986
- Protocol for the Prevention of Pollution of the South Pacific Region by Dumping 25 November 1986
- Conclusion of the Brundtland Report adopted by the United Nations General Assembly (1987)
- Montreal Protocol on Substances that Deplete the Ozone Layer 16 September 1987
- (OECD) Recommendation of the Council on Further Measures for the Protection of the Environment by Control of Polychlorinated Biphenyls 13 February 1987
- Protocol Amending the 1978 Agreement Between the United States of America and Canada on great Lakes Water Quality 1987
- European Convention for the Protection of Pet Animals 13 November 1987
- ASEAN Resolution on Sustainable Development 30 October 1987
- Convention on the Regulation of Antarctic Mineral Resource Activities 2 June 1988
- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation 10 March 1988
- Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf 10 March 1988
- Agreement on the Network of Aquaculture Centers in Asia and the Pacific 8 January 1988
- Amendment to the Annex to the Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 3 November 1989
- Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf 29 March 1989
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal 22 March 1989

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1990-Onward	▪ Adjustments and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 29 June 1990 ▪ Agreement on the Organization for Indian Ocean Marine Affairs Cooperation 17 September 1990 ▪ Convention for a North Pacific Marine Science Organization (PICES) 12 December 1990 ▪ International Convention on Oil Pollution Preparedness, Response and Cooperation 29 November 1990 ▪ Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment Against Pollution from Land-Based Sources 21 February 1990 ▪ (OECD) Recommendation of the Council on the Reduction of Transfrontier Movements of Wastes 31 January 1991 ▪ Protocol on Environmental Protection to the Antarctic Treaty 4 October 1991 ▪ Agreement Between the Government of Canada and the Government of the United States of America on Air Quality 1991 ▪ Convention on Environmental Impact Assessment in a Transboundary Context 25 February 1991 ▪ Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa 30 January 1991 ▪ Convention on the Transboundary Effects of Industrial Accidents 17 March 1992 ▪ Development of all Types Forests (Forest Principles) (1992) ▪ Convention on Biological Diversity 5 June 1992 ▪ Adjustments and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 23-25 November 1992 ▪ Agenda 21 3-14 June 1992 ▪ Annex III to the Protocol of 17 February 1978 relating to the International Convention for the Prevention of Pollution from Ships of 2 November 1973 (MARPOL 73/78), as amended on 30 October 1992 ▪ Agreement Establishing the Inter-American Institute for Global Change Research 13 May 1992 ▪ Convention for the Protection of the Marine Environment of the North East Atlantic 22 September 1992 ▪ United Nations Framework Convention on Climate Change 9 May 1992 ▪ Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region 9 July 1992 ▪ (OECD) Control of Transfrontier Movements of Wastes Destined for Recovery Operations 30 March 1992 ▪ Protocol on Protection of the Black Sea Marine Environment Against Pollution from Land Based Sources 21 April 1992 ▪ Rio Declaration 3-14 June 1992 ▪ North American Free Trade Agreement (1983) ▪ Agreement establishing the South Pacific Regional Environment Programme (SPREP) 16 June 1993 ▪ Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 29 November 1993 ▪ Convention for the Conservation of Southern Bluefin Tuna 10 May 1993 ▪ Global Conference on Sustainable Development of Small Island Developing States (SIDS) (1994) ▪ World Trade Agreement (1994) ▪ International Conference on Population and Development (1994) ▪ Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982--done 28 July 1994 ▪ United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa 12 September 1994 ▪ World Summit on Social Development (Social Summit) (1995) ▪ Fourth World Conference on Women (1995) ▪ Draft Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks 4 August 1995 ▪ Second united Nations Conference on Human Settlements (Habitat II0 (1996)

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Appendix-8.1

Chronology of events leading towards the creation of the MoEF

Year	Project/Cell/Department	Responsibility
1972	United Nations Conference of Human Environment Resolution on Alleviating global environmental concern through government and non-government initiatives.	
1973	Promulgation of Water Pollution Control Ordinance and undertaking water pollution control project (under DPHE with a manpower of 27) as follow up action of the above Conference	Water Pollution Control
1977	Formation of a 16- member Environment Pollution Control Board under the Chairmanship of a Member of the Planning Commission. Environment Pollution Control Cell (EPCC) headed by a Director with a manpower of 26	Advisory service on and formulation of policies for control and prevention of pollution. Implementation of the recommendation of the Board
1978	Environment Pollution Control Project (EPCP) (Manpower: 118)	Field-level Implementation of the programme of the Cell. Establishment of a central laboratory along with 4 divisional office.
1985	Department of Environment Pollution Control (DEPC)	Environment Pollution Control
1989	Ministry of Environment and Forest (MoEF) Department of Environment (DoE) headed by a Director General with manpower of 173	Policy issues Environment conservation, pollution control and management of environment its totality.

Source: DoE

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Appendix – 8.2

Sector wise government environmental organizations

Sectors	Ministry	Other Agencies
Land Resources	MoL, MoA, MoIWDFC, Ministry of Communication, Ministry of Defense, Ministry of Commerce, Ministry of works, ministry of electricity, Fuel and Mineral resources, Ministry of Industries, MoEF, ministry of water Resources, ministry of Planning, Ministry of Information	DoE, DAE, BARC, Cotton Development Board, Soil Resources Development Institute, BJRI, BADC, BARI, BRRI, BINA, SRTI, FD, BFIDC, BWDB, Department of Road and Highways, Bangladesh Railway Board, Survey of Bangladesh, SPARSO, Bangladesh Tea Board, Bangladesh Sugar Mills Corporation, Department of Housing and Settlements, Directorate of Urban Developments, Geological Survey of BD, Land Administration Board, Directorate of Land Record and Survey.
Agriculture	MoL, MoIWDFC, MoFL, MoLGRD, MoA	Hill Tracts Development Board, BARI, BARC, NARS, BRRI, BARD, BFRI, BJRI, RDA, BAU, BINA, DoE, IPSA, SRTI, SRDI, BIDS, DAE, BADC
Forestry	MoEF, Ministry of Commerce, Ministry of energy and Mineral Resources, MoL	Hill Tracts development Board, FRI, BFIDC, BARI, Planning Commission, BCIC, DAE, BAD, Local Bodies, Municipal authorities, City development Agencies, Directorate of Ansars and Village Party, BADC
Biodiversity	Ministry of Forest, Ministry of Fisheries	Universities, BRRI, BTRI, BARI, Fisheries Research Institute, BFRI, SRTI, BCSIR, DoE, FD, Department of Fisheries, BNBG, BNH, BJRI
Wildlife	MoEF	Wildlife Advisory Board, Wildlife Task Force, FD, BARI, DAE, Directorate of Fisheries
Livestock and Fisheries	MoLF, MoEF, MoL	Related to Livestock: BLRI, Savar, BLRI, Mohakhali, Animal Husbandry Research Institute, Comilla, Central Disease Investigation Centre, Dhaka, BAU, DAE, FD, Local Government Agencies, BSCIC Related to Fisheries: Planning Commission, Police, Local

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		administration, Fisheries Research Institute, BWDB, DoF, BARC, DAE, FD
Energy and Mineral Resources	Ministry of Energy and Mineral Resources, MoEF	The Industry and energy Division of Planning Commission, BOGMC, BCIC, Bangladesh Petroleum Corporation, BPDB, Bangladesh atomic energy Commission, Petro Bangla, BADC, FD, BCSIR, REB, Coal Controller, Hill Tracts Development Board, Bangladesh Street and Energy corporation, BAEC, BPDB
Human Settlement	Ministry of Works, MoLGRD	Directorate of Housing and Settlement, Rural Development Board, Local Government, BSCIC, City Corporations, Housing and Building Research Institute, Municipalities, HBFC, Commercial Banks
Transport	Ministry of Communication, Ministry of Civil Aviation and Tourism, Ministry of Port, Shipping, and IWT	RRDT, Railway Division, RHD, BRTC, Directorate of Road Transport Maintenance, LEGD, City Corporations, Municipalities, Police Department, RTC, National Transport Advisory Council, Bangladesh Biman Corporation, Department of Shipping, Mercantile Marine Department, Marine Academy, Government Shipping Office, Seamen's Training School and Inspectorate of Inland Shipping, Port Authorities, Dock Workers Management Board, Bangladesh Inland Water Transport Corporation, Bangladesh Shipping Corporation
Natural Disaster	MoDMR, MoEF, MoLGRD, Ministry of Defence, MoWHC, MOL, Ministry of Communication	BMD, SPARSO, Local Administration, FD, BWDB, DRR, NDMAC, Flood Forecasting and Flood Warning Centre, DMB, DAE, NDMC, IMDMCC
Environment Education and Awareness	Ministry of Education, Ministry of Information, MoEF, Ministry of Religious Affairs	DoE, Planning Commission, University Grand Commission, Islamic Academy
Water Resources	MoEF, MoL, Ministry of Industries, Ministry of Shipping and Port, Ministry of Foreign Affairs, MoHWC, Ministry of Health, MoA	DoE, Planning Commission, DoA, Department of Fisheries, BADC, DPHE, Water and Sewerage Authority, Universities, SMMC, CEGIS, WARPO, BWDB, National Water Resources Council

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Appendix-8. 3

Environment related NGOs and their focus of activities

NGO	Main Focus
MARC	• Awareness creation program • Creation of Natural Resource Information • Undertakes surveys of flora, fauna, and land resources in parts of the country
NOAMI	• Involves in oceanographic and maritime activities • Program on the boats of Bangladesh, including their design, navigation and socio economic characteristics
Ubinig	• Conducts studies as well as action research on environment related issues including the issue of toxic waste disposal, social forestry issues and shrimp seed collection. • Publication on environment
Winrock International	• Involves primarily in developing agro-forestry programs with the government as well as the NGOs • Supports studies on participatory social forestry activities by NGOs as well as other groups in different parts of the country
The Palli Karma-Sahayak Foundation (PKSF)	• Supports innovative and environmentally sound technologies in agriculture and cottage industries • Provides co financing from its own resources for the Sundarbans Biodiversity Conservation Project
Rangpur Dinajpur Rural Service (RDRS)	• Focuses on population pressure, erosion, flooding, and deforestation • Undertakes a number of environmental actions including forestry and fuel conservation
Rehabilitation and Development Organization for Landless (RADOL)	• Focuses on testing participatory methods for sanitation management
SEHD	• Increasing public understanding of the environment, development, multilateral development banks, and human rights issues. • Publishes environment related quality research and books

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The Surface water Modeling Center (SWMC)	• Deals with mathematical modeling tools for various water management aspects such as flood forecasting irrigation schemes, river morphology, salinity and sediment transport, coastal hydraulics, and hydraulic infrastructure development
Institute for Environment and development Studies (IEDS)	• Involves in raising awareness about environmental issues through the publication of a Bulletin
Society for Conservation of Nature and environment (SCONE)	• Consist mainly of environmental activities and wildlife lovers whose main activity is to produce a monthly journal on environmental issues which is supported by ministry of science and technology
Barind Protection Society	• Works on the degradation of the Barind Tract in the north-western part of the country which is a distinct ecosystem with perhaps the driest conditions in the country • Raises concerns about loss of tree cover, decreasing levels of surface water and perceived threat of desertification in the region • Conducts seminars and brought out publications to highlight the problems
Helen Keller (HK)	• Promotes greater nutritional awareness in order to increases the dietary intake of vitamin A rich food as a means of preventing blindness
Voluntary Health service Society (VHSS)	• Works on environment and health
Grameen Bank	• Its activities cover natural resource development
Ganoshathyo Kendro (GK)	• Establishes garden of medicinal plants which is used in traditional medical applications
CCDB	• Works on different environmental problems • Trains its own trainers in environment related issues
ADAB	• Focuses on water quality and management, chemical fertilizer and soil fertility, protection of forests, and ecological agriculture, social forestry issues, including tree planting, agro-forestry, forest protection etc
SAP	• Reviews NGOs and the environment in each of the countries of South Asia

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Appendix-9.1

Correspondence between MoEF and DoE during the formulation period

Issuing date	From	To	Extracts from the letter
15/7/90	----------	----------	----------
30/9/90	Sanaul Haq, Assistant Secretary, MOEF	DOE	An inter- ministerial meeting will be held on 8/10/90 at 2:15 at the MOEP. The meeting will be presided over by the Secretary
6/6/91	Humayan Kabir Senior Assistant Secretary, MOEF	DOE	A meeting will be held at the office of the secretary on 9/6/91 at 10 A.M for reviewing progress of the formulation of 'Environment Policy and Action Plan'. DOE is requested to send representatives.
9/6/91	Abdus Sobhan Deputy director, DOE	Officers of DOE	Officers of the DOE are requested to give their written opinion on 'Environment Policy and Action Plan'. By 10/6/91
10/6/91	Anwarul Islam Deputy Director, DOE	Director General, DOE	English version of 'Environment Policy and Action Plan' is sending herewith for your consideration.
10/6/91	Abdur Rashid Additional Secretary, MOEF	DOE	A meeting on 6/6/91 was held at the office of secretary on 'Environment Policy and Action Plan'. Following decision were taken at the meeting: necessary steps will be taken to discuss Environment Policy at the cabinet; Joint secretary will review environment policy at the meeting will be held on 11/6/91
3/7/91	M.A.H. Pramanic Director General DOE	Secretary MOEF	According to the decision of the meeting presided over by the Joint Secretary 'opinion of the DOE on Environment Policy are attached herewith for consideration
28/8/91	Md. Humayan Kabir, Senior Assistant Secretary, MOEF	DOE	MOEF is requesting to send DOE's opinion on 'Action Plan' of Environment Policy' by 7/9/91. Otherwise MOEF will be convinced that DOE do not have any objection on 'Action Plan'
8/9/91	M.A.H.Pramanic Director General, DOE	Secretary MOEF	DOE's opinion on 'Environment Policy and Action Plan' are attached herewith for consideration and accordingly to take necessary actions
11/11/91	MOEF	DOE	Under the chairmanship of the minister of MOEF a meeting was held on 29/9/91. Decision was taken in this meeting to present the draft policy at the cabinet

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Appendix-9.2

Actors and factors that influenced different levels of policy making

Factors

International

- Growth of international environmentalism
- Beginning of environmental awareness in the international community
- Country report prepared for Rio conference
- Recommendations of the Stockholm conference 1972
- Emergence of the concept that environmental problems can be occurred in developing countries also
- Worldwide recognition of the importance of creating legal basis for protecting environment
- Recommendations of the report 'Our Common Future'
- UNCED 1992
  - Decision to hold the UNCED in 1992
  - Resolution 44/228 of UN general assembly which contained the decision to start preparatory process
  - Opinion expressed at the preparatory committee meeting
  - Preparatory process:
    - Preparatory committee meeting
    - Country report prepared by government
    - Recommendations of workshop organized by NGOs
    - Regional meeting
- Greater interest of donors in environmental matters
- Conditions imposed on loan agreements
- Donors' requirement for environment policy for the effective implementation of different environmental projects
- Donors requirement for environment policy for the effective implementation of ICTPs
- Demand for legal framework conducive for implementation of ICTPs

Regional

- Evolution of environmentalism in this region
- Environmental policy, laws, and acts collected produced by India, Sri Lanka, Nepal, Singapore, and Thailand
- Pakistan Five Year Plan

National

- NGO initiatives
  - Environmental activities taken by NGOs
  - Mass awareness created by NGOs
  - Awareness building among government by NGOs
  - Positive influence of NGOs environment related activities on government
  - Direct or indirect pressure on government to formulate the policy
- Government initiative
  - Environmental initiatives taken by the government
  - NCS - Decision to prepare NCS, Preparation of NCS, content of NCS
  - NEMAP - Decision to formulate NEMAP, Formulation of NEMAP, content of NEMAP
  - Fourth-five Year Plan - Decision to incorporate environmental matters in Fourth-five Year Plan, Incorporation of environmental matters in Fourth Five Year Plan
- Recommendation of national conferences, seminars, workshops, media, individual, and research
- Opinion expressed at the Inter ministerial meeting
- Political will

Actors

International

- United Nations General Assembly
- International Forum
- International Organizations
- Donor Agencies especially IDA, NORAD, USAID, CIDA, UNDP, ESCAP, ADB

Regional

- South Asian Nations - India, Pakistan, Sri Lanka, Nepal, Thailand, Singapore,
- Regional organizations - SAARC, ESCAP

National

- Environmental NGOs especially CARDMA, BCAS, IUCN, FEJB, ADAB
- Government Agencies- MOEF, DOE, Planning Commission, and concerned ministries
- Political Parties
- Consultants
- Bureaucrats
- Political Persons
- Representatives of the NGOs and civil society

ENVIRONMENT POLICY 1992

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Environment Policy, 1992

1. Preambles and Perspective

The existence and progress of life on earth depend on nature and environment. In recent times, gradual degradation of the natural environment has posed a serious threat to the existence of all living beings and to the progress of human civilization.

In view of the various adverse impacts on environment, the Government of Bangladesh has attached special importance to its protection and improvement. A number of environmental problems, which inter-alia include natural disasters life recurrent floods, droughts, cyclones, tidal bores etc., primary signs of desertification in the northern districts, intrusion of salinity in the rivers, land erosion, fast depletion of forest resources, instability of the weather and climatic conditions etc are prevalent in the country. Against this backdrop, the Government has established the Ministry of Environment and Forest (MoEF) and upgraded the Department of Environment (DoE) in order to coordinate and supervise the activities concerning protection and improvement of the Environment. Simultaneously, major problems related to environmental pollution and degradation has also been clearly identified.

Since various socio-economic malaises like poverty, population pressure, illiteracy, inadequate health care, lack of public awareness etc. have emerged as serious impediments to the protection of environment, it is necessary that these problems are adequately addressed simultaneously along with issues concerning to improvement of environment in an integrated manner. Implementation of government's commitment to environment and mitigation of other environment related problems are possible only through a well-defined national policy.

In the context of the environment, the Government recognizes that:

1.1. Since global and regional environmental pollution and degradation affect the nature, environment and resource base of Bangladesh, it is essential to have coordinated vigilance and undertake necessary action programme to address such

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issues.

1.2. The geophysical location of Bangladesh, the gradual degradation of its environment, and lack of appropriate technology, sustainable management techniques and processes for the exploitation of resources have made it imperative to adopt an integrated environment policy on priority basis.

1.3. With a view to ensuring preservation and improvement of environment, it is essential that people at all levels are involved for sustainable use of national resources. This can only be achieved through mass awareness.

1.4. For immediate and long-term solution of the problems concerning natural disaster, it is necessary that the issues are considered as an integral part of the overall programme for protection and improvement of environment and sustainable resource management.

1.5. It is necessary to undertake activities at local and national level. It is also feasible and essential to ensure improvement of national environment and thus global environment at large, as well as environmentally sound and sustainable use of resource through regional and global cooperation in relevant fields.

2. Objectives

The objectives of environment policy are:

2.1. To maintain ecological balance and overall development through protection and improvement of the environment;

2.2. To protect the country against natural disasters;

2.3. To identify and regulate activities, which pollute and degrade the environment;

2.4. To ensure environmentally sound development in all sectors;

2.5. To ensure sustainable, long term and environmentally sound use of all national resources; and

2.6. To actively remain associate with all international environmental initiatives to the maximum possible extent.

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3. Policies

Environmental activities encompass all geographical regions and development sectors of the country. As such, policies towards realization of the overall objectives of this Environment Policy are described in 15 sectors below.

3.1 Agriculture

3.1.1. All steps taken and technologies adopted for agricultural development and attainment of self-sufficiency in food are to be made environmentally sound.

3.1.2. While in the process of development all agricultural resource bases are to be conserved and their environmental compatibility and long term use are to be ensured.

3.1.3. The application of agro chemicals, artificial materials and inputs which adversely affect the fertility as well as organic properties of the soil and also cause adverse impacts on man and animals are to be regulated. Safety of agricultural workers in applying those inputs is to be ensured. At the same time, the application of different natural fertilizers and insecticides is to be encouraged.

3.1.4. Assist environmentally sound development in agriculture through appropriate changes in production management and production relations with a view to protect and improve the environment and ensuring sustainable use of resources.

3.1.5. The use of environment friendly fibers like jute and jute products are to be increased.

3.2 Industry

3.2.1. Adoption of corrective measures by polluting industries in phases.

3.2.2. Undertake Environmental Impact Assessment (EIA) for all new industries both in public and private sectors.

3.2.3. Impose ban on establishment of industries producing goods, which cause environment pollution; close down such already existing industries in phases and discourage use of such polluting products through development/introduction of their environmentally sound substitutes.

3.2.4. Encourage development of environmentally sound and appropriate technology and initiatives on research and extension in the fields of industry. Balance such

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initiatives with the best use of labour and provision of proper wages.

3.2.5. Prevent wastage of raw materials in industries and ensure their sustainable use.

3.3 Health & Sanitation

3.3.1. Prevent activities, which are harmful to public health in all spheres, including development activities in the country.

3.3.2. Integrate environmental concerns into the National Health Policy.

3.3.3. Incorporate environmental issues in health education curriculum.

3.3.4. Develop healthy environment in the rural and urban areas.

3.3.5. Ensure healthy workplace for workers.

3.4 Energy and Fuel

3.4.1. Reduce and discourage the use of those fuels which pollute the environment and increase the use of environmentally sound and less harmful fuels.

3.4.2. Reduce the use of fuel wood, agricultural residues etc. to meet energy need and increase the use of alternative energy sources.

3.4.3. Adopt appropriate precautionary measures against adverse environmental impact of the use of nuclear energy and take preventive steps against nuclear radiation and pollution.

3.4.4. Develop improved energy saving technology and proliferate its use.

3.4.5. Conserve country's fossil fuel reserves and renewable sources of energy.

3.4.6. Conduct Environmental Impact Assessment before implementing the projects for extraction of fuel and mineral resources.

3.5 Water Development, Flood Control and Irrigation

3.5.1. Ensure environmentally sound utilization of all water resources.

3.5.2. Ensure that water development activities and irrigation net-works do not create adverse environmental impact. Ensure that all steps taken for flood control, including construction of embankments, dredging of rivers, digging of canals etc. be environmentally sound at the local, zonal and national levels.

3.5.3. Ensure mitigatory measures of adverse environmental impact of completed water resources development and flood control projects.

3.5.4. Keep the rivers, canals, ponds, lakes, haors, baors and all other water bodies and

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water resources free from pollution.

3.5.5. Ensure sustainable, long term, environmentally sound and scientific exploitation and management *of* the underground and surface water resources.

3.5.6. Conduct Environmental Impact Assessment before undertaking projects for water resources development and management.

3.6 Land

3.6.1. Formulate a balanced and environmentally sound national land use policy and plan.

3.6.2. Prevent land erosion, preserve and increase soil fertility, and expand activities for conservation and environmentally sound management of newly accreted land.

3.6.3. Encourage land use systems compatible with various eco-systems.

3.6.4. Prevent spread *of* salinity and alkalinity on land.

3.7 Forest, Wildlife and Bio-diversity

3.7.1. Conserve, expand and develop forest to sustain the ecological balance and meet the socio-economic needs and realities.

3.7.2. Include tree plantation programmes in all relevant development schemes.

3.7.3. Stop shrinkage and depletion of forestland and forest resources.

3.7.4. Develop and encourage use of substitutes of forest products. .

3.7.5. Conserve wildlife and bio-diversity, strengthen related research and help insemination and exchange of knowledge in the concerned area.

3.7.6. Conserve and develop wetlands and protect migratory birds.

3.8 Fisheries and Livestock

3.8.1. Ensure appropriate environment for the conservation and development of fisheries and livestock.

3.8.2. Prevent activities which diminish the wetlands/natural habitats of fish and encourage rehabilitative measures in this area.

3.8.3. Ensure that development activities in fisheries and livestock do not create any adverse impact on the mangrove forests and other ecosystems.

3.8.4. Evaluate existing projects on water resources development, flood control and irrigation to determine their adverse impact on fisheries and adopt measures for

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alternate fish culture upon improvement of environmental conditions.

3.9 Food

3.9.1. Ensure hygienically and environmentally sound methods for production, preservation, processing and distribution of food.

3.9.2. Dispose rotten or harmful food stuff and food crops in an environmentally acceptable manner.

3.9.3. Prohibit import of food items likely to create adverse impact on the environment and public health.

3.10 Coastal and Marine Environment

3.10.1. Ensure environmentally sound enervation and development of coastal and marine eco-systems and resources.

3.10.2. Prevent all internal and external activities polluting the coastal and marine areas.

3.10.3. Strengthen necessary research to preserve and develop coastal and marine environment and resources.

3.10.4. Limit coastal and marine fish catch within tolerable regeneration/respwaning limits.

3. 11 Transport and Communication

3.11.1 Ensure that road, rail, air and inland water transport systems do not pollute the environment or degrade the resources. Conduct Environmental Impact Assessment before undertaking related projects.

3.11.2. Ensure that vehicles and people using roads, rails, air and inland waterways do not pollute the environment and take steps to protect health of the workers running these transports.

3.11.3. Control activities in inland ports and dockyards which cause pollution of water and the local environment.

3.12 Housing and Urbanization

3.12.1. Integrate environmental considerations into all housing and urban planning activities and research.

3.12.2. Extend environmentally sound amenities to all the existing urban and rural

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housing areas in phases.

3.12.3. Control housing and urban development schemes having adverse impact on the local and overall environment.

3.12.4. Focus greater importance on the role of water bodies in enhancing beautification of the cities.

3.13 Population

3.13.1. Ensure integrated, planned and environmentally sound utilization of manpower.

3.13.2. Integrate environmental conservation and development concerns in the population policy and action programme.

3.13.3. Ensure the role of women in development.

3.13.4. Encourage utilization of unemployed manpower in development activities.

3.14 Education and Public Awareness

3.14.1. Integrate people in the spread of education and overall development of the country through eradication of illiteracy and increase in the rate of literacy.

3.14.2. Create widespread mass awareness regarding environmental conservation and improvement, sustainable, long term and environmentally sound utilization of all resources.

3.14.3. Ensure inclusion and dissemination of environmental knowledge and information in the formal and informal systems of education and media.

3.14.4. Induce spontaneous and direct participation of people in all environmental activities.

3.14.5. Incorporate environmental issues in all government and non-government training programmes and also in such programmes for industrial and commercial workers.

3.15 Science, Technology and Research:

3.15.1. Incorporate environmental pollution supervision and control measures into national science and technology policy.

3.15.2. Encourage necessary research and evolve technology to ensure long term, sustainable and environmentally sound utilization of all resources for conservation and improvement of environment.

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3.15.3. Incorporate environmental consideration as an integral part of priority areas for research and development within the framework of National Science and Technology Policy (1986).

3.15.4. Consideration of environmental issues in all research activities by research and development institutions.

4. Legal Framework

4.1. Amend all laws and regulations related to protection of environment, conservation of natural resources, and control of environmental pollution and degradation with a view to meet present day's need.

4.2. Frame new laws in all sectors necessary to control activities concerning environmental pollution and degradation.

4.3. Ensure proper implementation of all relevant laws/regulations and create wide spread public awareness in this regard.

4.4. Ratify all concerned international laws/ conventions! Protocols which Bangladesh considers ratifiable and amend/modify existing national laws/ regulations in line with the ratified international laws/ conventions/ protocols.

5. Institutional Arrangements

5.1. The Ministry of Environment and Forest would coordinate the implementation of this policy.

5.2. A National Environmental Committee with the head of the Government as the Chairperson would be constituted to give overall direction for implementation of this policy.

5.3. The Ministry of Environment and Forest would take timely steps for appropriate amendment and modification of this policy on the backdrop of changes in the state of environment and socio-economic and other needs of the country.

5.4. Department of Environment will make final review and approve all Environmental Impact Assessments (EIAs).