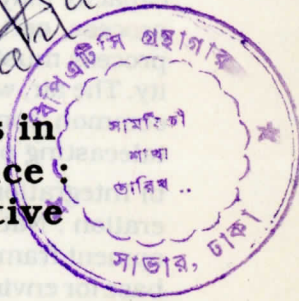


## Capacity Building Issues in Environmental Governance : The Bangladesh perspective

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### Introduction

Capacity building demands synchronization of multiple elements for attainment of a preassigned goal of an individual, or a group or an institution. The concept is multi-dimensional and thus encompasses a host of institutional arrangements. Each institution has a specific role to play in the process. The environmental governance attests the role of different actors in the management of environmental problems. The interaction of different units in coping with environmental problem is of utmost importance in the governance context. Different actors are involved in the environmental management process : the government, the different stockholders, non-governmental organizations, manufacturing sector, civil society and scientific and social institutions. The activities of various actors in the environmental management are dovetailed through formulation of policies and implementation of programmers. Capacity building is the most important element in the whole process.

Capacity building issues in the context of environmental governance are manifold. Following are most important :

a) Awareness building : This implies understanding and appreciating the environmental consequences in development process. Development consumes many inputes. Consumption of the inputs at a scale in excess of the regeneration

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capacity may limit the pace of development. Even in the use process, certain inputs lose productivity and therefore the process must accommodate measures to restore productivity. The air, water and sound pollution on the health are now common concerns and public media are broadcasting or telecasting programmes to educate the general mass.

b) Integration of National Plan with environmental consideration : Natural Resources Accounting, sustainable development framework modeling and creation of necessary data base for environmental planning are some of the areas which also deserve consideration.

c) Development of Human Resources : This involves provision of technical guidance and training of the prospective intermediaries in the planning and effective implementation of tools and methodologies for sound environmental management and sustainable development. The human resource aspect includes introduction of environment concepts in textbook of different grades and also in the curriculum of the various training institutions. Staffing of appropriate manpower in different institution is considered to be an important dimension in this area.

d) Environmental Compliance and Enforcement—The elements constituting environmental compliance and enforcement are the formulation of appropriate rules, regulations and fixation of the enforcements. The compliance is generally monitored through inspection Programme, multi-media and/or single program focus, accountability and measures of success. Prioritization fixation and promotional programmes to accelerate the enforcement and review of overall status of law for adoption in the changing situation are also important.

#### **Bangladesh Scenario**

Bangladesh experiences multifarious problems in its development initiatives. An unmanageable population base, recurring natural disasters and dwindling natural resource are major concerns for the economy. Environmental degradation is seriously affecting the quality of life of the citizens. It would have serious compact on nutrition, housing, water supply and sanitation. Like other countries, Bangladesh emphasizes environmental consideration in development. However, environmental consideration in development was genuinely



reflected in the government action plan in renaming of the Ministry of Forest as Ministry of Environment and Forest in 1989. The government has developed National Environment plan in 1992 and participated in the United Nations Conference on Environment and Development (UNCED), popularly known as the "Earth Summit" held at Rio de Janeiro and signed the Rio Declaration, Agenda 21, UN Framework Convention on Climate Changes and Convention in Biodiversity. National Environmental Management Action plan (NEMAP) a stepping stone for realization of Agenda-21 provides a comprehensive set of actions in different sectors of the economy. The Second Phase of the Bangladesh National Conservancy Strategies (BNCS), and the Forestry Master plan reflect the Bangladesh government's commitment for implementation of the different international conventions and treaties.

The environment includes water, air, land resources and biodiversity. The trend in per capita availability of land is declining because of the huge population pressure. The water resources is also in stress situation. The agriculture resources in Bangladesh is already under severe stress. Biodiversity as a tool of environmental management is also in a stress because of the extinction of some species. The biodiversity place an important role in life support services from maintaining the chemical balance of the earth and stabilizing climate to protecting watershed. The biomass fuel constituting 73% of total energy consumption is facing acute crisis. The use of crop residues and cowdung as fuel in the process will wrench the soil of valuable nutrient and organic metal. Use of chemical fertilizers and industrial pollution has adverse consequences on fish population. The deforestation has left Bangladesh natural forest area of 68% of the total land area far below the desired level. The declining trend of wetland and deterioration causing serious shortage of sweet water fish. Disposal of chemical fertilizers, insecticide and industrial effluent are causing pollution in the coastal and marine environment.

The problems is further aggravated due to unplanned urbanization. The rapid urbanization has serious implications on land use pattern. The vertical expansion of skyscrapers will seriously distort the water level, accentuate traffic congestion problems. The urbanization in its backdrop will

augur slum problems. The inadequate shelter for floating mass will cause sanitation problems in slums and other urban poor areas. There will be little control of industrial waste emissions, which often greatly compounds the problems of environmental pollution because of inadequate management of human and domestic wastes.

### **Institutional Organ**

The agencies entrusted to carry out the different activities in environmental management are the Ministry of Environment and Forest (MOEF), Department of Environment (DOE), Forest Department (FD). Besides, the National Environment Council and the Executive Committee of the National Environment Council are two organs to handle different inter ministerial problems and review the progress of the different strategies undertaken by different ministries/divisions. Department of Environment provides technical advice and assistance to MOEF to help control environment pollution, evaluate environmental guidelines and enforce Environment Conservation Act, 1995 and its subsidiary rules.

### **Plan of Presentation**

This paper addresses four important aspects of capacity building in Environmental governance's. Part II discusses the awareness building issue. Part III dwells upon efforts and limitations in integration on National Plan with environmental consideration. Part IV focuses on Development of Human Resource its current status and future imperatives. Part V outlines legislation and enforcement mechanism.

## **Part-II**

### **Awareness Building**

The awareness building initiatives by the government were translated into action through the adoption of National Environment Management Action Plan (NEMAP). NEMAP was designed to involve people at every stage of the planning process. The process ushered in a new phase of participation by various stakeholders in the environment management process. Different government units, non-governmental organizations, civil society e. g. Forum of Environmental Journalists of Bangladesh (FEJB) and Bangladesh Environmental Lawyers Association (BELL) and professionals worked together to design an Action Plan. Several workshops both at

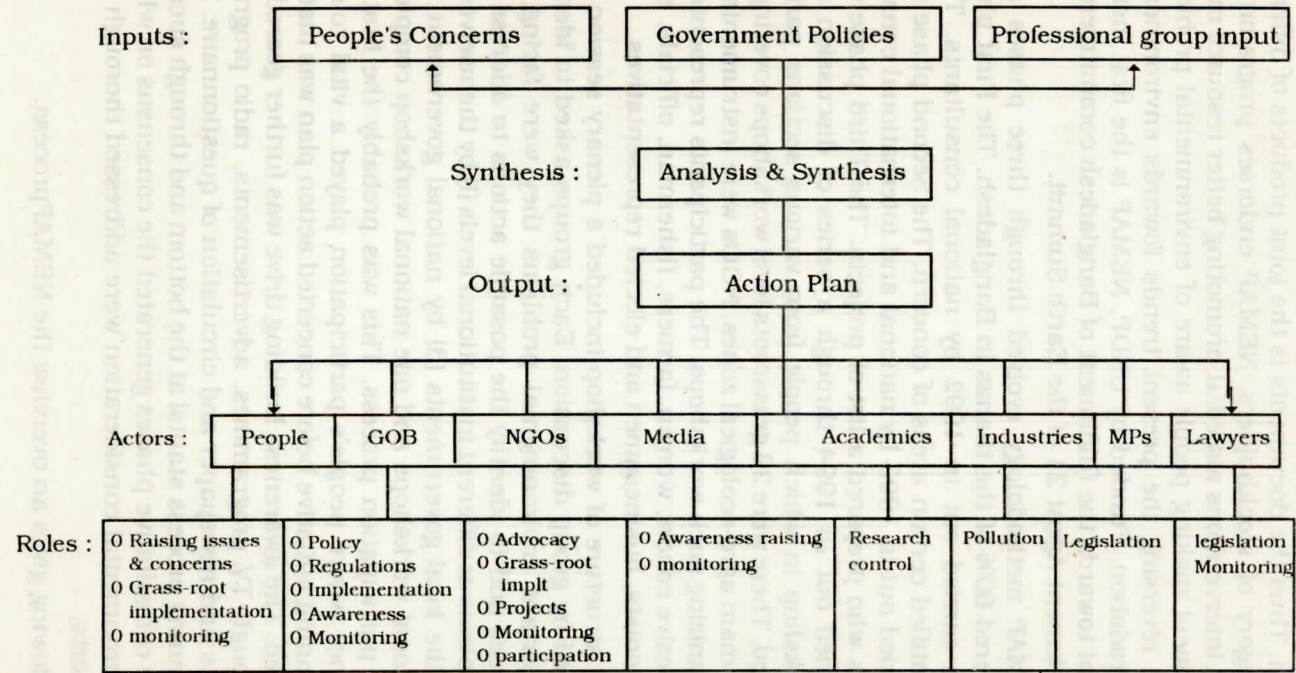


local and national level helped to formulate such an action Plan. Thus the documents is the joint products of different category of stockholders. NEMAP endorses programmers and interventions aimed at promoting better resource management making people aware of environmental problems and reversing the present trends towards environmental degradation. Funded by UNDP, NEMAP is the first instrument towards the fulfillment of Bangladesh commitment to implement Agent 21 of the Earth Summit.

NEMAP methodology evolved through three phases and covered 60% of the thanas in Bangladesh. The First phase was carried out in 1992 by national consultants. They identified certain areas of concern. The Second phase was carried out in 1993 by national and international consultants who prepared a list of projects. The Third phase was carried out in 1994 through a series of discussion and workshop in which people from various sections participated. There were 23 grassroots level workshops covering all the main agro-ecological zones. NGOs were instrumental in organizing such workshops. The participants represented a cohesive cohort, women, farmers, fisherman, officials, educationists, businessmen and elected representatives.

The structure of workshop included a plenary session followed by group discussion. Each groups asked to identify important environmental problems they were facing, its causes and to identify the possible actions to address the problems at different institutional levels (1) by themselves (2) by the local governments (3) by national government. Six regional workshops and one national workshop completed the participation process. This was probably the first instance where people's participation played a vital role in planning initiative before concerted action plan was materialized. The awareness building drive was further geared up through TV programmes, advertisements, radio programmers and newspaper and circulation of questionnaire. The planning process starts at the bottom and through successive consultative phases generated the consensus on which environmental consideration were addressed thorough five reports.

Following gives an overview the NEMAP process.

**Overview of NEMAP Process**

Source : NEMAP Document.

The action Plan dealt with the following issues.

- I) Institutional : Issues reflect the need to have intersectoral co-operation to tackle environmental problem.
- II) Sectoral : Outlines the structure of ministries and agencies to chart action plan and identify agencies to carry out the recommended action.
- III) Location specific : Elaborates on location specific environmental problems and design action plan even if the solution involves multi-sectors concern.
- IV) Long term Issues : Issues that need to be addressed immediately to avert future crises.

NEMAP, identified eight major areas of concern and over 60 priority actions for environmental mitigation. The major environmental problems are :

- Sanitation and health
- Socio-environmental (population growth, illiteracy)
- Deforestation
- Pollution
- Natural disasters
- Water and flood control, drainage and irrigation (FCDI)
- Agrochemicals
- Others (soil erosion and degradation, biodiversity, urbanization, Fisheries and livestock's, energy resource depletion).

Currently, government is actively considering adoption of a follow up program of NEMAP entitled "Sustainable Environment Management Programme (SEMP)". The SEMP identifies a number of priority components of NEMAP. The project joint collaborative effort of UNDP and GOB will cost US \$ 26.45 million. The Programme is multi dimensional incorporating 5 (five) sub-programmers. They are

- (1) Policy and Institutions
- (2) Participatory Eco-system Management
- (3) Community based Environment Sanitation
- (4) Awareness and Advocacy
- (5) Training and Education.



These sub-programmers constitute 26 components. Most of the sub-Programme has in built capacity building components at three tiers : Community level ensuring equitable access of resources at the grass-root levels, local enabling capacity to protect interest at local levels and national level dealing with environmental compliance and enforcement. The Programme will be centrally executed by the Ministry of Environment and Forest but demands intensive coordination of several ministries (eight), NGOs, Civil Society, research organizations and donors. The MOEF will implement the Programme through Programme Management Unit (PMU), head by one-full time National Programme Director (NPD). The programmes objectives and attainment will be monitored through a Programme Review Committee (PRC); consisting of NPD, NEMAP partners and members of NEMAP Steering Committee.

Community based Environmental Sanitation, participatory Eco-system Management and Environmental Awareness and Monitoring at Grass-roots level all will contribute awareness building. For example, the specific output of Awareness and Advocacy Programme in the process will contribute to the following aspects.

(I) Use of electronic and print media would create mass awareness on environment problems and generate public opinion on environmental issues.

(II) Natural resources utilization trends both at national and grass-roots level would be regularly documented and disseminated.

(III) People would be made aware of environmental laws.

### **Part-III**

#### **Environmental Integration into National Economic Plan**

Integration of national plan with environmental consideration is in its infancy in Bangladesh. Adoption of environment related quantitative data is rather slow in the use of input-output modeling. The input-output modeling Bangladesh covers most of the fundamental requirements, such as absorption and make matrix, capital stock formation, value added. Project specific micro studies yield information of production function, the estimation of final demand sectors, such as household, government consumption, investment demand,



export and import demand.

ESCAP pioneered the integration process through publication of "Modeling Framework For Sustainable Development : A Methodology for Integrating Environmental Consideration into Economic Planning". The usefulness of such an integration rests primarily on following consideration.

- 1) Designing of appropriate policy options on the basis of cost and benefits calculation of alternative input use set.
- 2) Integrating the process of economic development and environment through clarification of the notion of sustainable development.
- 3) Insulating the coaxial gap of planners and environmentalists in the development process and providing a common framework for discussion, debate and dialogue on the issues of concern.

There are different stages integration. The origin lies at designing an input-output table. An input-output table is available for most countries. Planning Commission used a comprehensive input-output table in the formulation of the Second Five Year Plan (1980-85). There were subsequent revision of the input output table for the year 1992-93. But the major problem in integration is the lack of data that interfaces with environment. The input-output table lacks several pollutant dispersal and deposit coefficients. The gap in ecological, meteorological and geographical information in the naive structure of input-output renders the tool inoperative. Besides, the table fails to address the regeneration process of natural resources, an essential element of integration in the environmental consideration in national plan. When the conventional input-output table is updated through various environmental related coefficients, a software package for linear programming, e. g. GAMS (General Algebraic Modeling System) may be applied to maximize social welfare-given the resources and technological possibilities.

There is another dimension of integration. Environmental consequences on development warrants redesigning national income accounting. The conventional techniques of national accounts may be substituted for more elaborate accounting system for environmental accounting to assess

the impact on natural resources. Environmental accounting in physical terms is natural resource accounting. Natural resources accounting deals with stocks and stock change of natural assets. However, valuation of natural resources may be difficult owing to conceptual difficulties, measurement problem in valuing public goods such as clear air., clean water, forests and wild life and unavailability of data. Such accounting can alter perceptions of what kind of development is desirable and in turn policy choices. The United Nations Statistical Office provides a framework for calculating Eco-domestic Product (EDP), a green measure of national income.

The capacity building in this crucial area is in embryonic form. Bangladesh Bureau of Statistics (BBS) is grooming the national income accounting wing to incorporate environmental requirement in the GDP. BBS already published a book on the *Framework for Development of Environment Statistics*. The book was prepared as part of the Bangladesh Government's efforts to develop model for development and organization of environment statistics. There are six components in the proposed framework and four information categories in each component. These are (1) Flora (2) Fauna (3) Land/Soil (4) Atmosphere (5) Water (6) Human Settlements. As a preliminary step, the book tries to identify variables and indicators and considers the four information categories (a) Social and economic activities, natural events (b) Environmental impact of activities/natural events (c) Responses to environmental impacts (d) Inventories, stocks and background conditions. Natural and economic activities, impact, responses and stock/inventory for each item. BBS will shortly publish a compendium on environment statistics.

NEMAP did not consider any significant input in this area. However, SEMP includes several elements of capacity building in this crucial area. The Programme identified several lacuna and adopted action Programme to tailor specific needs. BBS will be the sub implementing agency (SIA). The Programme area include the following activities.

- i) Identification of data gaps and preparation of training manuals for BBS staff.



ii) Existing gaps in the environments statistics will be bridged to fit the national plan in the environmental consideration.

#### **Part-IV**

##### **Human Resource Development**

Human Resource Development is an important ingredient of capacity building. Two major areas of HRD are Training and Education. NEMAP was participatory in designing action plan but training and education elements were minimum. An appreciation of the environmental consequences of development to policy planner can be disseminated through incountry and foreign training Programme. For a wider dissemination, and for ensuring application of this knowledge in policy planning, the Bangladesh Government considers training as an important tool. Since the environmental related concepts are surfaced, different training institutions incorporated module on environmental management in their regular training program's as well as in the specialized training programmes. Bangladesh Public Administration Training Centre (BPATC), Academy for Planning and Development (APD) and Bangladesh Academy for Rural Development (BARD) are pioneers in this field.

BPATC conducts three core courses; Foundation Training for entry level Civil Service Presonal, Advanced Course on Administration and Development for mid level and Senior Staff Course for Joint Secretary or Director General level officials. The Centre has introduced an exclusive module on environment in all of these core courses.

The module in Foundation Coarse and Advanced Course on Administration and development address the national and international issues of Environment and Development and Techniques of Environment Impact Assessment in development process and assess environmental impact more precisely in implementing development projects. The topics include:

Sustainable Development : Concept and Issuess

Environmental and Development : Global Perspective

Environmental Management : Bangladesh Context

Workshop on Environmental Impact Assessment.

The participants of the Senior Staff Course study a more extensive module on environment and development. Topics include,

Environment and Development : International Perspective and problem for Developing Countries.

Environmental Degradation and Global Warming : Effects in Bangladesh

Bangladesh's Strategy for sustainable Development and obligations Towards Related International Agreements.

Water Resource Management

EIA : Concepts, Evaluation, Methodology and Exercise.

The Centre conducts a two weeks training Programme on Environmental Management and Sustainable Development in two major policy areas, Environment and Development and Environmental Management in Water and Agriculture. In the recent past, the Centre conducted three workshops on capacity building in Environmental Economics. One workshop was designed for the Foundation Training (April 5-7, 1997) the other two for senior government officials, jointly organized by BPATC and Center on Human Resource Development, Jahangir Nagger University. The workshop was funded by Asian Development Bank thorough the APREEIA Projects.

Bangladesh Academy for Rural development (BARD) organized a four-day regional workshop on Sustainable Development and Disaster Reduction workshop(December 8-12 1997) in collaboration the CRDAP-Commonweal Secretariat and UNDP. About fifty participants from different countries of the Asia-Perceived region such as Bangladesh, India, Indonesia, Lao PDR, Malaysia, Nepal, Pakistan, Sri-Lanka, Thailand, Vietnam attended the workshop. The workshop provies an opportunity to examine the linkages between policy and proactive in sustainable development planning, environmental management and disaster reduction. Academy for Planning and Development (APD) also concocted few specialized courses on environment and development and one workshop on Pre-investment Appraisals with EIA component.

SEMP is more focus in the context of training and



curriculum design. The subprograms Training and Education incorporates the following elements:

- I) Environmental Education at the Non-formal level.
- II) Environmental Curricula at the Primary and Secondary level.

SEMP envisages plan to develop Text books of primary and Secondary classes on the basis of need assessment. Moreover, documentary and audio-visual aids will be developed and disseminated for wider diffusion. The sub-programmes also undertakes the following activities.

- I) Workshop will be organized with core trainers for development of curriculum, training and tacking materials and modules.
- II) TOT for dissemination of knowledge.
- III) Workshop For Primary School teaching, NGO workers.

#### PART-V

Environmental compliance and enforcement programmers is consider to be an essential element of Agenda 21. Environmental compliance and enforcement mechanism underscores the need for institutional capacity building for effective enforcement of environmental program. Economic policy instates for enforcement and compliance are of two types.

I) Command and Control(CAC) policies is required for quality, emission standards, process and product standards. The selection and enforcement of different policies consider different aspects. Benefit/cost of alternative policy options, efficiency, identification of beneficiaries, enforcement mechanism and cost are some of the most important aspects. Command and control policies prescribe certain norms. For example, there must be certain predetermined emission units in each economic activity. The controllers or regulator need to monitor production behaviour regularly. Otherwise regulated firms may not reveal this actual situation. Protective trade policies sometimes encourage manufacturing unit not to innovate.

(2) Incentive based policies Two instruments are : (i) Pricing and (ii) Taxation. The instruments for curbing environmental degradation are.

- a) Internalization of the cost of the manufacturing unit for environmental damage or reduce subsidies
- b) Enhance the charge for depletion of non-renewable natural resources
- c) Introduction of Pollution charges and other economic instruments such as environmental taxes to enforce polluters to pay
- d) The tax rebate and subsidies in restructuring the manufacturing unit with environmentally sound technology
- e) Bonus policy; one example may be cited in the reduction of ozone depleting substances operational under Global Environment Fund provided to those industries which are involved in O. D. S. Bangladesh Government is committed to phase out O. D. S. by 2010
- f) Tradable permits/Quotas; to eliminate Chloro Fluoro Carbon (CFC) and other ODS permits/quotas may be introduced in order to restrict CFC
- g) Insurance and Bonds ; certain sectors of the economy such as transport and industrial sector having less emissions may be given insurance incentives.

Bangladesh has adopted National Environment Policy in 1992, enacted the Environment conservation Act ECA in 1995 and promulgated Environmental Conservation Rules in 1997. The enactment of ECA records an improvement over the Environment Pollution control Ordinance, 1977. The Act provides the Department of Environment (DOE) necessary mandate to conserve and protect the environment. The act specifically outlines condition under which government may declare certain areas of the country as ecologically critical. Under SEMP, CIDA will finance a project to strengthen the DOE in enforcing the ECA. The Industrial Guidelines and Environmental Quality Standards (EQS) are two major components of the CIDA's assistance.

The ECA distinguishes categories of industries on projects into Green, Orange-A, Orange-B and Red to designate the environmental impact. The manufacturer needs to take clearance of the industrial unit from the DOE explaining the production process, the input use, output and the waste disposal mechanism. There are several schedules in ECA



outlining the standard of several basic ingredients such as air, water, sound. Under command and control policies Environmental Quality Standards (EQS) are already specified in the ECA 1995.

The Department of Environment and the World Bank Published a Booklet "Vehicular Air Pollution Control in Dhaka" base on the recommendations by Consultative Group meeting. This booklet outlines specific policy guidelines on several areas e. g. public awareness, Regulations and enforcement, vehicle Inspection and Maintenance, Transportation Planning measures, institutional aspect, effectiveness of Control Programmers through air monitoring, pollution inventory and Assessment Plans and in Petroleum Sector.

The Department of Environments currently instituted Vehicle Inspection and Enforcement Programme. National Environment Committee agrees to ban import of 2 stroke engines. The government needs tarpaper an Action Plan to phase out the existing two-stroke engine three wheelers phase wise. Polythend is key pollutant. Steps must be there to stop issuance of license to manufacturing unit to produce Polythend. Measures must be initiated for increasing use of jute and clothes to reduce the adverse impact of polythene.

Due to lack of technical personnel and certain critical Infrastructural outfit, the DOE is not in a position to perform different monitoring activities efficiently. For example, surveillance of drinking water quality, analysis of water quality on request from persons/organizations, analysis of ambient air quality, analysis of industrial wastes and automobile pollution sevar on a regular basis can not be carried out. Of late DOE is conducting the emission test of certain vehicular transport. However, the current procedure of penalty fixation is rather lengthy. This needs immediate revision. The existing environmental act sometimes help evaders to resort the help of other act such as Metropolitan act. Other agencies in environmental management, such as Bangladesh Road Transport Authority may play a positive role in pollution control by imposing rigid norms on vehicle fitness

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