

## **Review of the Policy Brief on**

# Environment

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# Review of the Policy Brief on Environment

## 1.0 Introduction

The Policy Brief on Environment by the Centre for Policy Dialogue was published in 2001 prior to the Election 2001 with a view to influence the public decision making process related to environment. Since its publication, a new government led by Prime Minister Begum Khaleda Zia, took office and has implemented a series of steps to affect the rural, urban and the natural environment of Bangladesh. In doing so, the government might have implemented some of the agenda that the Committee on Environment had suggested in 2001. This review process is aimed at reviewing the steps taken by the government as well as it reviews the current state of Bangladesh environment to prioritize the issues in Bangladesh environment.

The Committee after reviewing the steps taken by the government is apparently pleased to report that much of its suggestions regarding urban air pollution have been implemented by the government over the past one and a half years time. The Committee after reviewing the current state of environment is also concerned regarding slow progress made in the area of providing arsenic free water to millions of people living in rural Bangladesh. Details of our comments including reviews of the document are presented below. In the process, this new report also suggests a new list of prioritization of issues related to Bangladesh environment.

## 2.0 Methodology

This document is based on a public consultation process that CPD has conducted in association with *Prothom Alo* and the Daily Star. The original first draft was created by the committee and it was presented in Khulna in 2001 as a part of the regional consultation process. Based on the comments given at the regional conference this document was modified (to reflect the opinions expressed in the regional meeting) and was presented in Dhaka at a national consultation meeting. Based on the comments, the Task Force further revised the document. Task force also received comments from members of BAPA who also received the first draft via email.

This year, when CPD re-activated the Task Force on Environment to review the progress and to reassess the priorities on environmental needs, the Committee has been expanded. Here, I gratefully acknowledge contributions made by each of the members to redo the job voluntarily despite their busy schedules. The Review of the Policy Brief on Environment was presented in Rajshahi regional consultation meeting on May 17, 2003. We received extensive comments from the people who participated in the meeting. Based on their comments, the Task Force again met

on 29 May 2003 and finalized the document for today's presentation. It is still a draft document and your comments on this draft will be reviewed again by the Task Force to include in the final version.

The TOR of the current review process were as follows:

1. Review the implementation of the previous recommendations in terms of the steps taken by the new government since it has come into power.
2. Reprioritize some of the issues after reviewing the progress (if required).

During this draft, we wanted to make this a policy document for the country and so it was assumed that readers and reviewers are aware of the basic concepts and policy documents related to environment. We did, however, consult all the relevant policy documents of the government that are linked to environment. We, therefore, avoided presenting data in this document to support the policy recommendations. However, it is our understanding that relevant documentation to support our recommendations could be made but it was beyond the scope of this Committee.

Finally, about this document. *Italic* font are used to put our new comments, **Garamond bold** font is used to highlight our recommendations, and *century gothic bold italic* font is used when we introduced new points in our recommendations.

## **3.0 Environmental Problems and Suggested Actions**

### ***3.1 Drinking Water Crisis***

Water is a right and it should be made available to all the people. However, Bangladesh has now become the center of international concern because of the scale of arsenic problem. There are many reasons for arsenic contamination in our groundwater. However, we are yet to single out any one cause for this.

Increased use of groundwater aquifers and increased withdrawal of surface water for irrigation purposes both in India and in Bangladesh are blamed for this. These and other factors have probably caused arsenic contamination of ground water in many parts of Bangladesh.

Out of estimated 4.6 million Tube wells in the country, 27% or 1.5 million have Arsenic > 0.05 mg/ litre or 50 ppb. Nearly 28 million people are considered exposed to the risk of disease as they are drinking water with Arsenic above the safe limit (> 50 ppb). These have reduced the access to safe water supply coverage from 97% to 75% during the past 5 years.

Spread of diseases has caused havoc in many parts of the country and families with arsenic affected patients are considered 'outcasts' in many rural areas. Arsenic mitigation should be high priority for our environment. The problem warrants both short term and long term measures. First, a short term measure to provide safe water and deal with affected and potentially affected people in the most affected areas in Bangladesh. Second, a long-term measure to deal with the hydrogeology of Bangladesh and to improve the level of arsenic contamination at the aquifers. While we recognize several policies of the government to increase awareness among the rural people on the gravity of the problem, we suggest the following short-term measures:

- 1. Promote safe water technologies and educate people on these. Technologies like tin-kalshi-filtration method, harvesting of rainwater, are much easier to implement at the rural level.**

*The government has recently pass the national policy on arsenic contamination. It contains a lot, however, no significant steps have been taken in terms of implementation of the policy.*

*The committee further suggests that government should develop comprehensive action plan to provide arsenic free waters in all townships in the country and it further notes the red marking of public tube wells in rural areas is not enough to deal with this situation.*

- 2. Establish effective co-ordination among the bodies dealing with arsenic problems to help the patients and to rehabilitate them socially.**

*A high level committee has been setup by the Government to coordinate the actions taken by various bodies. However, we are yet to see effective actions*

*The Committee further notes that raising awareness at this level is not enough.*

- 3. Establish community-based safe surface water bodies for collection of drinking water in rural areas.**

*Policy level decisions have been taken to establish community-based safe surface water bodies (it is in the national policy on arsenic) but we are yet to see actions*

- 4. Arrange treatment of arsenic affected people**

*All thana level hospitals are equipped with medicine and other facilities to deal with diseases due to arsenic poisoning. This is yet to be implemented.*

## **Long Terms Strategies on Arsenic**

We also suggested the following long term measures:

**1. Recognize the link between use of groundwater and the problem and arsenic and develop strategic plan for promoting use of surface water for agricultural and household use**

No significant step taken.

**2. Ensure adequate replenishment of the underground aquifers by protecting wetlands, forests and open fields.**

*No steps taken.*

**3. Improve management of surface water bodies to make better use of monsoon water flows during dry seasons.**

*No steps taken.*

### **3.2 Air Pollution**

Ambient air quality in major metropolitan cities of Bangladesh, like Dhaka and Chittagong has not improved significantly. Although pollution due to lead has reduced dramatically after the government withdrew leaded fuel from the country. Our policy brief suggested the followings:

The committee noted that since the new government took office government has introduced some changes in this area, which had helped improving ambient air quality in Dhaka city. However, other urban cities like Chittagong and Khulna need to be under similar policies of the government.

Noise pollution in cities is also very high. One of the major reasons for higher noise pollution in Dhaka and in other urban areas of Bangladesh is indiscriminate use of hydraulic horns in vehicles. At the same time, bad traffic management causes drivers to use horns when it is usually not required. Such management failures include non-compliance of rules related to pedestrian crossings, non-enforcement of lane disciplines and unawareness of the drivers. It has been observed that a large portion of drivers of smaller vehicles (like three-wheelers) is becoming deaf due to high level of noise pollution. This will become a public safety concern in near future for travelers.

#### **Transportation System**

Nearly 80,000 people live in a square kilometer of land in Dhaka (in built-up areas of Dhaka). In addition people commute from nearby districts to work in Dhaka. Yet Dhaka has failed to develop a network of public transport system both for commuters and for people living within the city. The situation is also similar in other major cities of Bangladesh.

There are bus services (both public and private) in these cities, however, the capacity is small, private fleets are quite old. In the meantime, smaller cities either do not have any city-bus service or have lost their bus services over time.

Developing effective transit services for commuters and for people living in cities is very important to reduce the level of air pollution. Considering these, we suggested that

**1. Large Cities (like Dhaka, Chittagong, Khulna) should, therefore, regulate its transit services both in terms of the age of vehicle fleet and the size of vehicles used for public transportation.**

*There has been some progress in Dhaka city where city bus has been introduced by the government under private ownership and management. We at the same time noted that the government has also introduced a 20 years age limit for commercial plying of transport vehicles in Dhaka.*

*We still consider that development of public transportation is a must for all major cities of Bangladesh and without this, the number of people suffering from Asthma and other respiratory diseases will rise. Government should take measures to re-introduce city bus services in all urban centers of Bangladesh.*

**2. Introduce double-decker or trolley-buses in cities while mega cities should plan for introduction of electric bus services.**

*Government has introduced a number of new double-decker buses in Dhaka and in Chittagong. Besides, in recent times, government has introduced CNG-fuelled buses in Dhaka. This is a significant positive step. We further suggest that this needs to be extended to all metropolitan cities in Bangladesh.*

**3. Electric powered public buses/rails or natural gas powered transportation should be introduced in the public transportation system in all the major cities in the next five years.**

*This has been introduced in Dhaka over the last few weeks. We would recommend that government bring in taxation measures to help introduce CNG run buses in Dhaka and in Chittagong.*

**5. Plying of non-motorized vehicles along with motorized vehicles in the same lane, significantly slow down the traffic and contributes to the level of pollution. City should introduce some rickshaw-free roads each year.**

*This has been done selectively in few streets in Dhaka. It has succeeded in reducing traffic congestions in Dhaka. However, this drive should continue so that major streets in Dhaka gradually become rickshaw-free. We suggest that in order to reintroduce public transport systems in major cities, some selected roads must be made rickshaw free.*

**6. Involve citizen groups, local residents to maintain parking rules in their locality.**

*There has not been any significant step taken in this direction. However, government should consider involving local residents, shop owners, and also others to maintain parking rules around major shopping centers.*

### **Fuels**

Quality of fuel is a major cause for air pollution in Dhaka. Dhaka is one of the few capitals of the world where open sale of lubricants and gasoline is allowed.

#### **1. Introduce CNG-powered and LPG-powered vehicles for taxis and three-wheelers in cities.**

*The government has introduced this and it has been a major success in Bangladesh. However, the long queue in CNG pump stations is working as a major deterrent.*

#### **2. Popularize alternative fuel like CNG and LPG for smaller public and private vehicles**

*The drive for large-scale conversion of vehicles in CNG has almost come to a halt due to shortage in the number of gas stations with CNG facilities. CNG vehicles will not only keep our air clean, but it would also save foreign exchanges. We suggest to the government to speed up the process of establishing CNG re-fuelling stations. Currently, the line up at the CNG stations is working as a deterrent to automobile owners to convert their vehicles for CNG fuels. This will also help the government to save precious foreign exchange.*

#### **3. Good quality fuel, less use of lubricant, properly tuned engines can reduce such emissions. Smoke traps can be installed.**

*Recently, government has introduced colored (blue) kerosene to prevent attempts of large-scale adulteration of fuel.*

### **New Issues**

We further note during discussion and after reviewing various comments, there are some new issues that are related to air pollution and they also deserve urgent actions from the government.

**1. Indoor air pollution in rural and also in many urban cities is becoming a silent killer in Bangladesh. We suggest that government take steps to expand natural gas supply in all townships in Bangladesh. In rural areas, programs to promote biogas plants and fuel-efficient stoves should be introduced to deal with this problem.**

**2. The Committee further assessed the current pace of progress made so far and recognizes that the mandatory requirement for new vehicles to be equipped with catalytic converter (for petrol driven vehicles) and diesel particulate filter (for diesel operated vehicles) will help in halting the deterioration air quality in the city. However, it is also noted that while this is true for new vehicles, it is still doubtful whether similar claim could be made by forcing old vehicles to be equipped with similar**

*gadgets. Under the circumstances, the notification to equip all vehicles (new and old) with such devices should be reviewed.*

- 3. The committee also noted the recent notification of the government on the brickfield operators to raise the height of their chimney to 120 feet. This is a major step forward. In this connection we note while such notification and its implementation would reduce air pollution in rural areas, there is a strong doubt whether it would be able to reduce the 'black tip' disease in our mango in Rajshahi region. Establishment of brickfields near mango plantations should be closely monitored to determine whether the new measures are also effective in reducing this disease in mangos.*

### **3.3 Surface Water Pollution**

Surface water pollution is a major problem in most parts of Bangladesh. The nature of the problem varies between regions and locations. For example, major urban water pollution is linked with disposal of untreated industrial wastes in the rivers and lakes and major rural water pollution is linked with open-air latrine by the rivers and creeks. At the same time, flood-control measures like construction of embankments, polders, barrages, etc., are also responsible for degradation of surface water quality in major wetlands.

Major rivers by the cities like the *Buriganga*, the *Karnafuly*, the *Surma*, the *Korotoa*, and the *Rupsa* are heavily polluted rivers. Most of the pollution in these rivers originates from industrial discharge of untreated liquid wastes. Pollution in rivers creates a major health risk and the financial cost is quite heavy. The severity of the problem should be understood clearly. For example, DWASA has estimated that within the next 50 years period, water from the *Sitalakhya*, the *Buriganga*, and the *Meghna* will be so polluted that the city will need water from the *Jamuna*. This projection clearly shows the cost of pollution.

#### **1. Government should take steps to clean-up major rivers of Bangladesh.**

*Government should take immediate steps for restoration of water quality in Buriganga, Karnafuly, Surma, Korotoa and Rupsa rivers. Government has set up a Task Force on Buriganga but we are yet to see actions.*

#### **2. Disposal of untreated effluents as well as industrial wastes should stop immediately.**

*This should be made a priority to prevent further deterioration of water in our rivers and lakes. Industrial site should be regulated to set up on-site treatment plants. No actions have been taken on this. This is a matter of serious concern.*

### **3.4 Surface Water Management**

Bangladesh is a country of floods and yet it has a serious water crisis. After the Farakka Treaty, it has become easier for government to undertake some steps related to management of surface water flowing through the Padma.

However, major problems regarding water management come from occupation of rivers and lakes and continuous encroachment of riverbanks and lakes by powerful groups and citizens. At the same time, some of our major flood protection projects are not management properly. Considering these, we suggest the following measures for optimal management of our surface water.

**1. Free rivers from all encroachments and assert khas ownership over rivers and other water bodies.**

*Some positive steps have been taken in Dhaka to release river banks from encroachers. While we await for concrete ground level actions, we further suggest that similar steps be taken to make riverbanks free from land grabbers in all other cities.*

*We particularly urge the government to take actions on the banks of Shitalakhya and Karnafully rivers. We further suggest that navigability of Gorai should be improved.*

**2. Reemphasis waterways as a means of inland communication and transport.**

*No steps have been taken.*

**3. Examine the embankments and flood-protection schemes to ensure adequate openings and regular flooding of the floodplains.**

*No significant steps have been taken.*

**4. Establish control over all important rivers with emphasis on securing a water sharing agreement on the waters of Brahmaputra. Since Brahmaputra supplies more than 65 percent of our fresh water flows, we consider that this is an urgent matter for Bangladesh.**

### **3.5 Waste Management**

Waste management will become a major problem in all urban cities of Bangladesh. This is because of (a) increased pace of urbanization, (b) changes in the pattern of consumables by urban households and (c) insufficient capacity of waste removal by the municipalities and city corporations. Most municipalities also lack effective means to guarantee daily removal of wastes and overall there is a major problem of monitoring wastes. Estimates have shown that per capita garbage generation is near 0.5 kilogram in major urban locations in Dhaka (BBS, 1997). While

the municipalities and the city corporations are mainly responsible for disposal of garbage severe problems persists in removal of garbage for the following reasons:

- Organic and inorganic garbage are not separated at source and so dumping of this garbage in the landfill sites is becoming risky as the risk of groundwater contamination increases.
- Some of the toxic and hazardous components of the wastes, particularly hospital and industrial wastes while mixed with household garbage increase the risk of spread of diseases.
- Untreated liquid garbage once dumped into the open water bodies destroys the fish habitat and some of its toxic components may eventually go into the human food chain.
- Collection of household garbage by the city corporations and the municipalities are insufficient and so a large percentage (often more than 50%) of the garbage is left on city streets. These eventually find their way into the city drainage lines and in the sewage system and are responsible for water logging in many cities.

However, some success in the collection of household wastes should be noted. These are mainly administered by local residents, organized local communities or associations, and also some NGOs. The success in this area should be capitalized and so efforts in one area should be duplicated in other areas. The *Kalabagan* method of waste collection from households and the work of *Waste Concerns* are some examples where private and voluntary institutions were successful in building up a 'clean neighborhood'.

To deal with the problem of waste management, following actions are suggested:

**1. Separation of toxic/ hazardous components of hospital/ industrial waste for appropriate treatment and hospital wastes should be disposed off using environmentally safe technology.**

*No action taken.*

*Government should ensure that hazardous wastes from hospital and other industrial sources are disposed off properly. Given the proliferation of hospital and clinical services in the private sectors, this requires urgent actions to reduce public health risks at large.*

*We further suggest that government should gradually discourage use of child labor in collecting wastes.*

**2. Introduce area-based primary collection from the households by NGOs and Community organizations in all built-up residential areas.**

*Some successes have been recorded. Government should take measures to ensure that local communities remain responsible for primary collection of household and commercial wastes.*

- 3. Ensure that EPZAs, BSCIC, City Councils or whoever establishes an industrial site, are also responsible for taking steps for appropriate and environment-friendly disposal of chemical and hazardous wastes generated therein.**

*Industrial estates authorities should be made responsible for appropriate and environment-friendly disposal of chemical and hazardous wastes. Government is yet to take steps in this regard.*

- 4. Promote recycling and resource recovery both at the industrial level and at the household level.**

*No actions taken.*

- 5. Promote secondary collection and transportation of garbage by private and voluntary organizations.**

*Government in principle has agreed to this proposal for some selected areas. DMC has been working on this. However, the measures are yet at the desk level.*

- 6. Establish Sanitary landfill sites**

*No steps taken*

### **3.6 Sanitation**

Open-air defecation in rural areas is a major cause of morbidity related to water-borne diseases. This is also true in many cities. Considering the risks involved in terms of public health, government should come-up with action plan to contain this process. In this connection, we should note the success of similar programs in health and education.

- 1. A time bound action program should be taken to convert all open latrines to sanitary latrines.**

*Government has just announced a plan to complete this by 2010. Except the announcement, there has been so major action taken in this area. We urge the government to take immediate action on this to limit the health impact as more and more people in rural areas are likely to take drinking water from rivers, lakes and ponds (due to arsenic problems).*

*Government should build awareness campaign and organize rural communities to build low cost sanitary facilities in rural areas.*

- 2. Concept of 'Model village' in terms of sanitary quality should be introduced as a program of action in rural areas.**

*No action taken.*

### **3.7 Wetland Management**

Wetlands are key for maintenance of our rich biological heritage. Haors and Beels, a unique ecosystem, are being threatened due to both human activities as well as natural causes. Of the major activities in the haors, crop production generates the maximum pressure on it. This, however, is not to say that haors cannot be used for crop production but to focus on the fact the indiscriminate use of fertilizer and pesticides are gradually killing the biodiversity in the haors. Few of these haors are also designated as protected areas.

The mangrove ecosystem in the coastal belt is another pride collection of our rich biological heritage. It is now an integral part of the world heritage sites. Sundarban is being pressurized by human actions to collect honey, wax, timber, fuel wood, fish and leaves. The ecological conditions of Sundarban are deteriorating due to over fishing and over extracting its resources.

Besides, there are numerous rivers, khals and other wetlands in Bangladesh. Management of these wetlands in a sustainable manner is a key for our success in future. Most wetlands are under public ownership and are 'open access' areas. Consequently, it is natural to observe over-extraction of resources and degradation of the wetland ecosystems. Wetland productivity and biodiversity are declining all over the country.

The main problem of management of wetlands is the existing tenurial arrangement. During the wet season, wetlands are leased out for fishing, but in the dry season irrigated agriculture is practiced. Typically, HYV rice is grown (locally called Boro rice) with fertilizer and pesticides, both of which cause water pollution. Pesticide residues enter into food webs and cause bioaccumulation. Further, many wetlands are being completely drained out for agriculture. As a result, many species of indigenous fish and aquatic creatures (frog, turtle, snake etc.) are rapidly vanishing from rural Bangladesh. One estimate says that 54 out of 300 species of local fish species are at risk because of mismanagement of our wetlands.

Significant impacts are also created by flood control and irrigation structures all over the country. These structures block the natural migration routes (e.g., from river into flood plains and haors during the pre-monsoon months and vice versa during the post-monsoon months) of fish during the breeding season. Statistics show a significant decline in the open-water fish catch over the years due to the combined effects of the problems mentioned above.

Finally, wetlands are also being permanently converted into all season agricultural land or being encroached upon due rapid urbanization. This means practically irreversible damage to aquatic ecosystems.

While we recognize some existing policies in this area, we suggest the following measures to ensure sustainable management of the wetlands.

**1. Leasing of sensitive wetlands for commercial fishing should be replaced with rights of the local inhabitants for non-commercial use.**

*No significant steps in this direction yet with the exception in the Tanguar Haor in Sunamgonj.*

**2. Land zoning for shrimp farms in the coastal areas to protect agricultural and forest land.**

*No steps in this direction yet. At the current yield rate, each processing farm requires land up to 53,000 acres for shrimp farming. Considering this, government must take immediate steps for establishing shrimp farming zones in coastal belts. Production inefficiencies in shrimps production including shrimp-rice rotation should be monitored as shrimps from such farms are susceptible to pesticide poisoning.*

*Coastal land zoning will be a major significant step to develop a sustainable shrimp production culture in Bangladesh.*

*We further express our concern over distribution of Khas land in Noakhali regions in the name of expansion of shrimp farms without finalizing a land use policy in coastal regions.*

**3. Preserve wetlands from encroachment and conversion into agricultural and residential plots.**

*Definition of wetland has been a problem. Government should define and demarcate wetlands around all cities so that no further development activities take place in these areas.*

**4. Ensure that the appropriate and effective precautionary and preventive measures are taken while searching for oil and gas in the wetlands.**

*There has not been any significant rise in exploration activities after the new government has come into office. However, government should develop detailed procedures for conducting exploration activities in sensitive areas.*

**5. Open spaces in urban areas are shrinking at a fast rate. We suggest that urban authorities demarcate at least 12 per cent of their as urban open spaces to facilitate a better urban life and for improving the water retention capacity.**

**6. We further suggest that newly accreted char lands in coastal regions should be brought under a scheme of afforestation and any distribution of such land should be made under a land use policy.**

### **3.8 Forests and Protected Area Management**

While we understand that the Forest Department has developed schemes to encourage 'social forestry', 'homestead forestry', etc., to deal with the problem of deforestation, we also recognize the weaknesses of the present policy in terms of public participation for forest management in forest lands. We, at the same time, recognize the policies of the government related to management of the Sundarban as a world heritage site, the ECAs, as well as the steps taken to increase the rate of afforestation in forestlands and the no-timber harvest policy of government adopted in 1989 from all forest lands of Bangladesh.

Considering these, we suggest the following policies to be implemented:

**1. Separate the Forest Department and the Parks Department to ensure protection of forests and wildlife.**

*No steps taken. Urgent steps need to be taken to separate parks and wildlife management from forest management to ensure that parks department is mandated for conservation while forest department is mandated for maintenance of productive forests.*

**2. Increase coverage of the natural gas supply for household consumption in both urban and rural areas.**

*No significant progress.*

**3. Encourage use of renewable-energy supplies in rural and urban areas and promote policies to use bio-gas and solar technologies**

*No significant progress..*

**4. Encourage tourism in national parks.**

*This should be promoted within the framework of a comprehensive tourism policy. In absence of this, sites rich in biodiversity will be over-crowded and the ultimate objective of conserving the rich natural heritage will be lost.*

**5. Local people, indigenous to the ecosystem, must be involved in the management scheme of the parks for tourists. Revise the policy on eco-park to ensure local participation.**

*No steps taken.*

*6. Selection of Tree species for afforestation - in the past there were several mistakes in selecting tree species for the purpose of afforestation. For example, people in the Barind tract were asked to plant sissoo trees. This tree is dying after 17 years. As a result, people have suffered financial losses. Similarly, some of the mango trees, brought from India, did not survive. These show a lack of professionalism from the government.*

*We suggest that government should establish strict policies for selection of trees for plantation should be backed by research and scientific evidences and not by whims.*

### **3.9 Natural Disasters**

Floods and tropical cyclones are the two major natural disasters in Bangladesh. Seasonal flooding is a recurrent phenomenon in the country. About 22 percent of the land area is flooded in the wet season even in a normal year, and about 60 percent of the country are considered flood prone. Since 1954, Bangladesh experienced catastrophic floods (inundation over 33 percent of the country) in five years: 1955, 1974, 1987, 1988 and 1998.

In recent years, two major floods occurred in 1998 and in 2000. 1998 flood is the longest flood in the history of Bangladesh. Here, the water level did not recede for a long time (flooding in Dhaka started in the 3<sup>rd</sup> week of July and continued till the 3<sup>rd</sup> week of September).

Tropical cyclones, originating in the southern Bay of Bengal, strike the coast of Bangladesh in the months of April-May and October-December. Cyclones are generally associated with storm surges of several meters in height, which, in fact, are mainly responsible for major devastation in terms of loss of life and damage to property and infrastructure. In recent years, two massive cyclones hit Bangladesh - one on 12-13 November 1970 and another on 29 April 1991. The former killed about half-a-million people, but in the latter - though more severe - loss of human life was lesser due to warning signals and disaster preparedness.

While we recognize many policies of the government to deal with natural disasters, we suggest the following actions:

**1. Disaster shelters must be equipped with facilities to provide a decent living for the people living during disasters.**

*No steps taken on this. We suggest that all shelters be made women-friendly with adequate sanitation facilities.*

**2. Government shall take steps to review existing flood protection embankments for the shortcomings and inadequacies and take measures to remove them**

*No steps taken.*

**3. To manage the flood protection and irrigation infrastructure, an appropriate management structure shall be developed so that it guarantees public participation both in selecting locations for any new embankment as well as in sharing the costs of its operations.**

*At present BWDB is working on a proposal to experiment with handing over some small and medium scale projects. We are yet to see significant progress in this regard.*

- 4. Recent floods have shown the inherent weakness of our existing flood forecasting system. It is not possible for people to understand the true picture of the flood from the existing warning messages.** Consequently, it is strongly recommended that localized flood-warning languages be used to alert people on the upcoming floods.

*No steps taken.*

- 5. Government should authorize local governments to monitor compliance of building codes during constructions to minimize life and property damages during earthquakes.**

*No significant steps taken.*

*For existing building, government should introduce tax-cum-subsidy measures so that earthquake-proofing is completed.*

- 6. Government should actively consider introducing 'disaster insurance scheme' to prevent a sudden collapse of the economy in case of a natural disasters. This will help the government to quickly rebuild the economy after disasters.**

*No steps taken.*

### **3.10 Land Degradation**

Degradation of agricultural land has been significant all over the country. Nearly 3.5 percent of agricultural output is lost due to degradation of agricultural land. This is a significant cost for Bangladesh, which is working hard to improve the supply of food.

We recommend that government should make policies to

- 1. Government should provide incentive for farmers to adopt crop rotation in their agricultural lands.**
- 2. Government should take measures to restore micronutrients of the soil.**
- 3. Government to implement a strong monitoring program backed with financial incentives to ensure crop rotation in our agricultural fields.**

### **3.11 Some Local and Regional Concerns**

Besides the national level problems of the environment, the committee also recognizes the following environmental issues that are of regional or local concerns. These regional or local issues also need special attention in terms of policy perspectives.

**Watershed management issues** - while the National Water Policy and the Flood Acton Policy dealt with the problem of water availability in the country, the committee is also concerned about the regional problem of watershed management. This is due to the fact that almost all the rivers of Bangladesh flow from neighboring India and that the watershed of each of these rivers falls within the geographic boundaries of Bangladesh, India, Nepal and Bhutan. Consequently a multinational approach to watershed management of these joint rivers will be needed if we want to address the problems of flooding, water shortage, salination and also deforestation in the region. Considering these, we suggest

**Small coastal islands-** a large part of Bangladesh falls in the Gangetic delta. There are many coastal islands in this delta that are still growing in size, and some new islands are in the formation stage. However, it has been observed that in many cases human settlement in these islands have taken place before the soil has become stable. To avoid catastrophic impacts in case of natural disasters and to help stabilize the soil, the government needs to develop a- policy on settlement in newly formed coastal islands. Considering this, we suggest

**Barind Tract-** this old tract of land is becoming semi-arid in recent years due to water shortages. As a result, the productivity of land in the Barind tract has decreased. The committee is pleased to note the works done by the Barind Multi-purpose Development Authority (BMDA) as an irrigation project. However, serious concerns have been made with regard to benefit sharing and the socio-economic impact of this project on poor ethnic and non-ethnic people living in the region.

Considering this we suggest.

- 1. Prevention of further degradation of the tract as well as restoration of the ecosystem of in the Barind tract should be a priority for the government.**

*We suggest that BMDAs role should be enhanced and it should consider ways to help rural women in the area.*

*BMDA should also consider reviewing its activities in light of the socio-economic concerns raised by the people of the region and without it the project's success is at question.*

**Chalan beel-** these were part of wetland with abundant aquatic diversity. Flood protection schemes have successfully converted these wetlands into agricultural fields. As a result, the country is losing its aquatic diversity specific to this region. Recently, it has been shown through research that the euphoria has died down and productivity growth in these areas is not significantly big to pay for operations and maintenance of the flood control and drainage projects. Considering the loss and the treat to the aquatic diversity of the region, we suggest

- 1. It is understood that Chalan Beel and Beel Dakatia cannot restored to its original condition any more. Considering this, we recommend, prevention of further degradation of the fish habitat of Chalan beel and to protect biodiversity of the region.**

*No action taken.*

**Problems of Beel dakatia, Bhabadaha Beel etc** - during the sixties polders were constructed all along the coastal belt of Bangladesh. After the construction of polders, there was a net increase in agricultural land through prevention of saline water flooding. However, in twenty years time, the polders in the southwestern region became the main cause of drainage congestion as the bed of the surrounding rivers became higher. Thus the central part of the polders, which were waterbodies (beels) before the construction of the polders, became waterlogged. In a recent experiment in the Khulna-Jessore Drainage Rehabilitation Project area these waterbodies have been restored through tidal basins and these have solved the problem of waterlogging. We suggest:

- 1. Restoration of the tidal basins in the drainage congested polders in a systematic manner.**

*No action taken.*

*We also suggest that success of the Khulna Jessore Drainage Rehabilitation Project should be expanded.*

**Loss of topsoil fertility** - reduction of the incidence of flooding and conversion of land into industrial use, soil erosions caused by deforestation and overuse of land have resulted in loss of topsoil fertility in many regions of the country. As a result, farmers are giving fertilizer overdose. To reduce further deterioration of land quality we consider the following

- 1. Integrated pest management and programmers to encourage organic farming.**

*No action taken.*

- 2. Policy to preserve micro organisms and micro-nutrients of the soil.**

*No action taken.*

## 4.0 Environmental Management

Bangladesh needs to improve her overall capacity for environmental protection and management. This requires actions in several dimensions such as setting up of legal framework, developing of administrative and institutional capacity and mobilization of people.

While, we are aware of policies of the government on capacity building, institutionalization, etc., we suggest the following actions:

- 1. The quality of enforcement of the Department of Environment must be improved dramatically so that they can be the national watchdog on environment.**

*No major improvement.*

- 2. The objective of the Department of Agriculture should be broaden to include implementation of sustainable strategy of management of agricultural production.**

*They have worked on various technological packages that have been developed to address the need for food security and reduction of vulnerability during and after natural disasters such as flood and drought. However, much progress is still needed in this front.*

*The committee further notes that some species of terminator seed in rice have already been introduced in Bangladesh agriculture. This is a major concern for our environment.*

- 3. Department of Agriculture should encourage and educate farmers on organic farming and method of production with minimum use of pesticides and fertilizers.**

*The Institute of Integrated Pest Management at Gajipur is working along this objective. They train farmers as well as block supervisors on integrated farming techniques including organic options. This needs to be strengthened.*

- 4. Forest Management and Management of the Parks should be separate under two directorates. The job of the Forest Department should be to ensure sustainable management of forests and the job of the Parks Department should be to ensure conservation of the nature.**

*No significant steps taken. We further suggest that government should review the existing rules regarding management of Environmentally Critical Areas and Ecologically Critical Regions in the country in terms of its enforceability, and remove ambiguities.*

- 5. One of the objectives of fisheries management should be to ensure sustainable harvest of open water fishes.**

*No steps taken*

- 6. Water Development Board, LGED and Local Government Institutions involved in water management must ensure public participation in the management of the flood control, irrigation and drainage structure.**

*No significant progress.*

- 7. Involve NGOs to decouple the link between poverty and overuse of open access resources and to increase public awareness on environment.**

*No steps taken*

- 8. We further suggest that government should review its declaration on ECAs and PAs in the country and take measures to include ECAs/PAs from all representative ecosystems.*
- 9. We further suggest that government should take measures to restore degraded forest areas in Bangladesh.*
- 10. We further suggest that fisheries act should be strengthened and a rule regarding management of coastal fisheries should be introduced. At the same time, the authority on Fish Pass in Flood Control Embankments should be given to the Department of Fisheries.*
- 11. We further suggest that given the weak enforcement capacity of DOE, citizen groups be formally linked with DOE to monitor violations of Environment Act 1995 and Environment Regulations of 1997. This would help achieving the goals of the Act.*

#### **4.1 International issues related to environment**

Some of the environmental problems of Bangladesh are of broader origin. These include global warming, ozone depletion, acid rain, etc. As a member of international community and as one of the most environmentally vulnerable country, Bangladesh has become party to many of the ICTPs on environment. While, Bangladesh is a regular participants to many of the global actions, the committee felt the need to suggest the following policies to be adopted by the government to deal with both the process of negotiations and the process of implementation.

- 1. Highlight the position of Bangladesh in international forums on Climate change and its impact on Bangladesh**

*Bangladesh's participation has increased but there is no dissemination in terms of the progress made.*

- 2. Institutionalize the process of participation in COPs using a focal point at the respective ministry or directorate.**

*No steps taken.*

- 3. Constitute Expert Committee for each of the ICTPs to formulate Bangladesh's position in these meetings and the delegation must include a member from the expert committee to respond to the specific queries during the conferences.**

*No significant progress.*

- 4. When negotiations continues for several years, ensure that a single team consisting of representative from the Ministry(s) and the Expert Committee always attend such meetings. In case of transfers of any officials from the Ministry, the same person must be called back to attend such negotiations.**

*No significant progress.*

- 5. Support implementation of CDM and a mechanism for transfer of environment friendly technologies to developing countries should be given priorities during each rounds of negotiation.**

*No significant progress.*

- 6. Government should take immediate steps for registration of traditional knowledge under article XX/3 of WTO so that our traditional rights are protected.**

*No significant progress.*

- 7. Government should consider enacting rules to preserve eco-health as more and more GMO and LMOs are being introduced in our nature. At the same time, eco-labeling of products should be introduced to inform consumers about the product before consumption.**

*No progress has been made and we are concerned with introduction of terminator varieties of rice in Bangladesh by some vested quarters.*

## **5.0 Concluding Remarks**

In this document we have reviewed the document that was produced in 2001. We again emphasis that arsenic in drinking water is the most important environmental problem in Bangladesh. Government is yet to take any significant step in this direction. The scale of disasters from this is too big to ignore for any government of this country. Consequently, this shall be addressed quickly and effectively.

In urban life, the most important issue was the problem of air quality. Government has taken steps in Dhaka, which was the most polluted city of the country. We appreciate such steps taken by the government in this regards. However, we would suggest that CNG-fuelled vehicle is not growing as fast as expected in the city due to shortages of CNG-refueling stations.

Encroachment in rivers is still a major issue. While we appreciate steps taken by the government to deal with encroachment in Buriganga, much is still needed to resolve the issue. At the same time, we raise our concerns about the same issue on the banks of Shitalakhya, Karnafuly and Rupsa.

Water related problem in urban centers can be addressed through development of water supply networks through WASA or DPHE. But people are virtually helpless to immune themselves against air pollution in cities. At the same time, indoor air pollution has become a major cause of respiratory problem in cities. This is due to burning of kerosene and fuel-wood for cooking purposes. Like arsenic, this will also affect a growing number of people in cities and in rural areas. We have provided some policy guidelines on how to deal with this.

Among burning environmental issues of the country are degradation of soil quality, loss of biodiversity, absence of management of the protected areas, loss of the indigenous resources. All these have been highlighted in this document and policies are suggested for remedy.

Overall, we commend the role of voluntary organizations in raising awareness against the menace of the environmental degradation. In this aspect, the role of the donor agencies is also appreciated. But voluntary organizations must now initiate a process to get involved on the hardware of dealing with some of the environmental problems. Organizing people to deal with local environmental issues will remain a challenge for them. Many of the organizations have activities in rural areas of the country. In dealing with arsenic and protection of the environment, these organizations could provide the backbone for an effective implementation of public policies.

In terms of legal framework, laws have been modified to help the environment but the quality of enforcement either very poor or nil in some areas. This needs to be carefully looked into once again to ensure that all laws are implemented. To improve implementation of the laws capacity building in both legal institutions and in enforcement agencies will be an important step. This needs to be strengthened further.

It has also been understood during the deliberations that the interactions between policies of various sectors of the government with the environmental problems are very poorly understood in Bangladesh. This is primarily due to absence of proper environmental analysis of all projects of the government.

Finally, we would like to flag-up the fact that Bangladesh has not been very successful to harness international resources to deal with some of the global issues on environment. This is an area where government should put more effort.