

## **Global Warming and Salt Water Intrusion: Bangladesh Perspective**

*Md. Abu Noman* and *Chowdhury Mohammad Farouque*

Institute for Environment and Development Studies-IEDS, Dhaka-Bangladesh

### **ABSTRACT**

Global Warming has already started to hit the Bangladesh coastal areas. The salty sea water intrusion and its disastrous effects in landscape, ecology and human health already created wide-scale agony amongst the inhabitants of Bangladesh coastal belts.

### **INTRODUCTION**

The global climate change is one of the most significant environmental issues of the present world. The problem of this human-induced climate change first came to the attention of the global public and international policy makers when the Intergovernmental Panel on Climate Change (IPCC) published its first assessment report in 1990 (Huq and et.al).

The effects of global climate change are evident now, as we are experiencing through irregular weather conditions. These effects are multidimensional. Among the many effects, scientific evidence has proved that several low-lying countries of the world will be badly affected by climate change, and scientists are predicting that Bangladesh will be among the countries most affected by the change.

The sea level along the Bangladesh coast is rising at about 3 millimeters a year, and the sea surface temperature is also showing a rising trend. Bangladesh is facing the reality of climate change due to global warming like other parts of the planet.

The climate pattern is altering across the world due to global warming. This will have an impact on the composition of the atmosphere, hydrology, geomorphology, ecology, soil, land use, biological diversity, vegetation etc. The individual impacts on each environmental component also have interactive effects. Environmental components are interrelated, and the world's ecosystems are linked to these components. Therefore, many natural ecosystems will be changed as a result of climate change.

The tropical and subtropical countries will be more vulnerable to the potential impact of global warming through the effects on crops, soils, insects, weeds, and diseases (Bangladesh State of the Environment, 2001). Bangladesh is in the subtropical region. Therefore, the agriculture of this country will be affected. The effects of climate change are already evident in the agro-ecosystem of the country.

### ***Salt Water Intrusion***

Bhamia, a sea-shore village of Bangladesh situated adjacent to Patenge beach in Southern district of Chittagong. The Global warming has a taste in this village. It is the taste of salt.

Only a few years ago, water from the local pond was fresh and sweet on one habitant of the village Samit Biswas' tongue. It quenched his family's thirst and cleansed their bodies. But drinking a cupful now leaves a briny flavor in his mouth. Tiny white crystals sprout on Biswas' skin after he bathes and in his clothes after his wife washes them.

Gain, 65, once grew rice to support himself and his family, but his harvests started shrinking as saline levels in the water went up. To cope, he followed the example of many of his neighbors

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and switched over to shrimp farming, a way to take advantage of the salty water washing over the fields.

For the first time, shrimp farming occupies more of the cultivable land than traditional crops in the area around Bhamia. While the shift has enabled some villagers to survive, it has also created other headaches. Less labor-intensive, shrimp farming has wound up boosting unemployment. Thousands of residents have migrated to other parts of Bangladesh or India in search of work.

Worse yet, deliberately trapping so much briny water to raise shrimp has increased the sodium concentration in the soil, which aggravates the salinity creeping into drinking-water supplies. "From ancient times, our people used [local] ponds for drinking water. Now they need to go four to five kilometers to collect sweet water," said Mohon Kumar Mondal, 31, a local environmental activist of IEDS. Residents report an increase in health problems such as diarrhea, skin diseases and dysentery. The salty water has also choked many of the palm and date trees that once lent a fecund beauty to the sun-baked landscape.

### BACKGROUND

The change, international scientists say, is the result of intensified flooding caused by shifting climate patterns. Report on changing world weather by the United Nations said that global warming fueled by human activity could lift temperatures by 8 degrees and the ocean's surface by 23 inches by 2100. Here in southwest Bangladesh, the bleak future forecast by the report is already becoming a reality, bringing misery along with it.

Heavier-than-usual floods have wiped out homes and paddy fields. They have increased the salinity of the water, which is contaminating wells, killing trees and slowly poisoning the mighty mangrove jungle that forms a natural barrier against the Bay of Bengal.

Bangladesh, a densely crowded and painfully poor nation, contributes only a minuscule amount to the greenhouse gases slowly smothering the planet. But a combination of geography and demography puts it among the countries experts predict will be hardest hit as the Earth heats up.

### RESULT

Nearly 150 million people, the equivalent of about half the U.S. population, live packed in an area the size of Iowa and about as flat. Home to where the mighty Brahmaputra, Ganges and Meghna rivers meet, most of Bangladesh is a vast delta of alluvial plains that are barely above sea level, making it prone to flooding from waterways swollen by rain, snowmelt from the Himalayas and increased infiltration by the ocean. Global warming trends have already exacerbated that, and the situation will probably only get worse, scientists say.

### DISCUSSION AND CONCLUSIONS

Other low-lying countries are also at risk, such as the Netherlands and tiny islands in the South Pacific that could eventually be swallowed up by the expanding oceans. But the population of those countries is only a fraction of that of Bangladesh.

If the sea here rises by a foot, which some researchers say could happen by 2040, up to 12 percent of the population would be made homeless. A 3-foot rise by century's end — a possible scenario if polar ice caps melt at a more rapid pace — would wreak havoc in Bangladesh on an apocalyptic, Atlantis-like scale, according to scientific projections and models.

A quarter of the country would be submerged. Dhaka, now in the center of the nation, would sit within 60 miles of the coast, where boats would float over the drowned remnants of countless town squares, markets, houses and schools. As many as 30 million people would become refugees in their own land, many of them subsistence farmers with nothing to subsist on any longer.

"Lives in Bangladesh will be devastated through no fault of the people concerned," Sabihuddin Ahmed, the former ambassador to Britain and a former Environment Ministry official, wrote in the Guardian newspaper in September, 2006. For folks in the West, Ahmed said, the onslaught of global warming may seem decades away. In Bangladesh, "the future has arrived."

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Contact Information: Md. Abu Noman, Institute for Environment and Development Studies, 5/12-15, Eastern View (5<sup>th</sup> floor), 50, D.I.T Extension Road, GPO Box-3691, Dhaka-1000, Bangladesh. Tel. + 880-2-935 4128, Fax + 880 2 831 5394, Email: iendesbk@accesstel.net