

Climate impact undermining food security

"It is, I feel our apparent reluctance to recognize the interrelated nature of the problems and therefore the solutions, that lies at the heart of our predicament and certainly on our ability to determine the future of food" (HRH Prince Charles, On the Future of Food, 2012).

CHOYON KUMAR SAHA

THE planet we live in is faced with unprecedented growth of population estimated at more than 7.05 billion disproportionately distributed among the developed (over 1.2 billion) and less developed (over 5.8 billion) countries (Population Reference Bureau, 2012 World Population Data Sheet). Just due to population pressure, the planet is struggling hard to provide enough resources and food to sustain its over 7 billion population (rising to 9 billion by 2050). FAO estimates that 1 in every 7 people in the world go to bed hungry and more than 20,000 children under the age of 5 die daily from hunger, and over 870 million people globally wake up hungry every morning while 1/3 of global food production go waste or lost despite all our techno-agricultural advancement in the 21st century (World Environment Day Booklet, UNEP, 2013). In support of releasing the millions of global population from hunger and malnutrition United Nations Secretary-General Ban Ki-moon proposed the global 'Zero Hunger Challenge' during the United Nations Conference on Sustainable Development (Rio+20) in June 2012.



Devasted crop field

Climate change impact

Changing trends of global climate has profound impact on food production system particularly agriculture. Over the last decades, extreme climatic events such as tropical cyclone, flood, tornado, salinity ingressions, drought and aridity have dramatically affected food production across the world particularly developing countries like Bangladesh. The report of IPCC warns that increased frequency of heat stress, floods, droughts, cyclones, and pest outbreaks will exacerbate the conditions for crop growth and food production in many regions, especially in the dry tropics at lower latitudes like northern Bangladesh.

'Think. Eat. Save. Reduce your Foodprint'—the motto of 'World Environment Day-2013' is an anti-food loss campaign in the era of rapid climate change, and encourages actions to save food grain from adverse impacts of climate change. A laconic illustration is presented here to depict the contribution of extreme climatic events shattering food production of Bangladesh.

Tropical cyclones

Over the past decades, Bangladesh has experienced some deadliest tropical cyclones. The most notables occurred in 1988s, 1990s, 1991s, 1997s, 2007s and 2009s in terms of intensity of croplands and agricultural damages throughout the country. The profound impacts of these terrible cyclones first appeared on the farming communities who wholesale lost their standing crops of rice paddy, vegetable gardens,

fisheries, shrimp farms, commercial plantation of fruits and trees etc. The country faced the highest devastating damage of food production during super cyclone Sidr in 2007 in its history, estimated at completely damaging 7, 42,826 acres of crops while 17, 30,116 acres were partially damaged. Another two tropical storms such as Rashmi (2008) damaged 775 acres of crop fully and 18022 acres partially; Bijli (2009) 320 acres fully in Bhola and 4815 acres partially in Chittagong, Cox's Bazar and Bhola. On May 16, 2013, cyclone Mahasen hit at least six coastal districts (e.g. Patuakhali, Pirojpur, Noakhali, Barguna, Bhola) and completely shattered the standing crops on 80,000 hectares in Barguna, Patuakhali, and Bhola.

Flood and river bank erosion

Flooding and erosion of river bank are predominant factors of shattering crop fields and food production during the monsoon. 80% of total land of the country is flood plain of which about 26,000 km², (around 18%) is flooded. According to Disaster Management Bureau (DMB), the total estimated damage of crop production was 2983362 acres in 1987, 1119998 acres in 1988, 1220225 acres in 1991, 2823751 acres in 1995, 1423320 acres in 1998, 321355 acres in 2000, 373376 acres in 2003, 1605958 acres in 2004, and 890898 acres in 2007. Annual flooding in each year also partially damaged extensive acres of crop throughout the country. Just only in 1988 it partially shattered 9993436 acres of standing crop and other food production.

Drought and aridity

Bangladesh experiences seven months of arid period from November to May, when rainfall usually becomes low. But severe drought mostly affects the country, particularly north and northwest parts, from March to May (pre-monsoon) and October to November (post-monsoon). So these regions (e.g. Rangpur, Chapai Nawabganj, Dinajpur, Bogura, and Rajshahi) are likely to be badly affected during drought under climate change impact. It may result in annual damage of 2.32 million hectares of cultivable aman production and 2.2 million hectares of rabi crops production. In 2006, extreme drought in the northwestern part of Bangladesh reduced aman crop production by nearly 25–30% (Habiba et al. 2012, Farmer's perception and adaptation practices to cope with drought: Perspectives from Northwestern Bangladesh). Drought also causes price hike, job crisis, drinking and irrigation water crisis, income loss and food insecurity for rural people.

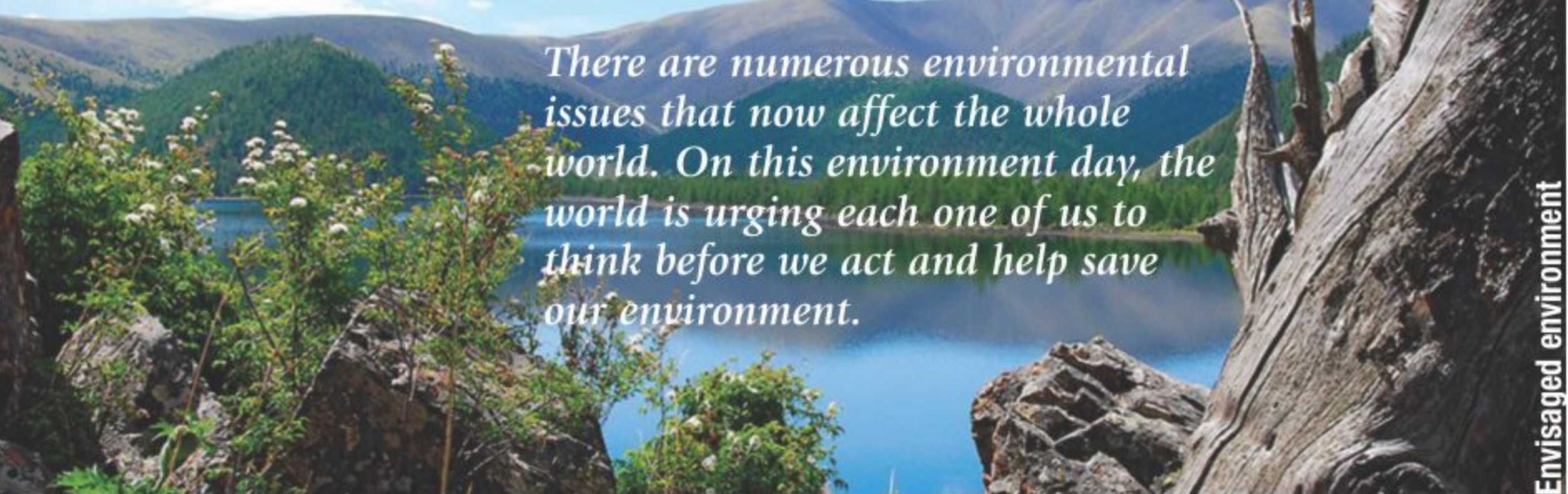
Salinity ingressions

Approximately 30% of total cultivable lands of the country are located at coastal regions. Salinity monitoring information suggests that nearly 1.02 million ha (about 70%) of arable lands are badly affected by varying degrees of soil salinity (Haque S A. 2006, Salinity problems and crop production in coastal regions of Bangladesh). The salinity ingressions is one of the major natural hazards contributing to land degradation in coastal Bangladesh. It has already appeared as a threat to the coastal agriculture with a significant loss of crops production. The increasing concentration of salinity will generate tremendous pressure on the farmers threatening livelihood options and food security.

However, adverse upshots of climate change not just shatter the food production globally, it also undermines food security of countless vulnerable people in developing and under developed world. So the message of 'World Environment Day-2013' indirectly conveys an urgent responsibility as well—to think globally and to save the environment from dreadful impacts of climate change for food production, and ensuring a sustainable food security for 870 million people living with hunger.

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Change for better: Sooner than later



There are numerous environmental issues that now affect the whole world. On this environment day, the world is urging each one of us to think before we act and help save our environment.

NIGER DIL NAHAR

ENVIRONMENT has become a growing concern for all of us due to its indiscriminate exploitation by humans throughout the world. However, in some way or almost all countries have acknowledged of date the importance of environment, nature and its biological diversity, for their sustenance and have therefore understood the need of ecological conservation.

The theme of this year's World Environment Day is Think.Eat.Save. Reduce your foodprint verging on conservation. This theme has been agreed to promote an anti-food waste and food loss campaign. According to the United Nations Food and Agriculture Organisation (FAO), every year 1.3 billion tons of food is wasted. This is equivalent to the same amount produced in the whole of sub-Saharan Africa. At the same time, 1 in every 7 people in the world go to bed hungry and more than 20,000 children under the age of 5 die daily from hunger(UNEP).

The global food crisis is a dire reality for millions of the world's poorest of the poor and it is the key concern for the international community. In Bangladesh food security is one of the burning national issues. The economy of Bangladesh largely depends on agriculture with more than 80 per cent rice production. Therefore, when the production of rice runs short in Bangladesh, people face serious food problem. Despite having more than 90 per cent of cultivable land, we cannot produce enough food to feed our people sufficiently every year. For this there is significant shortage of food in our country.

Bangladesh has adopted the National Food Policy in 2006 which is the main policy document on food security. The policy outlines three main objectives, e.g., adequate and stable supply of safe and nutritious food; increased purchasing power and access to food of the people; adequate nutrition for all individuals, especially women and children.

In fact, in Bangladesh, extensive studies on food wastes are not available but seemingly the volume of wasted food is not negligible in the country. BBC report says about 12 per cent rice and 15 per cent wheat get wasted in different steps of harvesting processes. Though the economy of this country largely depends on agriculture, our seed conservation process is very underprivileged and unscientific. Due to improper seed conservation practices 3 per cent of rice is considered wasted in Bangladesh. Farmers straggle a lot to preserve their crops not always successfully due to lack of

proper infrastructure. We could not built proper storage system for the poor farmer of the remote rural areas. Consequently, the wastage rate is alarmingly high -- 40 per cent for perishable items like vegetables and fruits. Apart from the food wasted in the different stages of harvesting, wastage occurs as a result of lack of transportation and suitable marketing system as well.


The impact of food waste is not just financial matter. Environmentally, food waste leads to wasteful use of chemicals such as fertilizers and pesticides; more fuel used for transportation; and more rotting food, creating more methane -- one of the most harmful greenhouse gases that contributes to climate change. Methane is 23 times more potent than CO₂ as a greenhouse gas. The vast amount of food going to landfills makes a significant contribution to global warming.

Rising food prices create tremendous pressure on the lives of poor and hard core people of this country, for whom basic food can consume as much as two-thirds of their income.To balance with food price hike, usually poor people tend to reduce food intake what ultimately impact their nutritional stability.

Bad food habits can be quite detrimental to our health as well. The food we consume plays a significant role in determining our health, fitness and longevity. To maintain a healthy life, it is very much important to practice healthy food habits and balanced diet. Habit of taking junk food has been increased extensively in our country. Although, timing of food intake is also very important to maintain a balance life cycle. Most of us are not conscious about food safety in open food courts and restaurants. So, not only the producers, traders or suppliers, we the unintelligent consumers are also sufficiently responsible for food abuse and health hazards.

There are numerous environmental issues that now affect the whole world. On this environment day, the world is urging each one of us to think before we act and help save our environment. Our planet is struggling to provide us with sufficient resources, therefore, it is the time that mankind desperately needs to start performing their task to reduce the disaster risk and save the environment. Now it is the proper time to awake up and make the nation healthy through wise decision on utilisation and conservation. Let us not wait to change our habit, we should act from today sooner than later.


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