

## **Challenges posed by Climate Change in Bangladesh: A perspective of Food Sovereignty**

In Bangladesh the concept of food sovereignty is yet to be popularized. The policy-legal instruments often use the terms “food security” and “food sovereignty” interchangeably. The farmers’ organizations are also not on the same page on definitions, implications and strategies in relation to food sovereignty. Within this context, the challenges imposed upon agriculture by Climate Change are extremely difficult to address. The paper presents a conceptual framework on food sovereignty which makes sense with respect to the marginalized farming communities of Bangladesh and discusses these challenges in brief.

### **Food Sovereignty**

Food Sovereignty is the RIGHT of peoples, communities, and countries to define their own agricultural, labor, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and to food-producing resources and the ability to sustain themselves and their societies. This among others would require, prioritizing local agricultural production in order to feed the people, access of peasants and landless people to land, water, seeds, and credit. Hence the need for land reforms, law against GMOs (Genetically Modified Organisms), free access to seeds, and laws for safeguarding water as a public good is critical.

Food sovereignty goes beyond availability and accessibility of adequate food. The concept of food sovereignty also includes the right of farmers, peasants to produce food and the right of consumers to be able to decide what they consume, and how and by whom it is produced. The population is empowered and facilitated to take part in the agricultural policy choices. The recognition of women farmers' rights, who play a major role in agricultural production and in food. The concept further includes fair trade. Food sovereignty is not contrary to trade but it prioritizes upon right to food of each nation, while participating in global trade.

Under the responsibility of United Nations (UN) this trade must be granted a new framework, which:

- Prioritizes local and regional production before export
- allows the Countries/Unions to protect themselves from too low priced imports
- Permits public aids to farmers, provided these are not intended directly or indirectly to export at low prices,
- Guarantees stable agricultural prices at an international level through international agreements of supply management

### **Food Sovereignty and Climate Change**

According to the United Nations Framework Convention on Climate Change (UNFCCC), climate change is “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.<sup>1</sup>

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<sup>1</sup> UNFCCC 1992, source: [https://unfccc.int/files/essential\\_background/background\\_publications\\_htmlpdf/application/pdf/conveng.pdf](https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf)

Bangladesh will be heavily impacted by climate change, and the main sufferers will be its geography, agriculture, water resources, rural and urban population etc. Bangladesh ranked sixth in the most vulnerable country to climate change and hunger by the Global Climate Risk Index (CRI)-2011 report published by Germanwatch.<sup>2</sup>

- **Impact on geography:** Scientists estimated that by the end of the 21<sup>st</sup> century, the Earth's temperature can increase by 2-4.5°C. The US Environmental Protection Agency (EPA) reported that within that time, due to melting polar ice caps the global sea levels could rise by 49-79 cm.<sup>3</sup> According to a report by the Bureau of Manpower Employment and Training (BMET), the Intergovernmental Panel on Climate Change (IPCC) states if the sea level rises up to 45 cm almost 10.9% territory of Bangladesh would be inundated, and about 5.5 million inhabitants living in the coastal areas will be displaced as a result. About 40% of productive land loss is projected in case of a 65 cm sea level increase. Flood-prone areas could increase by almost 29% if the average temperature rises by 2.5°C.<sup>4</sup> Also, the frequency and intensity of already occurring natural disasters like tropical cyclones, river erosion, flood, landslides and drought will be increased. These will have detrimental impact on production of agriculture by reducing the land available for agriculture – more importantly at the hand of famers. As such food sovereignty will be challenged.
- **Seasonal change:** Bangladesh is already experiencing changes in seasonal weather and other natural phenomena. It is experiencing warmer summer season. There is irregular monsoon leading to untimely rainfall, heavy rainfall over short period causing waterlogging and occasional landslides along with very little rainfall in dry period. The country is also facing intensity and recurrence of floods. The crop production is impacted by length of summer and monsoon. Climate change can thereby reduce crop production and reduce the ability of the farmers in selecting crop to be grown and productivity of agriculture. In other words, this will reduce control of the farmers and hence prospect of ensuring food sovereignty.
- **Change in crop diversity:** Fisheries sector is one of the most affected economic sector due to climate change. Fisheries contribute about 3.5% of the GDP, and about 260 species of fishes are commercially harvested. This could be facing a serious decline if the current trend continues. It is estimated that by 2030, Bangladesh's projected food grain requirement will be 42.5 million metric tons, of which Bangladesh can produce at best by 2030 is 37.8 million metric tons. It is estimated that Bangladesh will be required to import 4.7 million metric tons of grains, and of that about 16% is expected to be the result of additional shortfall due to climate change [4]<sup>5</sup>. These are impacting agriculture by crop damage due to flash floods and monsoon floods, crop failure due to drought, prolonged cold spell etc. Climate change could have devastating impact on agriculture. Crop yields are projected to decrease by up to

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<sup>2</sup> The Daily Star, 6 December 2010 article: Bangladesh among top 10 climate-risk nations; source: <https://www.thedailystar.net/news-detail-165007>

<sup>3</sup> Intergovernmental Panel on Climate Change (IPCC). 2000. IPCC special report: Emissions scenarios

<sup>4</sup> Dr. Md. Nurul Islam, Director, Bangladesh Bureau of Manpower Employment and Training; source: <http://www.bmet.org.bd/BMET/resources/Static%20PDF%20and%20DOC/publication/Brief%20on%20Climate%20Change-%20Impact%20on%20Bangladesh.pdf>

<sup>5</sup> Ministry of Environment and Forest, Government of the People's Republic of Bangladesh; National Adaptation Programme of Action (NAPA), November 2005

30%, resulting in an increased risk of food shortage and malnutrition<sup>6</sup>. This will be a real challenge for ensuring food security, let alone food sovereignty.

- **Salinity increase:** It is estimated that salinity intrusion into Bangladesh has reached About 100 km from the coastlines and has degraded land and water resources. 20 million people living in the coastal areas of Bangladesh are affected by rising salinity level and are facing a drinking water availability problem. These will not only reduce the choice of farmers on choice of crops, but also ability to farmers to grow food at large. Already, due to higher salinity, crop lands are transformed into shrimp farms for export. If this trend is accelerated due to climate change, a higher vulnerability to food sovereignty will be triggered.
- **Climate induced Displacement:** Bangladesh is projected to suffer an intense surge in climate refugees in the wake of climate change. About 30 million people living in the coastal areas of Bangladesh can be diversely affected and potentially be displaced due to climate change<sup>7</sup>. People are already starting to migrate from the climate change-affected areas. About 1.5 million slum inhabitants in Dhaka moved from villages near the Bay of Bengal and the number of climate refugees are only estimated to rise in the upcoming years<sup>8</sup>. This massive displacement will further reduce the agricultural workforce- posing a real threat to food sovereignty.

### Conclusion:

Bangladesh will have to bring about appropriate legal instruments to promote rights to food and set food sovereignty as a policy priority for agriculture. The legal provisions of retaining, reclaiming and maintaining agricultural land and resources are yet to be devised. These are essential to promote food sovereignty as a governance agenda. Climate change adaptation programs are not considering the climate induced “reduction of choice of farmers” which is a critical component of food sovereignty. Farmers’ organizations need to raise their capacity in tracking the climate impacts and governments’ initiatives towards adaptation to ensure that farmers’ access to productive resources including land, choice in relation to selection of products and technologies along with access to enabling environment to implement their decisions are not undermined.

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<sup>6</sup> Md. Sazedur Rahman & Md. Ashfikur Rahman, Impacts of Climate Change on Crop Production in Bangladesh: A Review, Journal of Agriculture and Crops, Vol.5 Issue.1, pp:6-14, 2018; link: [https://www.arpgweb.com/pdf-files/jac5\(1\)6-14.pdf](https://www.arpgweb.com/pdf-files/jac5(1)6-14.pdf)

<sup>7</sup> Dr. Md. Nurul Islam, Director, Bangladesh Bureau of Manpower Employment and Training; source: <http://www.bmet.org.bd/BMET/resources/Static%20PDF%20and%20DOC/publication/Brief%20on%20Climate%20Change-%20Impact%20on%20Bangladesh.pdf>

<sup>8</sup> International Centre for Climate Change and Development article: Dhaka’s climate refugees a warning; source: <http://www.icccad.net/dhakas-climate-refugees-a-warning/>