



## The politics of climate change from the perspective of Bangladesh

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### Abstract

Global warming is created mainly by the developed countries because of their high level of green house gas emission. In comparison to average level, the per capita green house gas emission by Bangladesh is very low. Yet Bangladesh is in the high level of threat from environmental disaster. The impact of global warming creates rise in sea level and increased frequency of cyclones and floods which affects the countries like Bangladesh very severely. Kyoto protocol has given an opportunity to Bangladesh to get some positive outcome from the global consensus. From the climate change politics Bangladesh can be benefitted if it can utilize the opportunity of carbon trading and if it can establish the protocol of 'Climate Change Refugee' and 'food security'. This article discusses on how Bangladesh should play its role in the politics of climate change to address the issues like environmental refugee, food security and carbon trading through a general consensus with other developing countries.

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## Introduction

Bangladesh is one of the worst affected countries in the world by climate change. Although it is a low carbon dioxide emitting country, it has to pay high price for the impacts of climate change. For example, if there is 45 centimeters rise in sea level, then 10% of the country will be under water, which will affect huge number of population (Giddens 2009, p.180). The impacts of global warming in Bangladesh would be on rise in sea level, Agriculture, Bio diversity and Forestry, Human Health, Fisheries, and supply of Fresh water (Ali 1999, p. 110). Large number of people has to migrate from the coastal area of Bangladesh and will become environmental refugee if sea level rises and it will create a socioeconomic disaster for the country (Ali 1996, p.172). It will also create salinisation and agricultural production will be hampered. Bangladesh is a densely populated country with small amount of cultivable land. For this reason food security is a very important issue from the perspective of Bangladesh. Greenhouse gases released by human activity are responsible for climate change and global warming (Aziz & Chowdhury 2009). The Kyoto protocol organized by the United Nation Framework Convention on Climate Change (UNFCCC), set an obligation for the developed countries to reduce their carbon emission. There is a protocol that the developed countries either can meet the obligation by reducing the domestic emissions or they can use one of the three Kyoto mechanism projects in developing countries (Aziz & Chowdhury 2009). Some developing countries like Bangladesh can be benefitted from this protocol which offers market based carbon trading mechanisms. Giddens (Giddens 2009, p.176) views that most damaging human disasters in the previous decade had happened in the developing countries. Bangladesh together with the other developing countries can make common platform to put pressure on the developed countries in the climate change issue.

### *Impact of Global Warming and climate change in Bangladesh:*

Bangladesh is vulnerable to natural disasters like

tropical cyclones, floods and tornadoes because of its geographical location and geomorphic condition. As Bangladesh is a densely populated and poor country it cannot withstand these disasters. Global warming and climate change will enhance the naturally occurring disasters (Ali 1996). According to Ali (1999, p.110) because of global warming and climate change the frequency of climate change will increase, the intensity of the cyclone will be larger which will increase the coastal erosion.

According to Kyoto Protocol (1997), Bangladesh is among Non Annex B countries which are emitting low carbon dioxide. The per capita carbon dioxide emission in Bangladesh is estimated at 0.2 ton per year. The average per capita CO<sub>2</sub> emission for developing countries is 1.6 ton per year and in developed countries like USA per capita emission is 20 ton per year (Aziz & Chowdhury 2009). Bangladesh has very low Green House Gas emission status but it faces the worst effects of global warming and climate change. If there is 1.5 meter rise in sea level because of global warming, it will inundate 22,000 square kilometer land of Bangladesh which will create a migration of approximately 17 million people from the coastal area of the country (Ali 1996). Ali (1996, p.172), projected the impact of rise in sea level from the perspective of Bangladesh in the table below.

From the table below it can be seen that Bangladesh will face problems with, agriculture production and food security, poverty created by environmental disaster and environmental migration or refugee from the affected area. The government of Bangladesh needs to bring these issues in the international level and play its role in politics of climate change. Kyoto Protocol gives an opportunity for Bangladesh to include these issues in the politics of climate Change.

A chart is given in the next page to project the future impacts of sea level rise in Bangladesh.

*Kyoto Protocol and politics of climate change: Developing countries perspective:*

In 1997 the Kyoto Protocol was signed between 160 countries which is under the umbrella of the United Nations Framework Convention on Climate Change (UNFCCC). This protocol has committed 37 developed countries from all over the world to reduce their greenhouse gas emissions. Under the Kyoto Protocol industrialized countries committed to reduce their greenhouse gas emission by an average of 5.2 % in between 2008-2012 (Shin, Miah & Lee 2007 p.262). At present, 188 countries have signed the protocol (Giddens 2009, p.187). Kyoto Protocol is the global consensus to combat climate change. It gives an opportunity for the climate change affected countries to make their voice heard and raise their concern.

On the other hand, post-Kyoto period was spent to make Annex 1 countries to agree what they already had agreed to at Kyoto protocol and there was not enough time left for other issues which has greater interest to the developing countries (Najam *et al.* 2003, p.222). The policy makers, scholars and activists emphasized on getting the Annex 1 countries to agree and then accede, to the Kyoto protocol. As a result there has been a systematic marginalization of the core interests of the developing countries. The developing countries wanted the protocol to focus more directly on the issues of historical responsibility, sought more immediate mitigative action, and demanded adaptive assistance for the most vulnerable communities and countries (Rajan 1998). Najam (*et al.* 2003, p.229) view that the developing countries need to take a united stance to establish their concerns in the politics of climate change.

*Kyoto Protocol and carbon trading: opportunity for Bangladesh:*

According to Kyoto Protocol (1997), the developed countries can achieve their target of reducing emission by national measures or they can achieve part of their reduction emissions through three market based mechanism. The Kyoto Protocol offers

three mechanisms; Emission trading (the carbon market), Clean Development Mechanism, Joint Implementation (Aziz & Chowdhury 2009).

700 Clean Development Mechanism (CDM) projects had been approved till 2007 but most of the projects located in the four biggest developing countries; China, Brazil, India and South Africa (Giddens 2009, p.190). According to Giddens (2009) 'CDM allows industrial countries to get credits to put towards their Kyoto targets by funding clean energy projects in developing states'. As a developing country Bangladesh has a good opportunity to be a candidate for attracting Clean Development Mechanism (CDM) projects. In 2006 Bangladesh ranked 177 in per capita greenhouse gas emission which was one of the lowest emissions in the world according to US Energy Information Administration (Aziz & Chowdhury 2009, p. 2). Bangladesh can act as host country to carbon financed projects and can be benefitted from the International carbon trading market. Bangladesh can host the projects from international companies which will reduce overall carbon and greenhouse emissions through various methods, including establishing cleaner and greener technologies in to Bangladeshi industries. Clean energy or power projects or forestry can be important sectors to invest for CDM projects (Shin, Miah & Lee 2007, p.262). There are 1839 officially registered CDM projects going on in the world but only 2 projects are in Bangladesh (unfccc.int, 2011). The CDM Bangladesh suggests the potential projects for CDM can be in: waste management sector, forestry sector and clean energy sector (CDM Bangladesh 2011).

In the waste management sector the waste can be processed to generate electricity which will be a replacement of fossil fuel. Waste can be converted into fertilizer can replace chemical fertilizer which will also reduce Green House Gas emissions.

In the energy sector there are a number of options for Clean Development Mechanism or (CDM). CDM project can be in replacing fossil fuels with renewable

energy. For example, replacing petrol or diesel with CNG and using more energy efficient lights instead of normal lights. Another option could be using modern technology in brickfields. The total carbon emission from the brickfields in Dhaka is approximately 8 million ton. World Bank suggests that Bangladesh can

earn huge Carbon credit by shifting the brickfields to environment friendly place and utilizing the modern technology. World Bank says Bangladesh can earn 80 million USD every year in this sector through carbon trading (The Daily Star 2011).

**Table 1.** Sea level rise (SLR) in Bangladesh and its possible impacts.

Year	2020	2050	2100
Sea level rise	10cm	25cm	1 m (high end estimate)
Land below SLR	2 % of land (2,500 km <sup>2</sup> )	4 % of land (6,300 km <sup>2</sup> )	17.5 % of land (25,000 km <sup>2</sup> ). Patuakhali, Khulna and Barisal regions will be most affected
Storm surge	-	1991 cyclone happens again with a 10 % increase in intensity, wind speed increases from 225 to 248 km/h; storm surge goes from 7.1 to 8.6 m with 0.3 m SLR.	Storm surge goes from 7.4 to 9.1 m with 1 m SLR.
Flooding	20% increase in inundation.	Increase flooding in Meghna and Ganges floodplain. Monsoonal floods increase yield loss.	Both inundation area and flood intensity will increase tremendously.
Agriculture	Inundate 0.2 Mmt. of production; < 1 % of current total.	0.3 m SLR inundate 0.5 Mmt. of production; 2% of current total.	Devastating flood may cause crop failure for any year.
Ecosystem	Inundates 15% of the Sundarbans	Inundates 40% of the Sundarbans.	The Sundarbans would be lost. Loss of the Sundarbans and other coastal wetlands would reduce breeding ground for many estuarine fish, which would reduce their population.
Salinity	Increase	Increase	Increase

Source: Ali (1996, p.172).

Forestry sector has bright prospects for the CDM projects. Shin, Miah & Lee (2007) conducted research which suggests that Bangladesh's tropical forests store an average of 92 tons of carbon per hectare of forest land. These tropical forests are acting as an significant carbon sink (Shin, Miah & Lee 2007, p.267). They also suggest that reforesting in the hilly areas of Chittagong Hill Tracts and Sylhet in Bangladesh will survive and will be successful under CDM carbon financing. They also added that, 'Only CDM projects can help in reforesting the degraded forest Lands and achieving sustainable development in the country through the revenues earned by selling the carbon credits' (Shin, Miah & Lee 2007, p.268).

Bangladesh should capitalize the opportunity of the carbon trading to earn revenues through reducing the carbon emission.

*Establish the issue of food security in the politics of climate change:*

Bangladesh will be the worst sufferer of the climate change in agricultural sector. As it has a large number of population and small amounts of cultivable land, its food security will be always in threat. Food security is a burning issue for all the developing countries in the perspective of climate change. Parrya (*et al.* 1999), views that though there is technological advance; such as improved varieties of crops and

irrigation system, climate change is a key factor in the production of agriculture. They give an example of 1987 when a weak monsoon created shortfalls in crop production and these countries were forced to import food. In the last two decades persistent drought had caused deterioration of food production in Africa which makes these countries heavily dependent on the international relief efforts (Parrya *et al.* 1999 p. 52). Because of poor economy and large population these countries cannot import enough food to secure their food security. From the perspective of Bangladesh food security is very much important because it has the highest density of population in the world (834 persons per square kilometer) and has one of the lowest per capita GDP (364 USD per year) (Faisal & Parveen 2004, p.488). Ali (1996, p. 172), projected in the table 1 that if the sea level rises, Bangladesh would lose a big amount of land and it will create salinization, as a result agricultural production will be decreased. Bangladesh will not be able to import required amount of food from overseas by using foreign currency and that is why it will not be able to feed its large amount of population. Because of climate change, frequency of drought, flood and cyclone has increased. All over the world agriculture production is hampered and food price gone high for this reason. For example, because of less rainfall and drought, wheat production has decreased in Australia and some countries like Bangladesh which imports wheat, had to pay high price for that. If Bangladesh loses its land because of sea level rise it will become more dependent on the imported food which will make the economy vulnerable. In this circumstances Bangladesh needs to play a creative role in the politics of climate change. As it has enough skilled manpower and good enough modern agricultural technology it can ask other countries for leasing of land. Bangladesh has already proposed a plan to lease land from other countries for agricultural purpose. The ministry of agriculture is working in this plan but they found the difficulty because of high tax and leasing fee from the host country (Faisal & Parveen 2004, p.490). It is difficult for Bangladesh to become self-sufficient in food sector because of its small amount

of land but it will be impossible for it, if there is rise in sea level because of global warming and climate change. The number of natural disaster is increasing every year because of climate change and food price is going up. So it becomes financially non-feasible for a developing country like Bangladesh to import food for its people. Bangladesh should be pro-active in the politics of climate change to establish the issue of 'Food Security for the most affected countries' and propose the possible solutions like leasing land in other countries for agricultural purposes or financial assistance by UN in food import.

*The issue of climate change refugee:*

Reuveny (2007, p.659) views that environmental problems like rising sea levels, land degradation and declining freshwater resources play an important role in migration. The developing countries are at high risk, particularly those societies which depend on the environment for livelihood. Environmental migration and environmental refugee can be a big issue for Bangladesh's point of view. As the impact projected by Ali (1996) if the sea level rises up to 25 centimeters by 2050, Bangladesh will lose 6000 square kilometer of its land. According to Myers (1993, p. 753), by 2050 the population of Bangladesh will be 220 million and if it loses such amount of land because of sea level rising it will become vulnerable with this large amount of population. Large internal migration, created by climate change can ignite violent conflict inside the country (Reuveny 2007, p.659). In the recent times, as a result of salinization in the water and deterioration of agricultural production a number of people were forced to migrate from the coastal area to the capital city or in the northern part of Bangladesh (Brouwer, Akter & Haque, 2007, p. 315). Environmental migration will be a common scenario in all over the world. Docherty & Giannini (2009, p.349) suggest that by 2050 the number of climate change refugees will be more than traditional refugees. Although climate change is an environmental phenomenon, but human activities also contribute to it. They argue that 'because the nature of climate change is global and humans play a

contributory role, the international community should accept responsibility for mitigating climate-induced displacement' (Docherty & Giannini 2009, p.350). They define the climate change refugees as 'People whom climate change forces to relocate across national borders' (Docherty & Giannini 2009, p.350). The existing international laws and international institutions do not efficiently address this crisis. An international protocol or institution is required to deal with the climate change refugee crisis which can prevent and remediate this problem. As the link between climate change and displacement of the people is acknowledged, the 'the environmental refugee' can be considered as a potential platform from where the affected and displaced people can be integrated into the international legal system. This argument is suggested by Williams (2008, p. 503) but she also recognizes the limitation of 1951 United Nations Refugee Convention and 1967 protocol about the status of conventional refugees and environmental refugees. To overcome this problem Docherty & Giannini (2009, p.350) suggest that an independent convention will be the right option to recognize the environmental refugee issue. This initiative can theoretically become a protocol to the UN Refugee Convention and the United Nations Framework Convention on Climate Change (UNFCCC). From the perspective of Bangladesh the international recognition of 'climate change refugee' is very important because of its vulnerability to environmental disaster and large number of population. Bangladesh needs play an innovative role in the politics of climate change to establish the status of 'climate change refugees' as a protocol in the UN Refugee Convention and United Nations Framework Convention on Climate Change (UNFCCC).

### Conclusion

In comparison to average level, the per capita green house gas emission by Bangladesh is very low. Yet Bangladesh is in the high level of threat from environmental disaster. Global warming is created mainly by the developed countries because of their high level of green house gas emission. But the impact

of global warming creates rise in sea level and increased frequency of cyclones and floods which affects the countries like Bangladesh very severely. Kyoto protocol has given an opportunity to Bangladesh to get some positive outcome from the global consensus. From the climate change politics Bangladesh can be benefitted if it can utilize the opportunity of carbon trading and if it can establish the protocol of 'Climate Change Refugee' and 'food security'. But to become successful Bangladesh should play a proactive role to develop an innovative, international, and interdisciplinary approach that can be implemented before the situation reaches a crisis stage.

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