

# Climate Refugees: Implications for India

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There is as yet no agreement on the status of people displaced by climate change and the term “climate refugees” has no place in international law. While refugees are supposed to be people who cross national borders, climate change is seen to induce people to move within their countries. And even if climate refugees are recognised, who is going to be responsible for their protection and rehabilitation?

A widespread view that is gaining ground is that climate related migration could evolve into a global crisis by displacing a large number of people from their homes and forcing them to flee. Christian Aid postulates that a billion people could be permanently displaced by climate change related phenomenon such as droughts, floods and hurricanes (Christian Aid 2007). The fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC) mentioned the “potential for population migration” due to increase in the number of areas affected by droughts and an increase in the intense tropical cyclones activities (IPCC 2007: 18). In particular, it seems likely that significant numbers of people will be displaced, either temporarily or permanently, from their homes as a consequence of global warming (Stern 2006).

Available scientific evidences indicate that a large number of people might be displaced due to climate change. However, much of the literature on this issue refers to the question of whether the people forced to migrate as a consequence of climate change should be described as climate refugees. There is no internationally agreed definition of the term “climate refugee” and the extent to which these displaced persons constitute a separate identifiable group.

Although it is now widely recognised that climate change will significantly adversely affect India, there are few studies available on how climate change is going to affect the migration of people. It has been asserted that 70,000 people out of the 4.1 million living in the Indian part of the Sundarbans islands would be rendered homeless by 2020 (EPW, 6 June 2009). This article will briefly review the available literature on the debate of climate refugees and environmental refugees; the risks of climate change which

may induce people to migrate and its implications for India.

Debates over the relation between climate change and migration often takes place with reference to debates that have arisen over the last two decades in the context of environmental refugees or environmental migrants (Kniventon et al 2008). The concept of environmental refugees was first introduced by Lester Brown of the World Watch Institute in the 1970s (Black 2001). The concept became popular after the studies by El-Hinnawi (1985) and Jacobson (1988) on forced migration of people due to environmental degradation and natural disasters.

Perhaps the best known works on environmental refugees are by Myers and Kent (1995) and Norman Myers (1993, 1997, 2002, 2005). Myers believes that the issue of environmental refugees “promises to rank as one of the foremost human crisis of our times” (Myers 1997). According to him environmental change and the natural and man-made disasters associated with them are forcing millions of people to flee their homes and they may seek refuge in the neighbouring countries (Castles 2002). Myers claims that there were at least 25 million environmental refugees in the mid-1990s, and this unrecognised category exceeded the then 22 million refugees as officially defined (Myers 1997). Further, he argues that when global warming takes hold there could be as many as 200 million people displaced by disruptions of the monsoon system and other rainfall regimes, by droughts of unprecedented severity and duration, and by sea-level rise and coastal flooding (Myers 2005: 1).

The debate over the environmental refugees has been often criticised on the ground that there is no accepted definition of environmental refugees. Without an agreed definition it is very difficult to say who can be categorised as environmental refugees. Further, the term environmental refugee has been criticised as being simplistic, one-sided and misleading and implying monocausality between environmental factors and migration (Castles 2002: 8).

Apart from that, several researchers cast serious doubts on the predictions

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on numbers of environmental refugees. The evidence put forward so far to link environmental factors to forced migration and refugees is often not scientifically or factually rigorous (Renaud et al 2007). For example, Black (2001) argues that calculating the population at risk from sea-level rise is a long way from predicting mass flight of a refugee nature with its attendant need for international protection and assistance. He claims that there is no evidence that environmental change leads directly to mass refugee flows, especially flows to developed countries.

### Driving Displacement

Climate change may significantly affect human migration in three different ways. First, warming of the atmosphere in some regions will reduce the agricultural potential and undermine the ecosystem services such as fertile soil and water affecting people's livelihoods. Second, increasing extreme weather events will generate mass displacement. Third, sea level rise will destroy the low-lying coastal areas and millions of people who will have to relocate permanently.

However, the movement of population due to climate stresses is not new. For example, archaeological evidence indicates that human populations have been migrating within Pakistan and India for the past 10,000 years in response to changing dynamics of summer monsoon (Gupta et al 2006). But with the increasing certainty about the effects of climate change it is believed that it will lead to large-scale forced migration of people. For example, sea level rise and melting glaciers may induce people to migrate on a large-scale. If sea levels rise by one metre due to climate change, storm surges could make island nations such as the Maldives, the Marshall Islands, Kiribati, or Tuvalu largely uninhabitable and force people to take refuge in other countries (GACGC 2006). Further, one metre sea level rise can put 145 million people at risk, 41% of whom will be in south Asia, and 32% in east Asia (Anthoff et al 2006). Climate change is also likely to increase the vulnerabilities of people to coastal flooding. It has been estimated that by 2020 climate change may have exposed an additional six million people living in coastal areas to floods. They also estimate

that up to 600 million more people could be at the risk of hunger by 2080 (Warren et al 2006).

A recent report has indicated that the major deltas of the world such as the Ganges, Mekong and Nile may be adversely affected due to climate change and that it is already contributing to migration and displacement. For example, the report points out that populations living in the Ganges delta are highly vulnerable to cyclones and flooding. The delta has 8.5 million ha of agricultural lands, of which 486 thousand hectares would be inundated by a two metre sea level rise. Here, migration particularly towards coastal urban centres has emerged as a coping mechanism when extreme events endanger life and livelihoods. With projected sea level rise, combined with the possibility of more intense flooding and storm surges, migration may become a necessity for many communities, at least for parts of the year (Warner et al 2009).

In the past few years several cases have been quite extensively highlighted to support the idea of climate refugees and their recognition under international laws. In 2005, it was officially decided to evacuate the 1,000 residents of Cartaret Island in Papua New Guinea due to storm related and salt water erosion. In another case, a group of hundred residents of Lateu village, on the island of Tegua on Vanuatu were relocated further inland due to storm damage and erosion. In both the cases the people who were relocated were declared as "first climate change refugees". Again in 2006 there were widespread reports of the first submergence of inhabited island due to climate change. Researchers reported that Lohachara Island in India's Hooghly river, once home to 10,000 people, had finally been submerged (Brown 2008).

However, these studies have been criticised for the underlying implicit assumption that there exists a linear relation between climate change and migration. But it is not the only factor which leads to migration. Rather, a plethora of processes have been responsible for displacement in a complex mixture of social, economic and institutional factors (Boano et al 2007). For example, Mortreux and Barnett (2009) in their study on the extent to which people

in Funafuti are intending to migrate, argue that social responses to climate change are often mediated by the perceptions of the people about the problem and its associated costs and benefits. They find that climate change is till now not a reason to migrate for many people in Funafuti. Further, there has been little consensus that the current migration in some areas can be attributed to anthropogenic climate change. For example, it has been argued that Lohachara Island in India's Hooghly delta was eroded by river currents, weakened by mangrove destructions, and submerged by tectonic tilting and local subsidence. Thus, so far the publicised examples on forced migration caused by anthropogenic climate change are more anecdotal than empirical (Brown 2007).

The relation between climate change and migration is still unclear and complex. The reason for this may be attributed to two factors. First, there are still large uncertainties regarding the effects of climate change on human societies and their decision to migrate. Second, it is a complex task to disaggregate the role of climate change in migration decision from other social and economic factors.

### Implications for India

Climate change might result in two types of displacement and migration in India. First, increased migration is likely within India due to the effects of climate change such as drought, desertification, sea level rise, water scarcity and low food productivity, and melting glaciers. Second, climate change might lead to increased flow of migrants from neighbouring countries due to the accelerated effects of climate change. Although, the available studies in India do not provide any concrete findings on these effects, scientific evidence on climate change support the phenomenon of climate-induced migration.

One of the most serious climate change risks to India is the increased frequency, intensity and geographical coverage of drought. Migration is already a response to changing environmental conditions. For example, an estimated 3,00,000 labourers migrate from drought-prone Bolangir district in western Orissa every year (Deshingkar 2003). Increased drought conditions due to climate change may affect the livelihoods

of people inducing them to migrate. Climate change is expected to increase the severity of drought especially in western India, where Luni occupying about one-fourth of the area of Gujarat and 60% of the area of Rajasthan are likely to experience acute physical water-scarce conditions. The river basins of Mahi, Pennar, Sabarmati and Tapi are likely to experience constant water scarcities and shortage (NATCOM 2004). Climate change is expected to increase the drought in semi-arid peninsular India and western India, leading to further immiserisation of the landless and small and marginal farmers, who are typically forced to migrate more often to cities (Revi 2007).

A large part of the coastal regions of India are at risk of accelerated sea level rise, intensification of cyclones, and larger storm surges. Increasing adverse effects of climate change along the Indian coasts may induce many people to migrate from the low lying and risky areas. India was estimated to have the second-largest population located in the low elevation coastal zone of 63 million and seventh in terms of area, i.e., 82,000 square kilometre (McGranahan et al 2007). The Indian region is densely populated, stretches over 7,500 km and is inhabited by more than a 100 million people in nine coastal states (NATCOM 2004: 108). Recent observation suggests that the sea level has risen 2.5 mm per year since the 1950s along the Indian coast. Further, it is expected to be between 15 cm and 38 cm by the middle of this century and between 46 cm and 59 cm by the end of the century. A one-metre sea level rise is projected to displace approximately 7.1 million people in India, and about 5,764 sq km of land area will be lost, along with 4,200 km of roads (NATCOM 2004: 114). Several cases of displacement due to climate change have been reported in recent years. For example, *The Telegraph* (2006) reported that submergence of the Lohachara Island in India's Sundarban has led people to move to the nearby Sagar Island.

Major areas of the mega cities of India such as Mumbai and Kolkata are at risk of sea level rise and storm surges which may induce people to migrate from the areas near to the sea. According to a recent study, approximately 32% of India's coastal area will be at risk of inundation with sea level

rise and intensified storm surges along with an additional 8,693 sq km of land area, 3,744 sq km agricultural land and 76,40,416 people at risk of storm surge and sea level rise (Dasgupta et al 2009). Apart from major cities in India other cities, particularly Bhavnagar, Jamnagar, Surat, Thane and Vadodara have been identified as at risk from intensification of storm surges (Dasgupta et al 2009).

Climate change might lead to increased flow of migrants from neighbouring countries. As many as 120 million people could be rendered homeless by 2100 both in India and Bangladesh due to sea level rise and given the proximity of Bangladesh to India much of the people will end up as migrants in Indian cities which are already facing resource scarcity (Rajan 2008). More than five million people in Bangladesh are living in areas which are highly vulnerable to cyclones and storm surges (McGranahan et al 2007). Flooding currently displaces 5,00,000 people every year in Bangladesh (Warner et al 2009). It has been estimated that 20 million people are annually migrating from Bangladesh to India (Brown 2007). The future effects of climate change are likely to increase the flow of population from Bangladesh to India. Myers (2002) argues that climate refugees from Bangladesh alone might outnumber all current refugees worldwide. He projected that 26 million refugees will come from Bangladesh. One of the earlier studies by Homer-Dixon (1994) concludes that Bangladeshi migrants have expanded the population of neighbouring India by 12 to 17 million over the last 40 years caused by environmental scarcity. Another study finds that Bangladesh is currently faced with severe crisis of land and water, caused by population growth, environmental change and recurring natural disasters and the flow of migration from Bangladesh to India may increase at a faster rate (Alam 2003).

The current studies indicate that climate change might induce a much larger migration from Bangladesh to India in the future. It may put additional pressures on the resource base of areas they will migrate in India and threaten the livelihoods of people who are presently living there. Climate change could affect the migration of people in India in three ways.

### In Search of Recognition

Although, many studies are arguing for the recognition and protection of the climate refugees, terms such as environmental refugees and climate refugees have no legal basis in international refugee laws. The term refugee has a specific legal meaning in the context of Article 1A of the 1951 convention relating to the status of refugees (Castles 2002). Refugees are a distinct category of migrants in two respects: they must have moved owing to "fear of being persecuted for reasons of race, religion, nationality, membership of a particular social or political opinion" and they must have crossed an international border (Barnett et al 2009). In international refugee law environmental conditions do not constitute a basis for international protection (Kibreab 1997). Categorisation of the people who are migrating due to environmental factors or climate change as refugees is faced with problems. Refugees according to international law must cross the international border. But, climate change may induce large-scale migration within the country, and restricting the definition to those who cross international borders may seriously understate the extent of the problem. Due to criticisms against the use of the word refugee, alternative concepts such as environmentally-induced migrants (IOM 2007) and forced environmental migrants (Renaud et al 2007) have been put forward to describe the people migrating due to environmental factors and climate change.

Due to the lack of a definition under international law for environmental refugees and climate refugees no national or international institution is responsible for their protection. The international institutions charged with providing for refugees, and the office of United Nations High Commissioner for Refugees (UNHCR) are already overstretched and unable to cope with the current stock of refugees. They are highly resistant to any further expansion of mandate on refugees (Brown 2007). However, there has been some progress in persuading the international organisations to recognise the climate refugees. For example, Biermann and Boss (2007) demanded creation of a protocol to the UNFCCC on recognition, protection and resettlement of climate refugees. They

have argued for continuing using the term climate refugees and adjusting the United Nations terminology by allowing for different types of refugees.

## Conclusions

Climate change is likely to expose hundreds of millions of people to increasing environmental risks displacing a large number of people and forcing them to migrate. There is an emerging view that these people should be recognised as climate refugees by international laws and proper institutional arrangements should be made to address their problems.

However, there are still significant gaps in several areas. First, the international community is yet to recognise this new category of migrants. There is no consensus on the definition and the status of climate refugees owing to the distinct meaning the term refugees carry under international law. Second, there are still gaps in understanding how climate change will work as the root cause of migration. Third, even if there is recognition of climate refugees, who is going to take the responsibility to provide protection and assistance? Fourth, more emphasis has been given to international migration due to climate change. But the people may also move to other places within the countries. There is a need to recognise the displacement of people within the countries so that proper action can be taken to address their problems.

Current knowledge based on the relation between climate change and migration of people is still limited. There is a need for a better understanding of the relation between climate change and migration. The international community should not be distracted by the semantic differences between words to describe the status of people migrating due to climate change. We need to recognise the problem and appropriate strategies and measures to assist the people displaced by climate change should be devised to effectively deal with the problem.

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