

# Maplecroft Classify Madagascar as Extreme Risk from Climate Change

Madagascar Environmental Justice - Barry Ferguson – 27/10/11

**World's fastest growing populations increasingly vulnerable to the impacts of climate change – 4th global atlas reports**

**Calcutta, Dhaka, Jakarta and Manila rated 'extreme risk' in study of climate change vulnerability**



The fourth release of Maplecroft's Climate Change and Environment Risk Atlas includes a new Climate Change Vulnerability Index (CCVI) that analyses and maps climate change vulnerability down to 25km<sup>2</sup> worldwide. It reveals that some of the world's fastest growing populations are increasingly at risk from the impacts of climate related natural hazards including sea level rise.

Many of the countries with the fastest population growth are rated as 'extreme risk' in the CCVI, including the strategically important emerging economies of Bangladesh (2nd), the Philippines (10th), Viet Nam (23th), Indonesia (27th) and India (28th).

Climate change and population growth form the two greatest challenges facing the world over the next century. This issue of population growth is driven home by this week's announcement by the UN's State of the World's Population Report 2011 revealing that the world's population has now reached 7 billion people.

The Climate Change Vulnerability Index features subnational maps and analysis of climate change vulnerability and the adaptive capacity to combat climate change in 193 countries. It features an improved methodology analysing the exposure of populations to climate related natural hazards and sensitivity of countries in terms of population concentration, development, natural resources, agricultural dependency and conflict.

At a national level, the CCVI rates 30 countries at 'extreme risk,' with the top 10 comprising of Haiti, Bangladesh, Sierra Leone, Zimbabwe, Madagascar, Cambodia, Mozambique, DR Congo, Malawi and Philippines. Of these Bangladesh and the Philippines are among the world's fastest growing economies with growth rates of 6.6 and 5% per annum, respectively.

## **Subnational analysis reveals vulnerability of fastest growing cities**

The value of Maplecroft's research is much better appreciated at a subnational level, where risks to towns, cities, economic zones and individual company assets can be identified through interactive maps, which chart vulnerability, exposure and sensitivity to climate change down to 25km<sup>2</sup> worldwide. For instance,

extreme hotspots of vulnerability can be seen in the South West of Brazil and coastal regions of China, but both countries are rated 'medium risk' by the CCVI at the national level.

Vulnerability on this scale is illustrated particularly well when looking at the effects of climate change on the megacities of Asia; some of which have the highest rates of population growth, along with extreme vulnerability to climate change.

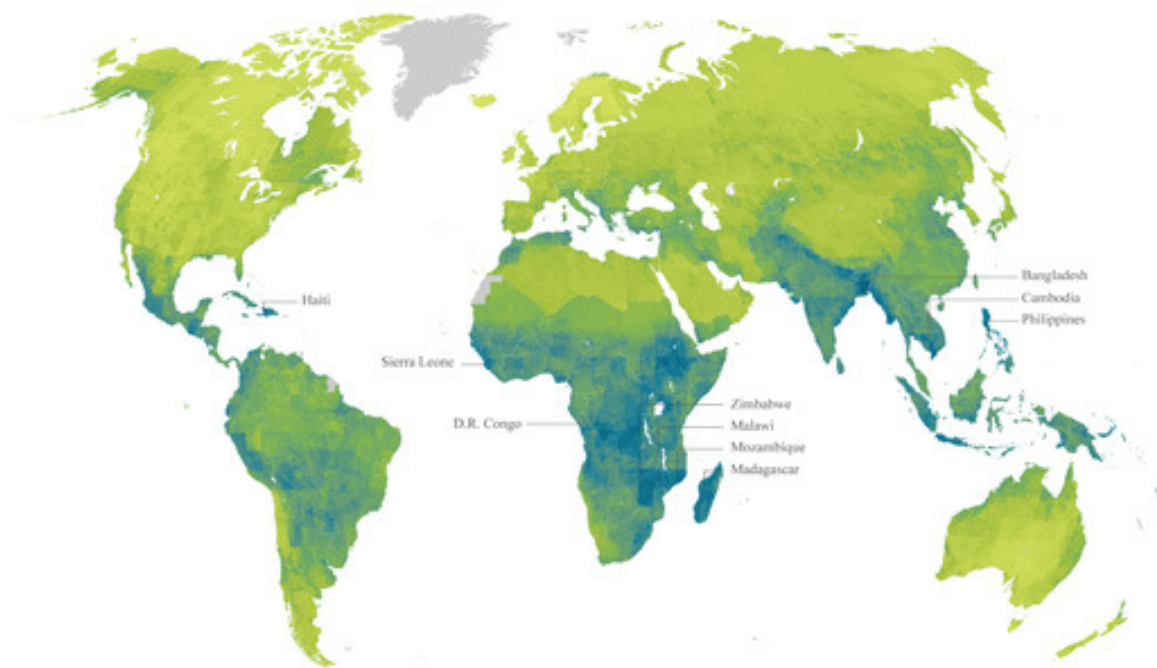
Of the world's 20 fastest growing cities, six have been classified as 'extreme risk' by the CCVI, including the major Asian economic centres of Calcutta in India, Manila in the Philippines, Jakarta in Indonesia and Dhaka and Chittagong in Bangladesh. Addis Ababa in Ethiopia also features. A further 10 are rated as 'high risk' including Guangdong, Mumbai, Delhi, Chennai, Karachi and Lagos.

### **Population growth in cities combined with socio-economic factors increase climate risks**

According to Maplecroft, population growth in these cities combines with poor government effectiveness, corruption, poverty and other socio-economic factors to increase the risks to residents and business. Infrastructures, which cannot cope at 2011 levels, will therefore struggle to adapt to large population rises in the future, making disaster responses less effective, whilst at the same time these disasters themselves may become more frequent. This has implications for buildings, transportation routes, water and energy supply and the health of the residents.

"Cities such as Manila, Jakarta and Calcutta are vital centres of economic growth in key emerging markets, but heat waves, flooding, water shortages and increasingly severe and frequent storm events may well increase as climate changes takes hold" states Principal Environmental Analyst at Maplecroft Dr Charlie Beldon. "The impacts of this could have far reaching consequences, not only for local populations, but on business, national economies and on the balance sheets of investors around the world, particularly as the economic importance of these nations is set to dramatically increase."

## Climate Change Vulnerability Index 2012



### Legend

- Extreme risk
- High risk
- Medium risk
- Low risk

Rank	Country	Rating
1	Haiti	Extreme
2	Bangladesh	Extreme
3	Zimbabwe	Extreme
4	Sierra Leone	Extreme
5	Madagascar	Extreme
6	Cambodia	Extreme
7	Mozambique	Extreme
8	DR Congo	Extreme
9	Malawi	Extreme
10	Philippines	Extreme

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### Manila most exposed to flooding and typhoons

Manila, the commercial centre of the Philippines, is extremely vulnerable to the effects of climate change due to a combination of exposure to hazards, poor socio-economic factors and a low capacity to adapt. The city is predicted to grow by 2.23 million residents between 2010 and 2020 an increase of nearly 20%. It is particularly at risk of flooding and typhoon activity, having the highest exposure to these events out of the twenty growth cities. In July 2010 Typhoon Conson hit near to Manila killing 146 and affecting over half a million people. Events such as this could well increase in frequency and severity, which should make improvements to the adaptive capacity of the city a priority for the national government of the Philippines.

## **Poorest sections of society bear brunt of exposure to climate related hazards**

“The expansion of population must be met with an equal expansion of infrastructure and civic amenities. As these megacities grow, more people are forced to live on exposed land, often on flood plains or other marginal land, adds Dr Beldon. “It is therefore the poorest citizens that will be most exposed to the effects of climate change, and the least able to cope with the effects.”

This is witnessed by the large slum populations, which are present in many of the rapidly growing cities and where residents frequently have fragile livelihoods and poor access to basic resources, such as clean water. In Calcutta, which is predicted to increase by 3.1 million people to 18.7 million by 2020, approximately one third of the current population live in slums. Calcutta is highly exposed to sea level rise and coastal flooding and the predicted population growth will place more people within these vulnerable areas.

## **Thailand flooding illustrated the risks to business**

Thailand, another rapidly growing economy is presently bearing the brunt of climate related disasters. Since July over 350 people have died in the floods. The credit rating agency Moody's estimated that the floods would cost Thailand more than \$6.5 billion. The Central Government has cut economic growth forecasts accordingly. The concentration of technical firms in flood affected areas could well result in wider disruptions to global supply chains; Thailand is the world's largest producer of hard-disk drives. In the face of climate change businesses with global supply chains and investors would do well to learn from Thailand's recent flood experience.

## **[The Climate Change and Environmental Risk Atlas 2012](#)**

The Climate Change Vulnerability Index forms a central part of Maplecroft's **[Climate Change and Environmental Risk Atlas 2012](#)**. The Atlas provides analysis of the key risks to business in the areas of climate change vulnerability and adaption; emissions and energy use; environmental regulation; and ecosystem services. It also includes interactive maps and indices to enable the identification, evaluation and comparison of climate change and environmental risks, whilst subnational indices focusing on exposure, sensitivity, forests, top soil degradation and water stress pinpoint risk vulnerability down to 25km<sup>2</sup> worldwide.

Source : [http://madagascarenvironmentaljustice.ning.com/forum/topics/maplecroft-classify-madagascar-as-extreme-risk-from-climate-chang?xq\\_source=msg\\_mes\\_network](http://madagascarenvironmentaljustice.ning.com/forum/topics/maplecroft-classify-madagascar-as-extreme-risk-from-climate-chang?xq_source=msg_mes_network)