

# Climate Change in Chad

by Sunyan Dittmar

Across the world, climate change and natural disasters are affecting many different countries. Some places are impacted more severely than others by natural disasters or by recent changes in the global climate. In the African country of Chad, especially the region of Lake Chad, people are experiencing the worst effects of climate change in the world, according to the UN.

Chad, a former colony of France which has been independent since 1960, is located in Central North Africa. The population in 2009 was around 10.3 million people and Chad is 1,284,000km<sup>2</sup> in area. Lake Chad, in the southwestern part of Chad, is the largest water body in the Sahel region. Chad also has the Tibesti Mountain Range in the far north and some smaller mountains inland, but other than that the whole country is desert or Savannah with minor rainfall. Chad's capital, N'Djamena, is in the southwestern part of the country, and the country's official languages are French and Arabic.

Lake Chad is shared by Nigeria, Chad, Cameroon, and Niger. Sadly, over the last few decades, it has receded to less than 20% of its volume in the mid-twentieth century. Forty years ago, it was a huge lake with 15,000 square miles of water. The size of the lake is now around 500 square miles and falling. Mostly the shrinkage is due to global warming, which causes desertification. As a result of desertification, the southern edge of the Sahara is growing, so many towns are now located on land that is turning into desert. Nigeria's part of the lake has actually completely dried out.

"Desertification is one of the most visible impacts of climate change," says Michael Werz, policy analyst with the Center for American Progress in Washington. "It is making life tough for people, especially in Africa," and it is "already leading to conflict, it is already threatening food security." Many countries around the world have realized that it is very important to try to fight against desertification, and so the United Nations has established the Convention to Combat Desertification (UNCCD). The only country in the world that hasn't accepted the Convention is Canada, after the Harper government pulled out despite protests from environmental groups.

Desertification is dangerous for everybody, says Lindsay Stringer, director of the Sustainability Research Institute at the University of Leeds in England. "We live in a globalized world," she says. "I don't think the west is paying as much attention to it as it should. It will impact everyone." With desertification, affected land loses its long-term productivity. Eventually, it is no longer able to be used to grow crops or graze animals and is abandoned. Desertification is the accumulated result of many activities: overcultivation, overgrazing, deforestation, and poor irrigation. It is prevalent in other places in the world like Asia and Australia, but Africans are most vulnerable to it because of high population

and climate variability. "People are often poor and unable to invest in fertilizers that can restore some nutrients to the soil," says Stringer. The Sahara is officially the third biggest desert after Antarctica and the Arctic, but because Antarctica and the Arctic are ice deserts and are melting and shrinking, the Sahara is the hottest desert and causes most desertification.

Many people who used to be fishermen in Chad now try to live as farmers, because near the lake there are patches of productive land, but mostly these people would prefer to fish again. Local people say the rainfall has been steadily reducing about 5 to 10mm per year. Part of the problem with the lake, however, is also due to water extraction, irrigation, and the damming of rivers that feed the lake for hydro-electric schemes. At the lake you can see fishermen who still try to fulfil their duties. They have large cylindrical fish traps made from bamboo, but their catches are tiny. One fisherman, Musa Niger, spoke to BBC journalist Andrew Bomford. "Before, you could fill about thirty of these traps with fish," he said. "But now [in 2006] even when I put hundreds of these traps out, I hardly fill one because of the lack of fish." Because of these conditions, the Lake Chad Commission has been founded, consisting of all countries around Lake Chad. These countries now hope to replenish the lake. Plans are underway to build a dam and 97km of canals to pump water uphill from the Congo River to the River Chari, which then can feed the lake with water. Of course this project is hard to fund and it took years to raise the fourteen billion dollars it requires.

In 1997, the people of Chad realized that desertification was happening, but the government didn't know what to do to avoid it. Most countries around the world have very few anti-desertification plans, and governments at the local level don't offer alternative livelihoods. However, there are some African initiatives which have managed to combat desertification in its early stages. One example is the Keita Project in Niger, which was started in 1984 to fight against land degradation and eventual desertification. The Keita Project transformed about 5,000km<sup>2</sup> of barren land into a thriving garden for crops, livestock, and trees. It involved planting trees, digging wells, constructing weirs, damming streams, building terraces, deep plowing the land, and erecting dune fences.

Maybe Chad will follow the lead of Niger and will manage to replenish its land and its lake, but so far it has taken only a few measures to address its problems. Chad signed the Kyoto Protocol in 2009, when its environmental minister gave a speech containing facts and data that shocked the nation. The government initially banned the use of firewood and charcoal which had created an energy crisis, because people used them for all kinds of fires, but Chad has never created a carbon tax or an emissions trading scheme or anything else that might solve the problems of climate change in the long-term. Perhaps this is due to the low level of awareness about the causes and consequences of climate change in Chad. According to a Gallup poll from 2007, only 44% of Chadians are aware of climate change, only 31% believe it is caused by human activities, and only 38% see it as threat. But because Chad doesn't release a large amount of carbon emissions, a carbon tax or an emissions trading scheme probably would not make a big difference in Chad anyway. Most of the suffering in Chad is due to emissions that are released in other countries around the world.