



# AFRICA: Impact of climate change

## Lake Turkana - a Case Study

“The earth is the LORD's, and everything in it, the world, and all who live in it.”

Ps 24.1



**Lake Turkana is situated in North-West Kenya - with its northern tip going into Ethiopia. It is also known as the *Jade Sea*, because of its greenish-blue or turquoise colours, which come from algae that rise to the surface in calm weather.**

At a length of 290 kilometres in a north-south direction and a width of 40 kilometres, Lake Turkana is the world's largest permanent desert lake, and among the top three of the world's alkaline lakes. The Lake's only perennial tributary is the Omo River, which flows from Ethiopia and supplies 90% of its fresh water. Lake Turkana also lacks outflow – its only water loss being through evaporation. With an altitude of only 300 meters above sea-level, it is a hot place – with the temperature often reaching well above the forty degree Celsius mark.

The area around Lake Turkana is regarded by many as being the birthplace of humanity. The fossil humanoid skulls discovered in the 1960s by the Leakey family are dated around 2.5 million years old. Further discoveries by the same team have been the “Turkana Boy” (1984) and a 3.5 million year old skull which has been called *Kenyanthropus platyops* (1999).

Lake Turkana itself is home to about fifty species of fish - the most common being Tilapia, Nile perch and “elephant-fish”. There are hundreds of species of birds in the area – including the colourful flamingo. The Lake is also an important flyway passage and stop-over for migratory birds. Plankton in the Lake feeds the fish and the birds. Crocodiles are there in abundance – many thousands – and it is also a breeding ground for many types of snakes. In a word, Lake Turkana is an outstanding laboratory for the study of plant, fish, bird, animal and many other forms of life.





tion with neighbouring tribes for grazing, land and water. It has also a history of being neglected by colonial and subsequent national governments. However, there are two noteworthy events which have occurred in recent times, that have exacerbated an already difficult situation.

An estimated 300,000 human beings live along the shores of Lake Turkana. They obviously form part of this intricate ecosystem. They interact with it and gain their livelihood from it. Most of them are from the Turkana ethnic group who eke out a living – either as pastoralists (who herd goats, cows, camels and donkeys) or as fishermen (who rely on the Lake). An important element, however, is the fact that the waters of the Lake are alkaline (high concentration of carbonate salts) and is thus not fit for human consumption.

Another significant factor is the presence of 200,000 Merille (Dassanach) people from Ethiopia who inhabit the Omo River Delta. This is a large area - about 1,300 square kilometres – which provides land for recessional cultivation i.e. planting in the floodplain areas after the waters recede, as well as pasture for cattle and other animals. This is situated where the Omo River empties into Lake Turkana. The international border is far from precise and has long been a matter of dispute.

**The Problem:** Turkana County (where the Lake is situated) has a long history of recurring famines, drought and competi-

tion with neighbouring tribes for grazing, land and water. It has also a history of being neglected by colonial and subsequent national governments. However, there are two noteworthy events which have occurred in recent times, that have exacerbated an already difficult situation.

According to data from the Meteorological station in the Turkana County capital (Lodwar), maximum and minimum average temperatures in the area rose between 2 and 3 degrees Celsius between 1967 and 2012. Various explanations are put forward and debated. However, one thing is clear: *the Turkana people cannot be held responsible!* But they are impacted by the results. As a *Human Rights Watch* Report (October 2015) concludes: “**..climate change, in combination with existing political, environmental and economic development challenges in Turkana, has had an impact on the Turkana people’s ability to access food, water, health and security**”

- The rainy season is much shorter, resulting in less grazing land.



- There are more frequent droughts and diminishing herds.

- Migration patterns are changing.

- There is increased competition for grazing lands and for water – thus heightening the likelihood of conflict and insecurity.

- Women and children walk long distances for water - with subsequent negative health effects.

- The proliferation of illegal arms is a cause of great concern.

The second event which has exacerbated the difficult situation in Turkana is the construction of Dams (3) by the Ethiopian government. It has done this within its own borders along the Omo River. These dams, situated some 600 kilometres from Lake Turkana, are already having a devastating effect on the Lake and on the human population along its shores. The new dams are reducing the fresh water of the Omo River flowing into Lake Turkana by between 50% and 70%. The results are already becoming evident:

- A big drop in the Lake water levels. The average depth of the Lake has been about 30 meters. Some estimates indicate a drop of at least 13 meters.

- A marked decrease in the Lake’s nutrients.

- Disruption of fish spawning cues and in the productive habitat of fish.

- A clear decrease in catches of fish.

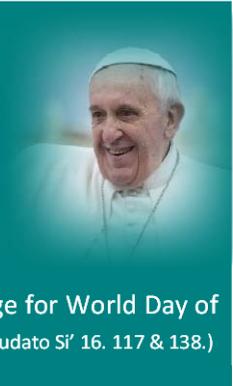
- Declining wild-life and an unstable ecological system.

With the higher air temperatures, there are also increasing rates of evaporation. In the Omo River basin itself, the construction of the Dams is having a profound impact. Built to support vast commercial plantations, hundreds of kilometres of irrigation canals are diverting the waters to these plantations. The effects on the delicate ecosystems of the region are clear – the drying out of the riverine zone, the disappearance of silt deposits and the elimination of pasture and trees.

In the midst of all the environmental changes – on both sides of the porous international border between Ethiopia and Kenya - are *human beings*. Their livelihoods – always precarious – are now in disarray. Due to the decline of land and water resources, life-style alterations are demanded of the people. They are “forced” to migrate. There is no doubt but that the lack of land, and



***“Active non-violence is a way of showing that unity is truly more powerful and more fruitful than conflict. Everything in the world is inter-connected.”***



*Pope Francis: Message for World Day of Peace 2017. (cf also Laudato Si’ 16, 117 & 138.)*

its degradation due to over-use - as well as the scarcity of water - are the main factors at play in the conflict between the Merille and the Turkana people.

These conflicts have resulted in killings (for example, the so-called “*Todonyang massacres*”). The latest reports of violence were in August 2016 at a Church Service in Todonyang and retaliatory attacks just two weeks before Christmas 2016. The few educational and health services being provided in the area have broken down. Increasing numbers of people are being displaced. There is hunger....anger....uncertainty.... death....

***“Lake Turkana is in danger of disappearing and the health and livelihood of the indigenous peoples of the region along with it”***

***(The Human Rights Watch Report “There is No Time Left “: 15 October 2015)***

## **Towards a Solution**

The governments of Kenya and Ethiopia need to show more urgency in ensuring that the human rights of their peoples are respected, and that the needs of their peoples are being met. For over a half million people in this area, climate change is not an abstract concept. It is part of their everyday lives.

The International Community also has a responsibility. Some prominent nations and banks are providing substantial funding for the Omo Basin project. They are in a position to - at least - *insist* on mitigation steps to offset the hardship of the people.

Finally, in the interests of humanity and of future generations, experts and academics have repeatedly called on the United Nations to safeguard the Lower Omo basin and Lake Turkana, as “*they comprise a series of World Heritage sites, known for their exceptionally important biodiversity and for their central role in the human evolutionary story*”.

*(cf. “The Downstream Impacts of Ethiopia’s Gibe 111 Dam” published by International Rivers: January 2013)*