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## RESEARCH MISSION TO SÃO TOME AND PRINCIPE ISLANDS-WEST AFRICA

From 19-26 July, 2009, some days after the Dahlem-type workshop in Oslo, I joined an exploratory research mission, organised by the Federal University of São Carlos and supported by the Brazilian Ministry of Foreign Affairs. The goal was to provide a preliminary assessment of the impact of climatic changes on artisanal fishing communities in the Democratic Republic of Sao Tomé and Principe.

This small island state is formed by two main island, São Tomé, the largest and Principe, covering 1.001 square kilometers, with a population of 150.000 inhabitants mainly concentrated at the capital, São Tomé and along the coast, presenting a high cultural and biological diversity.

The colonisation of the island started with the Portuguese at the end of the XV Century with sugar plantation and later, with coffee and cocoa, becoming independent in 1975. Since the 80ties there is a strong migration trend from rural to urban areas, mainly to the capital, resulting in decreasing food production. The population depends today mainly on artisanal fisheries, responsible for 70% of protein intake, from small-scale agriculture and services and over 50% of the inhabitants is below the poverty line (around 350 USD/year in 2003).

Being among the least developed countries, São Tomé and Principe has a high illiteracy rate, poor health and education services, insufficient infrastructure such as roads, water and sewage system being very dependent on some export of commercial crops (cocoa, coffee), external aid and cooperation.

Artisanal fishing provides not only food, (the fish consumption is around 30 kg a year) but it is the main source of employment and income in the coastal villages. Around 2.500 fishers and 2.050 female traders depend directly from this activity that generates income for 20% of the overall population. The artisanal fishing sector produces around 4.000 tons/year, using mainly some 1224 dug-out sailing canoes, 339 out board engine canoes and a variety of fishing gears. There is also a small semi-industrial sector employing 10 in-board engine powered boats (12-14 meters) employing 160 fishers that operate further in the sea.

Trade is done by the "palaiês", local name for a large group of women fish traders who bring the fish to the market and play an important economic and social role. Some of them participate in women's groups assisted by local NGOs.

The main objective of the exploratory mission was to assess the social and environmental vulnerability of the poor coastal communities. In the field visit the mission was assisted by technicians of the Agriculture and Fisheries Ministry, by local NGOs and it was able to make a quick survey on the living conditions of fishers in several coastal communities. The State is almost absent in the fisheries sector and most of the activities, such as female fish traders organisations, ice and storage, boat building, etc is undertaken with the help of a local NGO (Marapa), funded by the European Union. Fishers associations that were supported by the Government in the socialist period (1975-90) ended with the neo-liberal policies of the mid-90ties when an important state-owned fishing industry, providing cheap fish, was privatised and collapsed.



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Today, the coastal communities are the most vulnerable social groups and this vulnerability is becoming higher as result of some extreme climate events that are occurring nowadays: longer dry periods in some areas resulting in decreasing agricultural production and out of season heavy raining in others, causing flooding and landslides. There are indications of rising coastal water temperature, fish migration to more distant waters, forcing artisanal sailing canoes to travel longer distances without appropriate navigational equipments (GPS, security etc) and resulting in more frequent loss of human lives and fish equipment. Fishers have consistently claimed that sea resources are becoming more rare and distant. In addition to that, in recent years, waves higher than 6 meters (as it occurred in Pantufo and Melão beaches in 2008) have devastated some fishing villages in the west coast, destroying wooden houses and dug out canoes of the already poor fishers. Some beaches are already suffering of erosion that becomes more serious as result of the use of beach sand for housing construction in urban areas.

The main question is: how able are poor coastal communities to adapt to these environmental/climatic changes? At present, the possibility of adaptation is limited by the above mentioned social vulnerability that results from poverty, few alternative employment and lack of investment capacity of the government.

In 2006, the government (mainly the Ministry of Environment and Natural Resources) and local institutions produced a National Plan for Adaptation to Climatic Change and has designated a focal point for the UN Convention on Climatic Change at the National Meteorology Institute. The document is a result of extensive consultation with different social sectors, including the most vulnerable coastal communities, aiming at minimising human live losses, poverty alleviation and reduction of vulnerability. Some important measures are proposed in the document such as: the establishment of an early warning system, training of fishers, firemen, to deal with climate change (storms, sea disasters), amelioration of fishing infrastructure (fish landing piers etc), amelioration of water supply and sewage, of the health/education system etc).

At the end of this interdisciplinary mission and of the previous one (in 2008), meetings and workshops were help to discuss some results and recommendations, including the implementation of early warning system, strengthening of local organisations (fishers and fish women traders), improvement of fish storage, amelioration of boat navigation, reduction of human induced processes of beach erosion, educational cooperation with Portuguese speaking countries etc).



Typical fishing beach with sailing wood canoes (Photo: A. Diegues)





Daily catch (Photo: A. Diegues)



Fishers village (Photo: A. Diegues)



Beach erosion and boats on the street (Photo: A. Diegues)

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