**Adaptation and development in poor countries: is any distinction possible?**

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Adaptation has managed to position itself as a priority inside the UNFCCC (COP 11: December 2005 and COP 12: November 2006). In the convention's architecture and the activities that it underpins, the notion of adaptation refers to opening up to vulnerable countries with very low Green House Gas (GHG) emission levels—particularly the poorest countries—, and to taking into account their idiosyncrasies vis-à-vis climate change. A great deal of hope is being attached to adaptation— even though practical modalities of its implementation have yet to be defined. Adaptation faces the challenge of having to meet a considerable number of expectations.

Adaptation, which is often spontaneous and triggered by unexpected climatic events, can nonetheless be planned. Unlike mitigation, it is mainly conceived as the outcome of localised actions undertaken at the community level, sometimes even by the producer, in order to limit the negative impacts of warming and increase resilience to climate change and/or climate variability. Therefore, adaptation has an intrinsically contextual nature which makes it difficult to come up with a generic solution inspired from the GHG mitigation model.

In the context of the UNFCCC, adaptation is linked to the notion of vulnerability of environmental, economic, social and political systems. Vulnerability is defined by the level of exposure of a particular system, and the lack of means for the prevention of, and the resilience to risk. It encompasses the lack of economic, financial and monetary means, but also that of social networks and human and cultural capital at the individual and collective infrastructure levels. The more vulnerable a particular country is, the weaker its capacity to adapt to global warming and the more considerable the negative impacts of warming on its Gross Domestic Product (GDP) will be.

In Africa where, according to the World Bank, natural capital represents up to 50% of the countries' wealth, adaptation and poverty alleviation are achieved through investing in the natural capital, combating land degradation and desertification, valorising the countries' natural assets including biodiversity— which should not be mistaken for predation. Actions pertaining to the combat against desertification have a local, contextual nature which depends upon the natural and human surroundings. In general, these actions consist of the classical techniques of water and soil conservation, dune and waterway bank fixation, reforestation and the temporary process of migration. Actions also include education and literacy programmes, support to income-generating initiatives, definition of local regulations for the use of resources through instilling consultation between the different local power holders—such as local authorities, customary leaderships, chiefs and village committees— and the communities of users, and better planning of human establishments and associated mobility systems. In short, these are actions which fall under development in the true meaning of the word; a development oriented towards more sustainability.

In concrete terms, adaptation relates to two kinds of efforts. The Adaptive response consists of targeted local interventions based on technology or local knowledge. It is often sectorial and reliant on specific infrastructure. It is a short-term response and could by no means stop global warming. Nevertheless, the adaptive response is necessary if the immediate effects of warming are to be tackled, even though this response cannot address the uncertainty over the climate's future. Hence the need for the adaptive response to be reinforced by building collective adaptation capacity that encompasses all types of vulnerability.

In Africa, vital development sectors and climate are inextricably linked. This applies to water, agriculture and energy; sectors in which considering links between climate and development is more urgent and necessary than ever. For instance, the issue of water in the continent is very paradoxical. On the one hand, North African countries display, despite limited water availability and the absence of substantial surface water resources—except the Nile—, a good level of clean drinking water accessibility thanks to an effective infrastructure that is increasingly being used in the exploitation of trans-boundary groundwater and in seawater desalinisation. On the other hand, Sub-Saharan countries are lagging behind despite the huge amount of water contained in the many great rivers (Congo, Niger, Senegal, Chari, Logone, Volta, etc.) and lakes (Victoria, Albert, Lake Chad, …), and in spite of their significant groundwater potential. Their plight is essentially due to the absence and/or lack of water collection and distribution infrastructure. It is inconceivable that countries like Guinea, which receives precipitations exceeding 1,500 mm per annum, see their inhabitants die from water shortages or poor water quality. According to the Intergovernmental Panel on Climate Change (IPCC, 2007), 75 to 250 million people will suffer water scarcity and stress between now and 2020 due to climate change. This situation, which adds up to rising water demand, will affect the communities' living conditions and exacerbate crises and water-related conflicts.

Thanks to the consensus on the Millennium Development Goals, the water sector is benefiting—albeit insufficiently— from adaptation measures such as water savings, demand management, seawater desalinisation as well as the development of the virtual water concept. Recently, there have also been investments in risk management in countries and regions that have witnessed important hydrological changes.

Food insecurity is a fundamental characteristic of vulnerability in Africa. Progress made on agricultural production and access to food will be severely compromised in many African countries, due to climate change and variability. Arable land, the length of growing cycles and yields— particularly in marginal zones in arid and semi-arid regions— will be reduced. This will affect food security and aggravate malnutrition which is already causing concern in the continent. In some countries, the yield of rain-fed agriculture would fall by at least 50% between now and 2020 (IPCC, 2007).

The effects of the recent droughts in the Sahel in the 1970s and the 1980s have claimed more than a million victims. They caused the displacement of tens of millions of people and hit the structure of pastoral societies which survive on the margins of society. Lessons learnt from this episode are a reminder of the urgency of the current situation which, if not addressed properly, will have dramatic consequences such as sub-Saharan youngsters migrating *en masse* to the West, famine and armed conflicts for the control of the resources, as it is the case in Darfur.

In the field of energy, there is a general consensus on the fact that Africa has huge potential, notably underground. Indeed, even if energy makes a key contribution to the GDP of countries having considerable mineral and forest resources, Africa remains acutely constrained by the limits of its electrical grid. This situation is severely jeopardising the continent's development. Here again, it is utterly ironic that a continent that has such a strong energetic potential continues to report low energy access and, in particular, the world's lowest rate of access to electrical energy.

Building collective adaptation capacity is a long-term response that requires substantial investments that should not be limited to those sectors identified as the most vulnerable. Investments should also be oriented towards meeting the essential criteria of human development: meeting primary needs, health, knowledge and innovation. Meeting the Millennium Development Goals is a priority in building a collective adaptation capacity. But the process should also build on local knowledge as well as the human, political and environmental contexts and their added-value and history.

Eventually, adaptation means reducing vulnerability or providing countries with means to follow a path of a more sustainable development. It is therefore difficult to differentiate adaptation actions from development actions. Of course, adaptation relates to sustainable development; more specifically, adaptation addresses the social component of sustainable development. Given that Africa's wealth consists predominantly of natural resources, the continent's development cannot be sustainable without taking the environment into consideration. By referring to adaptation, the social and environmental components of development become the foundation on which of the equilibrium of communities, and environments as well as regional and political balances can be maintained.

Adaptation begs for a redistribution based on the equitable sharing of the different regions' responsibilities in global warming, and on their respective contributions to the adaptation effort. Adaptation can be envisaged as the way to allow developing countries to remain potential partners in the international trade, economic growth, global governance and international security. However, the necessary growth of funds allocated to adaptation depends upon the ability of the recipients to demonstrate that they can use those funds as efficiently as possible. In this field, several capacity assessment and building actions have to be undertaken.

According to the Stern Review, adaptation would require $40 billion worth of investments annually—a sum 10 times larger than the amount currently allocated to adaptation by the UNFCCC. For the sake of comparison, it would be useful to consider the $100 billon in Public Aid to Development in the world and the $160 billion worth of Foreign Direct Investments.

For countries in the South, climate change could, ironically, be the last chance to benefit from a redistribution of resources and a development worthy of that name. But it could also turn out to be the ultimate ordeal likely to reduce what has been achieved so far to ashes.