

## **El Niño and Disaster Preparedness (Gianni Rufini)**

Floods, droughts, hurricanes and fires, extended for a couple of years are the usual effects of El Niño. This is a tropical stream that heats the waters of Southern Pacific, normally in the Christmas period (“El Niño” means in Spanish “the Holy Infant”), every few years. The direct action of the phenomenon usually lasts few months, during the austral summer, and affects dramatically the regions of the tropical belt, mainly those along the Pacific shores. But the “side effects” of El Niño, those climatic anomalies it generates in the atmosphere, may last up to two years and strike virtually all the globe. Some of the exceptional climatic phenomena of these last months, although they happened after El Niño ended, are certainly provoked by the overall climatic unbalance it caused in the previous year.

Since the 1980s, an efficient remote warning system has been set up, which has improved significantly forecasts on El Niño’s evolution: reliable predictions are now available six months in advance. Nonetheless, such predictions (as all weather forecast) are not always accurate and still depend on the extreme complexity of meteorological phenomena: in the last event some forecasted droughts have instead resulted into floods.

During a VOICE seminar in Brussels, in March, Yves du Penhoat, Director of Researches of the French research institute ORSTOM, said that the 1997-98 event has been particularly strong, similar to that of 1982-83. This confirms the concerns about a trend towards an increase of the anomalies that is possibly related to the global warming.

Effects have been very dramatic since the beginning: serious drought in Papua New Guinea, Australia and Indonesia, with widespread bush fires causing enormous air pollution all over Southeast Asia; unusual tropical cyclones on Polynesia, floods in Latin America and California. At a second stage, heavy rainfalls have stricken East Africa and Western Europe and, lately, China, Korea and Bangladesh. Thousands of people died, millions fled and are now homeless.

The consequences on health, economy and infrastructures are difficult to evaluate, but some examples can be given: epidemics of cholera and leptospirosis in Peru and Ecuador; enormous increase of Dengue in Brazil (+600%); devastating malaria in Eastern Africa; famine killed thousands in Indonesia and Papua New Guinea; floods caused 14,000,000 homeless in China only; maize, coffee and cocoa harvests were destroyed in Southern Asia.

If the contingency plans prepared by International relief agencies have provided stock pre-positioning and preventative measures in directly affected countries during the peak period, few or no actions have been planned in neighbouring or far regions, and in the long term.

For Oxfam’s Mark Allison, “El Niño is a widespread event, demonstrating itself as a series of small unpredictable disasters rather than a few large scale ones. This presents different challenges than localised large scale emergencies and strategies need to take this into account. Despite the intricacies within the European Commission (EC), removing potential “blocks” to accessing funds is crucial and “streamlining” the bureaucracy

should be a key aim in planning both for NGOs and the Commission. The input of external thinking is vital to this process.”

Two years before the end of the International Decade for Disaster Reduction, El Niño has been a good test stand for an assessment of the improvement achieved in disaster preparedness, so far.

Since 1960 over 8,000 natural disasters requiring massive international aid have been registered world-wide. Shockingly, these events appear to be getting worse as time goes on, through a mixture of more violent weather and a diminishing ability in developing countries to deal with them. The overlapping of man-made crisis - namely wars - and natural disasters has also become a normal condition, as there are at least 50 conflicts in course at the moment.. This creates “complex emergencies” - with an enormous amount of casualties and 35 million refugees - which make droughts or famines even harder to deal with. “The real tragedy is that with better planning, many of their victims might not have suffered so badly” ECHO reports, “Working on the old adage that an ounce of prevention is better than a pound of cure, ECHO has set up a disaster preparedness programme to try to anticipate and thus alleviate such crises”.

Indeed, if conflict prevention is still a too far goal for the International community, Disaster Preparedness (DP) is much more at hand in the medium term, but there is still a serious lack of policies in this sense.

The problem is that DP is much less visible, therefore less rewarding than emergency aid, in political terms. The public is very sensitive to crisis: the vision of homeless starving children is shocking, raises awareness and encourages support and donations. It is unlikely that the image of a mason building an anti-seismic house may have the same effect. In this sense also the media have a certain responsibility.

Furthermore, DP is still considered as specific of humanitarian activities, instead of being seen as an integral part of development programmes. By matter of fact, an emergency is not the best situation to work on prevention of future crisis - although it should be kept in mind at every step of a relief action - while development programmes (based on careful assessments and long term multi-sectoral activities) are certainly more likely to produce a good level of preparedness.

Last year, Intermediate Technology (a research group) undertook a survey/study of the involvement of NGOs in disaster-resistant housing reconstruction, including other aspects of mitigation and preparedness. The inquiry highlighted either the inaccessibility or non-existence of sufficient information from which to construct detailed case studies. Furthermore, a distinct reticence if not hostility became apparent when certain prominent organisations and experts were approached. Last, but not least, they found serious problems in what passes for a track record of project activity in this area.

An independent expert reports: “Last year, I conducted a field consultancy in Khartoum, Sudan, where a 1988 inundation had destroyed 200,000 dwellings. Despite millions in reconstruction assistance, and the involvement of several agencies and NGOs in related shelter development and appropriate building technology initiatives, it is probable that all but a few dozen structures were rebuilt without any external advice let alone substantial improvements. Working with academic institutions and foreign NGOs, I was still unable

to obtain adequate data for a comparative evaluation of both construction processes and intervention methodologies. In fact, despite a documented deterioration of indigenous building, it seemed the onus was inappropriately being placed at the level of household development rather than municipal planning.”

A more systematic, but far too weak, effort has been made by ECHO since 1994. Although the funds for DP represent slightly more than 1% of ECHO budget, they have been used for a first pilot programme in Central America, the Caribbean and few areas in Asia. This experiment has been successful but limited. Furthermore, it is still in the logic that DP is a response tool, while prevention and preparedness are long term structural activities which lie rather in the domain of development aid.

In addition to planning by relief agencies, disaster preparedness requires the organisation and participation of a country's institutions and the training of its human resources. Emergency preparedness must not be organised solely at the central level, but also with the participation of numerous other sectors: establishments such as schools, hospitals, blood banks, and airports also need plans. The success of these efforts has varied from country to country depending, to a great extent, on the amount of authority the coordinating agency responsible for emergencies has, and the harmonious relationship between national and International actors and governmental and non-governmental organisations, as well as the country's civilian and military sectors.

Availability of information and research also play a relevant role. An aid worker complains: “I am always surprised that no matter what the emergency is and which agencies are responding, I see the same basic mistakes being made over and over again. It is as if organisations do not institutionalise their emergency response capacity and every new emergency is like the first day of school...Sharing of information, operational collaboration and joint are some of the areas NGOs, local and international, need to work closer together BEFORE an emergency happens.”

Disaster reduction requires a multisectoral focus that covers topics from geology to economy; from the design of seismic-resistant housing and public works to the design of a disaster curriculum for concerned faculties. Programmes for agriculture, health, water management, land use, education, transports and infrastructures, should be revised and integrated in a general effort to reduce risk on a steady basis. DP must be seen as a basic component of human development and, in this sense, should rely on a consistent coordination among financing institutions as well as implementing agencies.

It is important to note that the principles of linking Relief, Rehabilitation and Development (a methodological assumption of humanitarian NGOs) underpin the basis of this approach. A document produced in the Brussels' seminar in March, recommends: “The position of Disaster Preparedness within the Relief-Rehabilitation-Development continuum is a key subject for debate; there are many different levels of intervention, from the pro-active aimed at prevention and mitigation through to the more reactive, primarily concerned with response and coping mechanisms. Within the NGO community, there is a huge diversity here, as the reduction of poverty, distress and suffering involves a broad spectrum of activities. It is however increasingly recognised that the role of

Disaster Preparedness is integral to the process of sustainable development and as such can reduce the need for relief assistance when disaster strikes.”

Once more, development is the key, and we must remember the words of the former UN Secretary General Boutros Ghali:

“Humanitarian emergencies fill the headlines and consume our energies, but underlying many of these tragic events is the silent crisis of underdevelopment: chronic and growing poverty, mounting population pressure and unemployment, and widespread environmental destruction”.

Gianni Rufini

#### BOX

« El Niño » is the name given by fishermen to a warm ocean stream that shows off during Christmas period every two to seven years, in Peru and Ecuador.

In normal conditions, cool water from the Southern Pacific runs along the coasts of South America up to the Equator: its temperature is around 22° Celsius and it is rich of nutritional elements which benefit coastal fishery. Under the effects of trade winds, this cool water moves towards the western basin of Pacific – north of Australia – which represents the “Warm water reservoir” of the Ocean, with surface temperatures of 28° - 29°. The mixture of cold and warm waters reduces surface temperature, with stabilising effects on the climate: humidity from the ocean is pushed on Southeast Asia and Australia, where it is released in form of rain.

Every few years, an abnormal increase of temperature in the central Pacific produces a reduction of trade winds and generates opposite air streams just above the “Warm water reservoir”. This prevents the flow of cool water from the South from mixing with the warmer one in the Western basin. The further increase of water temperature causes an overall heating of atmosphere and huge rainfalls on the sea in the Central Pacific, while Australia and Indonesia suffer a deficit of precipitation.

As the atmosphere is a complex and interdependent system, the effects of El Niño can be felt as far as in Africa and Europe.

El Niño has been studied extensively starting from the years 1950-60, when the extension of this phenomenon became clear. Since the 1980s, an early warning system has been set up, consisting of a number of buoys spread at different depths in the ocean and transmitting data on the water temperature, and the French American satellite TOPEX/POSEIDON, which constantly checks the water level and the flows of oceanic streams. This has solved the problem of an efficient early warning system for El Niño and has improved significantly the forecasts on its effects: it is now possible to have reliable predictions six months in advance.