

### **Natural hazards**

1. Large areas in the world are exposed to natural hazards. The countries of UEMOA are not exempt from these natural hazards. The direct, indirect and cumulative effects of floods, droughts and occasional earthquakes<sup>1</sup>, impede development. It is a two-way direct relationship between environmental degradation and natural hazards: on the one hand, soil erosion, deforestation, desertification and coastal degradation exacerbate disaster risks and on the other hand, natural hazards exacerbate environmental degradation. In addition, human and economic losses that a region may sustain are directly related to its vulnerability to natural hazards.
2. It is possible to promote further development if we manage to reduce this vulnerability. Development strategies and appropriate management can reduce the losses due to natural disasters. It is important that planning and management that can adorn themselves against disasters based on a real understanding of these risks and that this understanding is integrated into the social and economic plans. Furthermore, predictions about climate change indicate a rise in sea level, the arrival of more severe droughts, displacement of agricultural areas and the most vulnerable populations are those in developing countries among which West African countries. This highlights the need to implement effective measures and organization of these changes in anticipation.

### **Relevance to BOAD's investment**

3. In recent years, the number and impact of natural disasters in the world as well as in West Africa have increased. They have seriously hampered the

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<sup>1</sup> For the moment West Africa has not been hit by an earthquake of big magnitude.

progress of development causing a significant reallocation of resources to emergency relief and reconstruction. The vulnerability of certain areas prone to natural disasters is increasing due to the continued degradation of environment, population growth and the concentration of infrastructure in disaster-prone regions. The scale of investment in the Member States to repair the damage caused by disasters shows how it is necessary to: (a) strengthen the protection of Member States against disasters and (b) to incorporate natural hazard management in projects investment.

4. BOAD's investments - whether in various sectors-energy, education, health, agriculture, industry and urban development - are exposed to disasters. The ability for the public and private sector to cope with natural hazards and integrate into development programs prevention and mitigation measures is, at present, limited in countries members. In addition, the impact these natural disasters can have on the economic and financial situation is not adequately controlled.
5. The main reasons natural hazards were not integrated into development programs relate to: (a) a lack of understanding of mitigation measures to prevent or reduce losses caused by disasters, (b) weak institutions, (c) inadequate means of collecting and processing the necessary information about natural hazards, (d) a lack of coordination between sectors when it comes to establishing a policy of risk reduction and (e) implementation and monitoring of mitigation measures misdirected.
6. The prevention and mitigation of disasters are now the goals of the International Decade for Natural Disaster prevention declared by the United Nations in the 1990s International and national organizations are developing programs for the Decade and which significant involvement from NGOs and from the private sector Prevention of natural hazards is also

part of the area of interest of many initiatives that touch the climate change issue. A number of international conferences including the Intergovernmental Panel on Climate Change (IPCC) and the Conference on the Environment held in 1992 by the United Nations focused on these issues and the worsening of disasters.

### **BOAD's Policy and operational procedure**

7. BOAD's Policy and procedure in environmental assessment indicates that because the emergency recovery projects must be treated quickly to rehabilitate existing facilities, they do not require a complete assessment of environmental impacts, but in contrast, it is important to identify environmentally unsuitable practices used and incorporate therefore, the necessary remedial measures in the emergency recovery project that eventually will be subject to a future loan transaction.
8. The main action to take into account for the establishment of an emergency loan operation elements are:
  - to focus interventions on economic reconstruction rather than emergency measures;
  - demonstrate the economic benefits (even if they are not easily quantifiable);
  - recognize the temporary nature of the intervention itself if it is a large-scale project;
  - determine the urgency and effectiveness of actions in the short and medium term, and finally,
  - identify opportunities that will mitigate the impact of future emergencies actions

9. Measures that mitigate the effects of future emergency actions aimed at:  
(a) that studies of strategy, planning and national investment programs are concerned about the risks of natural disasters of great magnitude (b) that close collaboration is established between international agencies and NGOs, (c) that the staff BOAD its attention on techniques to prevent natural hazards and (d) to include means of prevention/mitigation in conventional loans as well as in operations emergency loan, if any.

### **Guidelines environmental impacts assessment**

10. The method of preparing environmental impacts assessment provides a framework within which to analyze natural hazards and assess the costs and benefits of the prevention and mitigation of disasters. It also helps to analyze alternatives to development activities that have less impact and seem less vulnerable to natural hazards, as well as to determine the prevention and reduction of losses.
11. It is important during the assessment of natural hazards taking into account the specific qualities and characteristics of the various disaster agents as well as their potential direct and secondary effects. For instance; the damage caused by floods, may be due, on the one hand, to the direct effect of the force of the water and on the other hand, to the vulnerability (construction methods). Earthquakes can also have direct and indirect effects such as tsunamis, fires and landslides. It is also essential to identify the activities that may intensify these natural phenomena. For instance deforestation degrades watersheds, accelerates erosion and land degradation and increases flooding. This compiled information concerning interaction of natural hazards and development should lead to a descriptive assessment which can be applied to a risk assessment and serve for implementing emergency measures.

12. Environmental impacts of natural hazards assessment include the following aspects:

- a) Determine the natural hazards and their characteristics, intensity, distribution and frequency and probability by looking at archives and statistics.
- b) Identify the critical sectors of the economy and natural resources that may be affected by natural hazards , analyze the constraints and conflicts that these risks can impose on each of these sectors and natural resources and examine the structural and non-structural measures which can help reduce them.
- c) Assess the vulnerability of each sector or region at risk, taking into account facilities, infrastructure and populations at risk, and specify the ways to help reduce it.
- d) For each sector or region at risk, examine standards practices, design criteria and maintenance that may expose them and make the necessary changes to correct it.
- e) Determine the location of facilities such as hydroelectric power stations , storage facilities, oil and gas industries or industries exposed to natural hazards .
- f) For facilities or industries at risk, specify prevention strategies by proposing other locations and analyze the cost effectiveness of various options.
- g) Review the capacity of local , regional and national institutions to develop prevention and mitigation by giving emphasis on the mechanisms of coordination between these institutions and the areas that require strengthening .

- h) Examine the role of the private sector (eg . NGOs, insurance companies, banks, developers) , wondering if it helps to increase or decrease the vulnerability of sectors or regions in question.
- i) Identify the specific capacity of local NGOs to develop preventive measures focusing on community participation , sensitization and training programs.
- j) Review the regulations and measures for prevention and mitigation in force at national and local levels and determine needs.
- k) Analyze development options with respect to their impact on natural hazards.

13. Most of the information available in disaster-prone countries, the most frequent in West Africa are flooding and which could be used to prevent the effects of natural hazards or to provide an action plan after a disaster have not been collected for that purpose. Thus reason, adaptation will be necessary for using such information from disparate sources in risk reduction.

14. It will be important to assess, in every case analyzed, the capacity of existing institutions to develop and implement a policy of natural hazards by using regulations (laws), with incentives / economic disincentives (taxation, credit, subsidies), land use and construction control. Likewise, the institutional capacity to develop and implement education and training programs should be assessed. Appropriate recommendations for institutional strengthening and for training and education programs that facilitate the participation of the concerned agencies and communities in disaster mitigation program should be included in the plan.