

## **GLOBAL BLUEPRINTS FOR CHANGE**

**First Edition was prepared in conjunction with the International Workshop on Disaster Reduction convened on August 18-22, 2001**

This Blueprint for Change will provide guidance for improving the professional practice of emergency management throughout the world. Improvement is urgently needed because disasters over time are becoming more frequent, more devastating, and more complex than in the past.

### **Theme A: LIVING WITH NATURAL AND TECHNOLOGICAL HAZARDS**

#### **Topic A.6: Improving Emergency Management**

#### **“Improving Emergency Management in Algeria”**

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# IMPROVING EMERGENCY MANAGEMENT IN ALGERIA

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**Abstract:** This Blueprint for Change was prepared on the basis of experience in Algeria for improving the implementation of the professional practice of disaster management throughout Algeria. It is relevant for adjacent Mediterranean countries. Improved implementation is urgently needed because disasters are becoming more frequent, more devastating, and more complex over time in Algeria and in other countries than in the past. Many natural and environmental disasters have regional, national, and international ripple effects and adverse consequences in addition to the obvious local impacts; therefore, it is imperative for communities to maintain basic emergency management skills and to develop new and improved skills in order to use modern technology effectively to protect people and property and to cope with all of the potential impacts of disasters.

## INTRODUCTION

The principal issues in emergency management include:

- a) establishing protocols for cooperation and collaboration among different local, regional, and international public- and private- sector groups,
- b) enhancing local, regional, national, and international competencies, and
- c) using new technologies for search and rescue, emergency services, reconstruction, and workforce recovery.

As any other form of action in favor of protection, social and sustainable economic development, the prevention and attenuation of the natural and environmental disasters should be based on research through a national strategy of management of natural and environmental catastrophes. It is well accepted nowadays that science and modern technology allied to an enlightened social policy are able to mitigate considerably the negative effects of natural and environmental disasters.

For this purpose, a clear definition of the national strategy of the management of disasters is primordial, for a government, for the establishment and the maintaining of adequate arrangements to respond efficiently to all aspects of the disaster threats. That is valid to all levels of the national structure, from the central government to the local authorities or local associations. If this strategy is not well defined, the preventive measures to reduce the negative effects of the calamities will be non adequate; consequently, the human lives and material losses will increase and the country globally will suffer.

A strong and clear strategy will provide the following advantages:

- Direct involvement of the government in the all affairs concerning disasters,

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- A foundation for an appropriate legislation and associated regulations,
- A real organization and a clear attribution of responsibilities,
- A general directorate to insure an optimal use of the necessary resources and a rigorous assessment of the threat,
- A national competence and a self-reliance, which will breed an adequate international assistance when the country eventually asks for it.

It should be clear that in order to have a better definition of the national strategy of natural and environmental disaster management, it is necessary to have a base of organizational arrangements such as an integrated structure in the government. It is imperative that the first responsibility of the disaster management must be insured by the central government. This will allow the government to avoid surprises in the management of crisis during future catastrophes. There is also a crucial importance, at the highest level of the government, to integrate disaster management with all its aspects in the global strategy of the economic and social development. Because nowadays it is widely recognized that disaster management and the economic development are not two separate disciplines, which are in conflict in terms of resources (budget), but they are synonyms and their resources should be included in the combined administrative process.

To reach these objectives, it is desirable to establish an Integrated National Disaster Research and Management Agency (NDRMA), which will assure the continuity of the government in case of disaster, in the Algerian government and whose structure is given in the figure enclosed herewith.

The agency (NDRMA) will have four principal actions:

1. Design and compilation of all the data banks necessary to research work and disaster management in Algeria; to establish a national system of collecting the data,
2. Prepare a national disaster management plan coherent with all the other concerned institutions of the country,
3. Co-ordinate all the national institutions and organisms concerned by the mitigation of the negative effects of the natural and environmental disasters.
4. To create a sustainable and permanent cadre of disaster management staff at all levels, and to promote institutional and public awareness of disasters, their effects and likely relief activities.

The proposed organization is integrated completely in the government structure, which requires improvement, illustrates the control chain, the circulation of the information flux as well as the main command relations.

## **AGENCY ROLES**

The agency will establish the main orientations and recommendations of actions to undertake; particularly, all those who are in position to contribute in the mitigation of the effects of natural and environmental calamities are engaged to participate, each one in his sector and in the frame of a coherent program, to a national action in order to take prospective measures which attenuate the vulnerabilities of the population and their properties as well as the environment.

Disaster management, to be effective, has to be implemented as a comprehensive and permanent activity, not as a campaign reaction to separate disaster situations. Therefore, the central government has to deal with a wide range of regulations, planning, clear policy, organizational, operational and other matters; it should have a clear long-term strategy in disaster management.

The agency should reduce the negative effects of disasters as a priority element in the programs of all the national organizations and institutions.

The agency will seek to mitigate the tragic impact of these natural phenomena by a scientific and complete management of disasters combining the planning and the attenuation together with a supported contribution of relief.

The scientific and technological knowledge of natural and environmental disasters as well as of mitigation measures of human and property losses are sufficiently advanced to establish a National Disaster research and management Agency in each country. The agency has twelve objectives to reach through a coordinated national action:

1. Definition of new mechanisms and strategies for the application of today's knowledge, taking into account the various social, cultural and economic differences of the regions.
2. Bring together the scientists, engineers, planners, politicians and decision-makers in the formulation of development strategies, relief organizations as well as all the concerned organizations to collaborate within the same frame in order to coordinate their efforts and thus to develop a national strategy in terms of Disaster management.
3. Allow all the national institutions concerned by the development, social protection and the mitigation of the effects of disasters to take advantage of the advancement of science and technology.
4. Promote a national awareness, and an active interest and permanent to the attenuation of the impact of disasters with the co-operation of the authorities concerned.
5. Collect all the information relative to disasters that occurred, as back in time as possible, at the national level, analyze them, reconstruct the most important events and finally write the history of disasters in Algeria.
6. Promote learning experience and public awareness.
7. Emphasis on preparing various sections of the population to meet challenges generated by disasters.
8. Promote training opportunities for upgrading capabilities and skills to deal with disasters.
9. Promote and develop community action plans to cope with the natural and environmental disaster considered through disaster prevention, mitigation and preparedness actions.
10. Promote the interface between various sectors (including corporate sectors, the media, insurance and financing institutions, schools, universities, research centers, etc...) to enhance emergency response capabilities.
11. Establish a database for disasters in Algeria.
12. Build a disaster impact reduction culture in Algeria.

## **IMPACT OF THE AGENCY (NDRMA)**

The agency will play a consultant role for a large community of users, including the central government authorities, regional and local authorities, the administrators, planners, engineers, architects, all the experts of all disciplines of earth sciences, technical experts, experts in human sciences, researchers in all disciplines as well as the general public.

The research findings of the agency should be an integral part of the general process of economic and social development. They provide fundamental means which should guide officials at the local, regional and national levels in the formulation of development strategies in disaster prone-regions, land use management, city planning, development or revision of building regulations, materials norms, siting of new critical engineering projects as well as decision-making policies to stimulate and facilitate the efforts of the disaster mitigating and response communities to take specific practical preventive measures to reduce the negative impact of disasters. The advisor role of the agency will consist of the following:

### **1. ADVISE**

1. For each type of disaster, have the capacity to answer the following questions:
  - ∅ Type of disaster, size, region and probability of occurrence?
  - ∅ Social and economical impact?
  - ∅ Preventive measures to reduce the risk?
2. Make all the levels of the government as well as the response organisations aware of the major disasters that are threatening a site, a zone or a region.
3. Establish adequate and appropriate measures to attenuate the risk of disasters.
4. Guide the administrators and the planners in the local, regional and national levels in the formulation of strategies to attenuate the impact of disasters.
5. Promote and develop the necessary expertise to the process of risk mitigation.
6. Contribute by technical studies for the improvement of performances of the institutions charged with the planning and relief in terms of major disaster management.
7. Conduct, at the demand of the authorities, any action or intervention in the frame of the competence of the agency.
8. Advise the organisms concerned with the view to establish norms and regulations in its competence field and to propose appropriate measures to reduce the disaster risk.
9. Orientates the research and education programs in terms of major disasters.

### **2. RESEARCH**

1. Guide the applied and theoretical research for the social and economic development in terms of disaster risk mitigation.

2. Study the necessary social and economic conditions to integrate the preventive measures to attenuate the impact of disasters into the global process of national development.
3. Master science and modern technology for an efficient disaster management.
4. Stimulate forward-looking concepts for the future disasters
5. Contribute to improvements in ongoing disaster management capability,
6. Encourage the experts of the agency to communicate their findings at the various disaster related national and international conferences.
7. Encourage the international Co-operation in terms of disaster management.

### **3. DOCUMENTATION**

To collect and have at the disposition of all the user sectors a documentation of references, as complete as possible, national and international. This documentation concerns:

1. Establishment of a data bank of the disasters which occurred in Algeria as well as their effects,
2. Collection, treatment, conservation and diffusion of the data, information and documentation in terms of natural and environmental disasters,
3. Maintain an updated documentation of books, reports, journals, revues, newspapers and publications related to natural and environmental disasters and to their management,
4. Edit a publication devoted to the evolution of the national and international knowledge in terms of natural and environmental disaster reduction philosophy.

### **5. EDUCATION AND TRAINING**

Because culture is man-made phenomenon, man can change it! Certainly, education and training will play a fundamental role in initiating and influencing cultural changes.

1. Contribution the knowledge transfer in terms of mitigating the impact of natural and environmental disasters,
2. Identification of training needs,
3. Definition of the types of training and training policy,
4. Contribution in the conception of education programs, at all levels, related to its domain of expertise; disaster programs in schools can play certainly an important role.
5. Use of media and other opportunities to apprise the public of current and proposed disaster-related activities,
6. Education of the general public to understand the advantages of long-term strategy of mitigation, particularly in relation to national development and preservation of the environment,
7. Organization of campaigns of information, education, conferences, seminars, workshops to vulgarize the natural and environmental disaster phenomenon.

8. Contribution to training and to the improvement of skills of the personnel working in the field of natural and environmental disaster management.

## Strategy

### 2.1 Disaster risk reduction strategy: A multidisciplinary domain

The first phase in reducing the risk to society from natural disasters is an assessment of the hazard and risk. Disaster risk reduction, whether it includes seismic-resistant design, land-use management, city planning, public education or legislation should be based on a sound knowledge of hazards (i.e. estimation of the occurrence of future disasters in a given region during given time intervals).

Risk is defined as:

$$\text{Risk} = \frac{\text{Hazard} * \text{Vulnerability}}{\text{Disaster Management}}$$

**RISK** is defined as the scope of consequences (loss of life, damage to property or the environment,..).

**HAZARD** is defined as the “Punch of Nature” (external forces)

**VULNERABILITY** is defined as the weakness/strength of the element at risk.

**DISASTER MANAGEMENT** is defined as a comprehensive strategy based on a set of activities to reduce the risk by:

1. Reduction of the vulnerability of the elements at risk
2. Ensuring that adequate measures are implemented before disaster strikes
3. Responding as efficiently and effectively as possible to disasters when they occur
4. Assuring a sustainable development of the region stricken

## Evaluation

**HAZARD** (earthquakes, flooding, drought, .)

The evaluation is based upon the history of disasters that occurred in the past. Nature, severity, frequency, area, time, duration, return period,.. Collect the data, historical records, scientific rep. Analyze the data and construct the hazard maps and quantify the hazard

**VULNERABILITY** (weakness / resistance of elements at risk)

▶ **Existing building stock (state of the structures, non engineered structures, masonry structures,...)**

- ▶ Structure of the population (density, old people, women, children, ...)
- ▶ Environment, topography, soil,..
- ▶ Construct vulnerability maps

## **DISASTER MANAGEMENT** (various measures before, during and after the disaster)

- ▶ Awareness, education, laws and regulations
- ▶ Prevention and mitigation measures
- ▶ Prediction, warnings and preparedness
- ▶ Response capability
- ▶ Government, public, NGO's participating

### **2.2 Main phases of disaster management**

#### **Mitigation Phase**

**Disaster Mitigation** consists on activities whose objective is to reduce the vulnerability of elements at risk and thus the risk of disasters. **Prevention** is very often used alongside or instead **Mitigation**. Prevention measures are continuous and for long term. This phase may focus on reducing the hazard itself or on reducing the vulnerability or a combination of both. Sometimes hazard cannot be affected or too costly process.

These measures are:

#### **Mitigation Measures**

Engineering and constructions measures (Strengthening structures, control structures)

Physical planning measures (Land use planning)

Economic measures (legislation, tax, insurance,...)

Management & institutional measures (Building capacity, expertise, education, training,..)

Social measures (Awareness, public information and involvement)

#### **Preparedness Phase**

▶ **Disaster Preparedness** consists on activities is aimed to reduce the various losses that may result from future disasters. Construct probable scenarios regarding to hazard and vulnerability and to assess the risk and establish planned measures to deal with disasters. Vulnerability and risk evaluation, planning, public information and training, resources, response mechanism, which will be used in disaster plan to respond rapidly and effectively to disaster emergencies.

What is most important is not to forget but to learn to live with what we have suffered. This means that we should always work towards developing a risk reduction culture.

Training programs, particularly in developing countries, should be placed on high priority in order to progressively build the capacity of people at all levels of the society to help themselves, particularly during the most and sensitive time which is immediately following a disaster.

## **Response Phase**

▸ **Disaster Response of Risk Management** is the implementation of planning or measures put in place in the preparedness phase. Disaster response include emergency relief and management (health, food, water, sanitation, shelter, social services, logistics and supply, security,...). It is a short term activity but builds the foundations for future vulnerability reduction. Ensure survival of a maximum number of people affected, re-establish essential services as rapidly as possible.

## **Rehabilitation or Reconstruction Phase**

▸ **Rehabilitation or Reconstruction** is a set of activities of getting the population to normal life with the promotion of economical and social processes. Development is closely allied to rehabilitation and reconstruction.

## **3. Quantification of Risk**

Combination of the data of hazard, vulnerability and disaster management Apply weighting (probabilities), Quantify the risk in terms of probability.

## **4. Level of Risk Accepted**

It is utopian to think that risk (uncertainty) can be totally eliminated. Risk will be always here and we should learn to live with it. Governments and society according generally to their economical importance decide about the level of acceptable risk for the country.

## **CONCLUSION AND RECOMMENDATIONS**

In recognizing the permanent threat of major investments and the population in Algeria due to the majors natural and environmental catastrophes, the government, through the agency, should multiply its efforts to continue the studies and analysis of the diverse natural and environmental calamities that are likely to occur in Algeria in view to mitigate their negative consequences.

The agency will also contribute, together with all the institutions and organisms concerned, to the formulation of an economic and social development strategy which includes the establishment of an appropriate policy of land management for a sustainable development and a national disaster management policy.

Governments of disaster-prone countries should be encouraged and helped to establish their institutional mechanism within the administration from the highest level down to the village-level, which would be taken as responsible for preparedness planning as well as for the implementation of basic protective measures. This will ensure a prompt and effective relief operation when disaster strikes. Countries, which are exposed to similar types of disasters and belong to the same geographical region, must share among themselves evaluations of their own counter-disaster measures.

## **Strengths of NGOs**

NGO's know their business. They have been serving for many years in involved in several operations through various conflicts and thus can bring their considerable skills to bear effectively. Some of them are specialized in particular areas of disaster management, such as experts in water and sanitation, food and its distribution, health, children's work, registration or camp management. They have a strong commitment since thus who work for the humanitarian community are drawn by a genuine desire to alleviate suffering in the world, in its widest meaning, and to make a real difference in their chosen area of concern. Whereas some individuals move in and out very often, the organization itself may well be committed to a particular area or problem for the time needed working with local staff and inhabitants.

These organizations know each other very well, often having strong individual personal relationships; they easily can establish a network as the humanitarian community are usually pre-disposed to co-operate with one another. The media have strong links with NGOs as they are good working with them, together they present a good alliance. The media very often adopt the NGO perspective and report it uncritically, allowing them to voice their concerns and criticism. Together, they can mobilize public opinion (e.g. the CNN effects). Because, the world is now so inter-dependent and so vulnerable to public opinion mobilized by these humanitarian "lobbies".

New roles should be attributed and played by NGOs in the 21<sup>st</sup> century. The first is as resource mobilizer, not only for funding but also for the expertise necessary to reduce risks from natural and environmental disasters. Applying disaster management procedure, a large and wide list of needs arise which includes Trainers, engineers, architects, earth scientists, environmentalists, cartographers, nurses, doctors, psychiatrists, psychologists, sociologists, planners, civil defense elements, life services personnel, heavy equipment operators, home builders, economists, land planners and the list goes on. The second mission is to integrate and facilitate the introduction of volunteer resources within disaster management partnerships so common vision and interest are accepted and adhered to. The participation of the private-for-profit sector is of great importance. It may impatient for intervention as consensus is reached. The third is to continue to innovate, catalyze and advocate. Policy research work and advocacy are again areas where NGOs need to lead the promotion of sustainable approach to disaster management. The fourth is to build up a culture for risk reduction, a new build up of science, technology and disaster management philosophy.

## **Role of scouts**

The presence and action of scouts in emergency situations is very obvious and not new. However, the precise role of the organization in this kind of action should nevertheless be clearly explained and its limitations -as well as the unique characteristics, which give its contribution, a definite and original value- appreciated.

The scout's participation in the development of society is one of the fundamental goals of the educational method of scouting. This occupies an increasingly significant place through the program of community development activities. Scouting - a voluntary educational youth organization - is not a rescue agency; the participation of boys and girls in assisting victims of

natural disasters assumes in the first place an educational value - the contribution towards humanitarian assistance takes a secondary place. It is of interest to mention that this contribution is often extremely effective as a result of the model of organization adopted by scouting.

Scouting actions in emergency relief could be described as rapid, organized, versatile, multiple and complementary.

### **The Military - Civilian Cooperation**

The main contribution the military personnel are likely to be called upon to make is to provide manpower, vehicles, equipment and radio communications, as well as military aircraft. In case the military intervention is needed, it is necessary that the plans will be adjusted to include disaster management based on and in accordance with the National Disaster Management Plan. Examples of military-civilian cooperation to disaster relief include: (1) Protecting emergency food aid registration teams, (2) Protecting and helping with logistics: transportation, storage and distribution of emergency food aid, delivery of emergency water supplies, traffic control, communications, (3) Enforcing government's water usage restrictions, (4) Undertaking search-rescue work, (5) Providing temporary shelter and heating for disaster-stricken people, and carrying out immediate repairs to make damaged facilities safe, until civilian services arrive and (6) Taking charge at the scene of an extreme hazard by organizing, providing immediate relief assistance and helping local government restore normal life.

At the national level, the most effective way for an efficient military - civilian cooperation is to integrate the capabilities of country's military forces with the civil authority's, together with the supporting public services, at all stages and all levels of disaster planning and preparedness. The potential of the armed forces to provide well organized, trained and equipped support to the civil authorities and emergency services is great and should become an element of all disaster management plans.

The military institutions are known for their rapid deployment, organization, ethos, skills, communications logistics and coherence, which give them important advantages in disaster relief operations. They also present more advantages as readiness (training, equipment), availability (frequency, numbers, variety, resources), integration (coalition, military-civilian organization, mil-gov-ngo), flexibility (duration, reaction, ethos, interchange low intensity for high intensity operations), skills (variety, training, endurance), law (civil / military, international, national), culture (social responsibility, political support, history).

International community should cooperate in the development of plans and protocols to be used when military resources are needed in disaster relief. One of the fundamental ideas is that such resources should only be called upon when the normal response planned mechanisms is insufficient. Military resources do not, and should not replace the humanitarian activities made by civilian bodies, but they should complement and help them. Military -civilian cooperation will be needed either because of the urgency or the scale of the disaster, or because special tasks have to be performed. It should not be assumed that civilian organizations would always, as matters of course, seek cooperation with military forces. While military can be justified in terms of its capability to access enormous logistical capacity and to

manage local security considerations, it should be acknowledged that working with the military is an exception to normal practice. We should answer some questions about military-civilian cooperation in case of disaster. They include: (1) Should military resources be used for humanitarian relief, or not? (2) If these resources are used, these resources can be used most effectively in support of the humanitarian efforts?, What still needs to be achieved by the international community to improve the readiness and availability of military - civilian cooperation resources as a tool for disaster relief.

## **Women**

The role of women in disaster situations should be mentioned. Their important number working in humanitarian organizations shows the interest of gender in alleviating human suffering. Their drive and professionalism is impressive as they bring a touch of humanity to the situation, especially with the victims of any kind.

In fact, women are excessively numerous to suffer effects of natural disasters. Yet, they are often heads of family and manage frequently the collectivities; they assure the responsibility of putting back to their original states various structures of the civil society, as well as the charge of children and old people who depend on them to survive. These women should have the full support of the international humanitarian community so they could not only to respond to the immediate needs in terms of shelter and food, but also to get over the terrible trauma on which they so often suffer in crisis situation. Women should also be autonomous and assuring them full participation in assistance programs, mainly to their conception and their implementation.

Pillars of the society, women constitute the largest group to relief in times of crisis. We should in the future listen to women and include their views in the whole planning strategy of disaster management. Their drive and professionalism is impressive, and they bring a tangible touch of humanity to the situation, especially working with the victims. Politics and instruments are today necessary to promote the role of women in all emergency management phases. We should give women the possibility to make planning and decisions in emergency situations.

Numerous if not most men are away from home when natural disaster strikes, it is frequent that women find themselves alone in their damaged homes, far from the reach of relief missions and unable to take part in decisions to reorganize the society. Knowing this situation may happen so often, it is very important to train women for disaster management procedure as an element at risk as well as head of first relief team. We have to take advantage of the resource which women represent. We have to consider giving an official role to women in all phases of disaster management. It is generally women who are able to implement assistance in a timely and efficient manner with less bureaucracy.

Thus, in conclusion the role of women should be promoted in terms of direct and official participation in the disaster management philosophy.

## **Disaster Management and National Development**

There is also a crucial importance, at the highest level of the government, to integrate disaster management with all its aspects in the global strategy of the economic and social

development. Because nowadays it is widely recognized that disaster management and the economic development are not two separate disciplines which are in conflict in terms of resources (budget), but they are synonyms and their resources should be included in the combined administrative process.

The philosophy of disaster management as an integrated part of development is to build and strengthen the community's capability to deal with disasters. Plans covering both pre-disaster and post-disaster activities should be developed at the levels. During the phase of formulation of the development strategy for any site or region, disaster management should be incorporated as hazard and risk mapping. Disaster preparedness should also be included in all development plans. The link between disasters and development is well recognized nowadays. Coordinated planning and implementation, the availability of the necessary resources for technical cooperation and development in disaster risk reduction, the integration of disaster reduction and emergency prevention in planning, the political commitment of countries at risk to attenuate disaster negative effects decisively are the cornerstone for a complete strategy of risk reduction.

Sadly, economic, social and political constraints in most developing countries still consider that prevention measures are seldom implemented. Too often, prevention is seen as too restrictive, costly and incompatible with narrowly defined economic and social development aims. Particularly, when economic resources are already inadequate to satisfy basic needs, risk reduction may come well behind in the list of priorities. The absence of a strong political will and awareness and developed administrative structures combined with specific interests can result in a developing society becoming increasingly vulnerable to natural and environmental disasters, regardless of apparent economic development.