Making Algeria Resilient

Achieving Disaster Risk Reduction in the Arab States: Good Practice Country Brief

UNISDR
The United Nations Office for Disaster Risk Reduction

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This country brief is the product of a regional exercise commissioned by UNISDR-Regional Office for Arab States with support and facilitation from the Ministry of Foreign Affairs of the Algerian Government and UNDP Algeria. The views expressed here do not necessarily reflect those of the United Nations. The country brief aims to present the entry points and key drivers for disaster risk reduction progress in Algeria. The brief does not aim to provide a comprehensive listing of all disaster reduction initiatives in the country. Instead, it complements other relevant reports and studies on risk reduction in Algeria as well as the National Progress Report on the Implementation of the Hyogo Framework for Action (HFA) produced biennially by the Government of Algeria.

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Preface

In 2012, the United Nations Office for Disaster Risk Reduction (UNISDR), through its Regional Office for Arab States, in partnership with national disaster risk reduction (DRR) focal points, UN partners and other stakeholders in selected countries launched an exercise to compile country briefs that capture DRR good practices from the Arab region.

Documenting good practices from the Arab Region aims to improve stakeholders' understanding of the critical entry points needed to develop and integrate DRR into national strategies, policies and programs. The country briefs will demonstrate how high-level advocacy, knowledge exchanges, capacity development, technical cooperation and partnerships can enable countries to make steady progress towards achieving their national DRR goals, despite challenging political, social and economic contexts.

This country brief summarizes Algeria's efforts in planning for greater disaster resilience. Over the past decades, the country has learnt many valuable lessons from its disaster response and recovery experiences. Sustained political interest, engagement and commitment from the highest political office have given the issue of DRR national prominence. Algeria has also demonstrated innovative ways in which multiple sectors can effectively integrate disaster risk considerations to realize a sustainable development agenda.

Algeria's country brief identifies three entry points which are driving its disaster risk reduction momentum: a) political will and institutional capacities b) early sectoral engagement and c) regional and international partnerships. In past decades, these entry points have systematically contributed to the strengthening of national preparedness, response and recovery capacities; the implementation of a national scientific and technological vision for DRR; and the sectoral adoption of a robust economic logic for integrating DRR into the sustainable development agenda.

This country brief acknowledges progress made on advancing the DRR agenda at the national and sectoral levels, but also points out that there remains much to be done with developing the capacities of local authorities and civil society. A Délégation Nationale Aux Risques Majeurs was appointed in 2012 and is gradually assuming its coordination role. Multi-sectoral adoption of DRR has to be fully realized through the implementation of comprehensive and integrated DRR strategies, policies, plans and programs. Laws, regulations, decrees and ordinances need to be enforced. Public, private, regional and international partners and donors need to be committed and systematically engaged.

As Algeria strengthens efforts to build its resilience, it is hoped that this country brief will provide timely insights into Algeria's achievements and challenges, while inspiring other countries to learn from its wealth of experience.

I. Context

Algeria's commitment to creating greater disaster resilience can be attributed to its unique geography, topography and political economy. A significant part of Algeria's territory is exposed to earthquakes, flooding, drought, forest fires, landslides, locust and the risk of tsunamis. More than 90 per cent of the country's population lives along a coast that accounts for only 12 per cent of the country's landmass[1]. As a result, dense urban settlements coupled with migration, poverty, unemployment and a housing crisis make most of the population vulnerable to a nexus of natural and socio-economic hazards.

Aware of its high exposure and growing vulnerabilities, Algeria has systematically demonstrated its commitment to planning for greater disaster resilience since the early 1980s. Devastation from the El Asnam earthquake of 1980 raised public awareness and summoned great political will. In the aftermath of the 1980 disaster, which caused 2633 deaths, 8369 injuries, 29,747 destroyed houses and made 478,949 people homeless[2], Algeria systematically focused on strengthening its response and recovery capacities. The national authorities finalized a national construction code by 1983, adopted a disaster reduction and management plan in 1985 and dedicated technical capacities for the development and dissemination of seismic knowledge, monitoring and in-depth research by 1987.

The country has also learnt valuable lessons from more recent disasters such as the Algiers floods of 2001, the Boumerdès earthquake of 2003, the Ghardaia floods of 2008 and annual forest fires.

Algeria's national disaster reduction and management plan and legal and regulatory framework was strengthened in 2003 based on the Boumerdès response and recovery experience. In 2004 the country adopted the Law on Prevention of Major Risks and Disaster Management, and the National Scheme for Land Use Planning (SNAT[3]), which was later updated in 2010 with risk sensitive provisions for land management and urban planning. In 2004, the Ministry of Housing and Urban Development also issued new seismic building regulations.

Since 2005, against the backdrop of the global adoption of the Hyogo Framework for Action (HFA)[4] the United Nations Development Programme (UNDP) has acted as a principal ally to improve Algeria's institutional capacities. With the Government of Algeria, UNDP initiated a first national disaster risk management (DRM) project with a focus on developing local capacities and technical know-how for DRR across nine wilayas (districts). During this period, bilateral and regional cooperation was also initiated to further strengthen national capacities for DRR.

Since 2009, high-level political engagement, capacity development programs, participation in international and regional forums and campaigns have all contributed to fueling Algeria's DRR momentum and demonstrating its technical and financial commitment to DRR. However, social and institutional challenges remain. In the historical absence of a national coordinating body for DRR, the efforts of multiple sectors and partners lack a framework for cooperation and the achievement of focused DRR outcomes. However, the Délégation Nationale Aux Risques Majeurs appointed in 2012, is now coordinating multiple sectors to reduce major risks across Algeria's territory.

Algeria's DRR timeline in figure 1 summarizes the country's trajectory of learning from its many disasters, initiatives and partnerships.

[1] Details on Algeria's disaster risk profile and disaster statistics can be accessed here:
http://www.preventionweb.net/english/countries/statistics/risk.php?cid=3
http://www.preventionweb.net/english/countries/statistics/?cid=3

[2] Source: CRAAG

[3] Schéma National d'Aménagement du Territoire

[4] http://www.unisdr.org/2005/wcdr/intergover/official-doc/L-docs/Hyogo-framework-for-action-english.pdf

Figure 1: Algeria's DRR Timeline

1980s - 1990s

El Asnam 1980 earthquake,

Algerian construction code finalized in 1983,

Disaster reduction and management plan adopted in 1985,

Training of students, engineers, researchers, disaster mananagers in development and disseminaion of seismic knowledge, monitoring and research,

Establishment of national IDNDR Committee (1990-2000) and initiation of GIS, Nat Cat Insurance, other projects with UNDP and bilaterals partners.

2001 - 2004

Algiers 2001 flooding,

Boumerdès 2003 earthquake,

Political emphasis on preparednesss increases,

Sensitization events and public awareness campaigns undertaken,

Sectorial cooperation to protect major infrastructure initiated,

Law on Disaster Management and new building regulations adopted in 2004,

National Scheme for Land Use planning first integrated DRR (and later revised in 2010).

2005 - 2008

HFA adopted in 2005,

UNDP DRM project (2005 - 10) implemented in 9 districts/ wilayas,

Local wilaya committee members trained in DRM using Geographic Information System (GIS) ,

Extensive sensitization events undertaken,

North Algerian 2006 earthquake,

Disaster insurance introduced in 2006,

2007 forest fires,
Bilateral and regional cooperation initiated,

Seismic regulations revised in 2008,

Ghardaia 2008 floods.

2009 - 2013

PPRD South[5] cooperation initiated in 2009,

Sectorial risk assessments conducted (not multi-hazard),

New land use planning regulations take account of physical vulnerabilities and technological risks,

UNDP DRM project concludes after integrating DRR in the National Planning Scheme 2030,

National HFA focal point appointed to UNISDR,

National biennial HFA Progress Reports (2007-09, 2009-11 and 2012-13) prepared,

National Platform for DRR process initiated in 2011,

Resilient Cities Campaign with UNISDR initiated in 2012,

Post HFA national consultation in Feb 2013,

Pre-disaster recovery planning training 2013.

II. Entry points and drivers

As Algeria embarks on building its resilience, it will be important to understand the entry points that 'drive' progress to appropriately invest in them and use their influence to further the country's DRR agenda. While each country has a unique DRR context, these entry points serve as a useful reminder of the universal importance of fostering strong national leadership, institutional capacities and multi-sectoral partnerships.

Algeria's DRR experience can be attributed to three critical drivers: political will and institutional capacities, early sectoral engagement and regional and international partnerships. As demonstrated below, these drivers are enabling the country to strengthen capacities and to promote visibility for its DRR agenda.

Figure 2: Drivers of DRR Progress

[5] EUROMED - PPRD South. Programme for the Prevention Preparedness and Response to Natural and Man-Made Disasters: www.euromedcp.eu

a. Political Will and Institutional Capacities

Devastating earthquake losses, densely populated urban settlements and the accompanying socio-economic challenges of poverty, housing and unemployment spurred concrete political action on a range of areas in the 1980s – thereby laying the foundation for Algeria's DRR agenda.

Political will was initially expressed through two main pillars: strengthening institutional capacities for preparedness, response and recovery; and improving institutional capacities and technologies for seismic research, monitoring, assessment and communication.

In the immediate aftermath of the 1980 El Asnam earthquake, emphasis was placed on strengthening the institutional capacity of the Civil Protection Directorate[6], under the auspices of the Ministry of Interior and Local Governments. The Civil Protection is organized to fulfill three key objectives: *prevention* (includes the formulation of national, sectoral and local plans, maintaining updated information on classified installations and public buildings); *preparedness* (formulating preparedness plans, simulations and exercises, trainings and drills, organization of relief activities); and *operations / response* (including monitoring and responding to daily road accidents, fires, home accidents; and special missions including monitoring and coordinating response to natural and technological disasters).

Also, high-level political interest and patronage enabled the development of robust scientific research programs and technology centers dedicated to monitoring, analyzing and communicating seismic risk. The Centre de Recherche en Astronomie, Astrophysique, et Geophysique (CRAAG) [7] , created in 1985, is the Ministry of Interior's center for subsidiary research. Particularly after the 2003 earthquake, the President of the country took a personal interest in CRAAGs activities with increased funding for its mandate of seismic monitoring, crisis management and risk mitigation. The Centre National de Recherche Appliquée en Genie Parasismique (CGS)[8] , a specialized research center for earthquake engineering was established in 1987. CGS is a part of the Ministry of Urban Planning and provides risk modeling and simulations for different building stocks on the basis of various seismic engineering tools and assessments.

More recently, adoption of the 2004 Law on Prevention of Major Risks and Disaster Management, as well as integration of DRR in the country's land use planning scheme, and the creation and institutionalization of the National Delegation for Major Risks is a further demonstration of Algeria's political will and commitment to developing institutional capacities for DRR across the board.

b. Early Sectoral Engagement

Algeria's unique socio-economic history shows that a strong economic logic of 'prevention pays' can motivate early sectoral engagement in DRR. With the country's fast growing economy, there was an explicit and early realization that infrastructure had to be protected and made resilient to limit future losses.

Particularly after the 2001 Algiers flood, the 2003 Boumerdès earthquake and the 2006 North Algeria earthquake in Lâalam (Kherrata), various sectors strategically collaborated to put disaster risk reduction frameworks and mechanisms in place. As a result , the National Scheme for Land Use Planning integrated DRR, building regulations were revised, the natural disaster insurance scheme -Cat Nat-was made obligatory and sectoral risk assessments were conducted for all major hazards.

Currently, each sector has a designated DRR focal point. Sectors conduct relevant research and analysis on major risks, and implement trainings to develop staff capacities. About 15 sectors also routinely collaborate on producing studies and implementing adequate prevention measures. The recently appointed Délégation Nationale Aux Risques Majeurs will assist the work of the sectors by coordinating all DRR actions under a single framework with a focused work plan.

c. Regional and International Partnerships

Partnership with UNDP has been critical to showcase Algeria's commitment to vulnerability reduction at the local level. The UNDP – Government of Algeria project "Strengthening national capacities for the analysis of vulnerabilities and risks related to natural disasters" was conceived in 2005 to address vulnerability factors across five wilayas. It extended its reach the following year to nine wilayas, analyzing vulnerability, mapping risk through geographical information systems, and communicating risk awareness to communities and local officials.

[6] http://www.protectioncivile.dz
[7] http://www.craag.dz
[8] http://www.cgs-dz.org

In 2007 and 2008, the project began training wilaya committee members on natural risk management, using a geodatabase created by the project. This enabled government staff to update their own databases, risk maps, and analyses. The mapping is a particularly useful tool for local disaster risk management, and has also been adopted at the central level for monitoring natural hazards and risks. By the time the project concluded in 2010, it had contributed to the development of the "Schéma National d'Aménagement du Territoire" (National Planning Scheme 2030).

UNDP and the Government's subsequent partnership with the UN Office for Disaster Risk Reduction (UNISDR) in 2009-10 facilitated regional alliances (with the PPRD[9]), enabled exposure to global good practices and lessons learned, and ensured participation in the Global Platforms for Disaster Risk Reduction. This engagement also led to the establishment of a national disaster inventory system, and supported reporting on the HFA. This contributed to Algeria's efforts to adopt a systematic DRR agenda.

III. Disaster Risk Reduction Agenda

Entry points and DRR drivers identified in the previous section help explain how Algeria has been able to systematically build a firm foundation for its future DRR progress over past decades. This section will assess the key characteristics of Algeria's emerging DRR agenda and identify areas that are likely to contribute towards strengthening future resilience.

Capacities for preparedness, response and recovery

The Civil Protection Directorate is the primary actor responsible for coordinating implementation of comprehensive preparedness, response and recovery measures at the national and local levels. The Civil Protection Museum showcases the history of Algeria's excellent response capacities and training programs.

Civil Protection Museum, Algiers

[9] http://www.euromedcp.eu/index.php?option=com_content&view=article&id=192&Itemid=470&lang=en

Today, a major component of the Civil Protection's mandate is to train and sensitize schools, municipalities and wilayas on preparedness and prevention measures. Algeria has marked the International Day for Disaster Reduction (IDDR) numerous times to raise public awareness and garner media coverage for the issue. An "Open day" is also regularly held to promote awareness whereby a mobile shake table demonstration is used to sensitize students, parents and teachers to critical seismic information and preparedness actions.

Mobile earthquake awareness-raising in Algeria

Since 2010, the Civil Protection has also been conducting trainings at the operational and higher university levels across the country. Training for first aid is currently being conducted at 942 national centers with an emphasis on training women. Based on initial community response to these trainings, the Civil Protection is planning to set up a volunteer scheme responsible for municipalities at risk.

Every six months wilayas participate in simulation exercises as part of national preparedness. Each wilaya is responsible for drafting a disaster management plan that is tested and updated as part of these simulations.

Detailed disaster management plans have been developed for different hazards, regional and local plans for the organization of emergency relief, prevention and rapid intervention in industrial zones. However, no comprehensive multi-hazard plans have been developed for the country.

Algeria has an active civil society sector at the local level but it does not have very well developed capacities for implementing systematic disaster prevention, preparedness, response and recovery measures. It is widely acknowledged that the civil society sector will need to be more involved in national and local decisions on DRR. In this regard, the capacities of civil society need to be strengthened to ensure that DRM efforts are to be realized on the ground.

In the absence of systematic civil society contributions to the DRR agenda, the Algerian Red Crescent has been a critical on-the-ground partner to the Civil Protection in organizing sensitization campaigns, trainings and drills, and coordinating response and relief efforts.

Scientific and technological vision for DRR

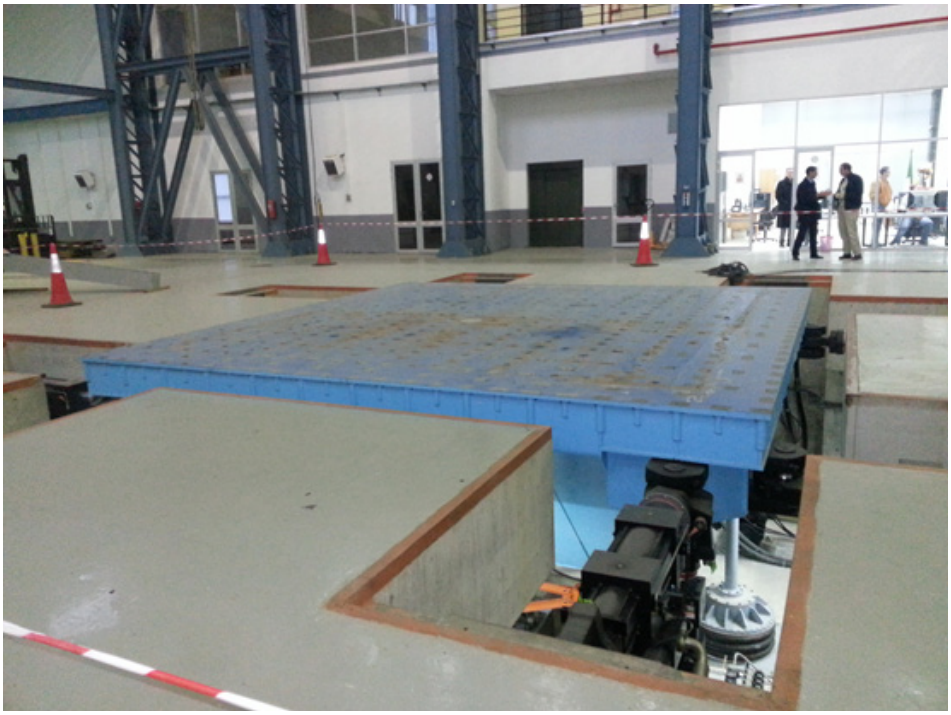
Historically, a large part of Algeria's scientific and technological vision for DRR has been focused on reducing risk from seismic and more recently, from flood events. The reasons are self-evident. Algeria has been exposed to major earthquakes and numerous flood events with significant numbers of people affected and billions of dollars worth of losses.

Post-independence, Algeria invested in an impressive array of capacities, technologies and resources in developing seismic

resilience. Among the first DRR measures undertaken in Algeria, was the elaboration of seismic regulations for new constructions. More recently, Algeria's 2004 Law on Prevention of Major Risks and Disaster Management mandates the development of detailed plans for a wide range of hazards. For each type of hazard, the Law sets out the kinds of data that should be collected and analyzed to inform policy and decision making at all levels. Numerous risk assessments have been conducted at the national and sectoral levels, including the development of national seismic hazard maps and seismic micro-zoning maps (for some particularly vulnerable urban areas).

The country's premier seismic research and scientific institutions have also demonstrated knowledge leadership in this regard. For instance, CRAAG has been recognized for its excellent contribution to seismic monitoring, crisis management and risk mitigation. The center is currently drafting a strategy on multi-sectoral work required for effective seismic risk mitigation, response and recovery. CRAAG has also established working links with several regional and international associations, countries and partners (including China, the USA and across Europe).

The CGS's mandate includes informing national building codes, siting and zoning of all projects undertaken by the Ministries with regard to urban planning, major infrastructure, public works, among others. It classifies building types, critical structures and locations and compiles this information in its database. This Center's seismic engineering work is demonstrated in its adoption of one of the world's most advanced shake table technologies has been critical to fully mainstreaming a scientific vision for DRR across critical sectors such as urban housing, settlements and land use planning.



Shaking table at the CGS

The Meteorological Service contributes to fulfilling Algeria's scientific vision for DRR through the continuous observation, monitoring, compilation, analysis and communication of critical weather and climate trends to relevant partners at all levels. This research is especially relevant to Algeria's critical and growing efforts towards reducing flood risk. The Meteorological service also teams up with sectoral Ministries to apply the results of research studies. Prominently, research work and projects have been conducted with the agriculture, transport, water and public works sectors.

In past decades, Algerian universities have conducted a significant amount of research work, higher education and trainings in disaster risk management and related areas. The University of Science and Technology – Houari Boumediene (USTHB) has trained members of the civil protection in several disaster risk management disciplines, offered short courses in the framework of the Periperi U[10] for the media, engineers, architects and in GIS, among others. The professional Masters degree on "Crisis Management and Risk" is also offered to civil protection staff in partnership with the University of Medea. The RITE (Laboratoire de Recherche sur les Risques Industriels, Technologiques et Environnement) of Oran University provides applied research and training in particular, "Danger sciences", related to DRM and environment, including technological risk and impact on environment.

[10] Periperi U is a platform for university partnership to reduce disaster risks in Africa. It stands for "Partners Enhancing Resilience to People Exposed to Risks", with special focus on advancing university action on risk and vulnerability reduction in Africa.

Integrated DRR agenda

Particularly after the Algiers 2001 flooding and the 2003 earthquake, Algeria recognized that expanding urban settlements and infrastructure had to be protected from future losses and made resilient to a range of hazards using a multisectoral approach.

As part of a 2010-2014 program for new highway improvement, transport networks and maritime infrastructure, the Ministry of Public Work[11] established the Algerian Seismic Public Works Code (RPOA) and developed a database to mark major infrastructure at risk from earthquake, fire and flooding. The Ministry purchased equipment to protect against fires and has conducted a pilot study to understand flood risk to major infrastructure.

The Ministry of Land-Use Planning and Environment worked closely with UNDP Algeria to integrate DRR into urban planning. This effort was informed by GIS mapping, which is supporting the implementation of risk-sensitive plans across nine wilayas.

The Government also realized early on that successfuly implementing and enforcing preparedness, mitigation and preventive measures will require making communities and local authorities aware of risks and strategies to manage them. The Ministry of Education has taken steps to sensitize students, teachers and school authorities to major hazards and preparedness measures. The Ministry is also ensuring that school curriculum integrates an understanding of natural and industrial hazards, and adequate measures to prepare and respond. With support from the Civil Protection, the Ministry has also led a series of national campaigns for raising public awareness on DRR in schools and in communities. In addition, in the aftermath of the 2003 earthquake, the Ministry of Education worked closely with the then Ministry of Planning and the UN to ensure the implementation of codes and regulations for the structural integrity of schools.

IV. Challenges

As previous sections have highlighted, timely political will, the development of institutional and scientific capacities, early sectoral adoption of DRR and regional and international partnerships have each contributed to the country's DRR agenda in past years. However, much remains to be done on Algeria's path to reducing vulnerabilities and building greater disaster resilience.

While the country has an impressive array of DRM related legislations and regulations across sectors, these are not very well enforced, especially the implementation of building codes and construction regulations. The lack of clearly defined institutional coordination mechanisms for DRR at the national and sectoral level, coupled with weak implementation and regulatory capacities at the local level has made it difficult for codes and standards to be enforced.

Decentralization according to the 2004 law requires municipalities to have specific disaster management responsibilities. However, resources and capacities at the municipality level remain limited. As such, additional support is required to empower municipalities to undertake effective DRM actions, through the provision of adequate budgets and capacities.

A more active engagement from Parliamentarians and city Mayors is yet to be seen especially with regard to ongoing regional and national campaign commitments. There is a definite need and opportunity for an exchange of DRM practices within the ISDR framework. The recent Post HFA national consultation[12] and the International Recovery Platform (IRP) training conducted in February 2013 is a good example of Algeria's commitment to host and facilitate international exchanges and learning[13] in this regard.

In the historical absence of a national DRR coordinating agency, the country has not developed a comprehensive national DRR strategy to provide overall direction and coordination to the sectors. It is expected that this issue will be addressed with the recent appointment and institutionalization of the Délégation Nationale Aux Risques Majeurs, as of September 2012.

Many sectors proactively address DRR through independent studies, initiatives and capacity development programs based on respective resources and capacities available. Increasingly, sectors are collaborating to assess risks through joint projects but sectoral capacity development needs are not addressed in line with a nationally coordinated DRR training strategy or program. No integrated multi-hazard assessment exists for the country yet. Risk assessments are conducted by sectors for major / relevant risks they face.

While the issue of raising DRR awareness, education, sensitization and developing capacities is fundamental to implementing DRR measures across sustainable development initiatives, the civil society sector remains only weakly engaged due to constraints in resources and capacities. There is also more work to be done on communicating risk prevention and reduction

[11] http://www.mtp.gov.dz
[12] http://www.preventionweb.net/english/professional/trainings-events/events/v.php?id=31075
[13] http://www.unisdr.org/archive/31366

strategies through the media.

Since 2004, but particularly after the 2006 Lâalam (Kherrata) earthquake, disaster insurance under the Cat Nat scheme has been given wide policy attention. However, according to the Central Insurance Company (CCR), only 8 per cent of industrial and commercial properties and 4 per cent of homes are covered against natural disasters[14]. Convincing people and businesses of the benefits of subscribing to disaster insurance remains a challenge due to scarce information and lack of understanding of insurance products and schemes.

V. Way Forward

There is a clear recognition by the Government of Algeria, UN system partners and donors of the need to foster Algeria's long-term commitment to DRR within a sustainable development context. Moving forward, at least five key actions will need to be prioritized for Algeria to implement its DRR agenda in a sustainable, outcome-oriented and participatory manner:

1. Multi-sectoral adoption of DRR has to be fully realized through the implementation of comprehensive and integrated national DRR strategies, policies, plans and programs.
2. Local authorities need to be assigned clear roles, capacities and resources for the implementation of laws, regulations, decrees and ordinances at the local level.
3. Under the auspices of the Délégation Nationale Aux Risques Majeurs, a comprehensive and integrated national DRR strategy should be developed to provide overall direction and coordination. This national DRR strategy should also include a specific focus on developing national, local and sectoral institutional capacities for DRR.
4. Awareness campaigns and preparedness drills should be conducted with robust media participation. Awareness in schools (through curriculum), hospitals and residences should be prioritized and supported by the Algerian Red Crescent.
5. Public, private, regional and international partners and donors need to be committed and systematically engaged in furthering Algeria's DRR agenda, by offering targeted technical support and facilitating the exchange of best practices under the ISDR framework.

[14] http://magharebia.com/cocoon/awi/xhtml1/en_GB/features/awi/features/2011/11/15/feature-04

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