

Assessment report on mainstreaming and implementing disaster risk reduction in Togo



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Assessment report on mainstreaming and implementing disaster risk reduction in Togo

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Acronyms and abbreviations

AEPA-----	Drinking water supply and sanitation
BOAD -----	West African Development Bank
CDQ -----	Neighbourhood development committee
CNPS -----	National relief planning committee
CRT -----	Togolese Red Cross
CVD-----	Village development committee
DPC-----	Directorate of Civil Protection
DRE -----	Directorate of Water Resources
DRM-----	Disaster risk management
DRR -----	Disaster risk reduction
DSID-----	Directorate of Statistics, Information and Documentation
ECOWAS-----	Economic Community of West African States
EU-----	European Union
EWS-----	Early Warning System
FAO -----	Food and Agriculture Organization of the United Nations
GDT-----	Sustainable land management
GEF -----	Global Environment Facility
GFDRR -----	Global Facility for Disaster Reduction and Recovery
HIV AIDS-----	Human immunodeficiency virus/Acquired immune deficiency syndrome
JVE -----	Jeunes volontaires pour l'environnement
MAEP-----	Ministry of Agriculture, Stock Raising and Fisheries
MACDAT-----	Ministry of Cabinet Affairs for Development and Land-use Planning
MERF -----	Ministry of the Environment and Forest Resources
MMEE -----	Ministry of Mines, Energy and Water
NGO -----	Non-governmental organization
ORSEC-----	Disaster relief plan
PANA -----	National climate change adaptation plan of action
PANSEA -----	National plan of action for the water and sanitation sector
PDNA-----	Post-disaster needs assessment
PGICT -----	Integrated disaster and land management project
PNAE -----	National plan of action for the environment
PNIERN-----	National investment programme for the environment and natural resources
PRSP-----	Poverty reduction strategy paper
QUIBB -----	Questionnaire on the Basic Indicators of Well-being
RAFIA-----	Research, support and training for development initiatives
SCAPE-----	Strategy for accelerated growth and the promotion of employment
SNRRC-----	National disaster risk reduction strategy
TFP-----	Technical and financial partners
TRNM-----	Tropical Rainfall Measuring Mission
UNDP -----	United Nations Development Programme
UNFCCC -----	United Nations Framework Convention on Climate Change
UNHCR-----	Office of the United Nations High Commission for Refugees
WAEMU-----	West African Economic and Monetary Union

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¹ Now working at the International Federation of Red Cross and Red Crescent Societies (IFRC)

Executive summary

Introduction

In Africa, there has been a significant increase in the number, frequency and intensity of disasters. Drought and floods bring suffering to communities and have a negative effect on the environment. Climate change heightens the risks and exacerbates the impact of natural disasters in the region. Between 2011 and 2012, 147 disasters (floods and droughts) were recorded in sub-Saharan Africa. These affected millions of people and resulted in an economic loss of US\$1.3 billion (Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UNISDR, 2013).

In Togo, the situation is characterized by the major risks of flooding, bush fires, high winds, storms, coastal erosion, epidemics, rockslides and landslides. Between 2007 and 2011, large-scale repeated flooding, bush fires and violent winds causing damage and destruction were recorded. In view of projections that climate change will have disproportionate repercussions in the country, climate change adaptation should be integrated into risk reduction measures and actions.

This report on the integration and implementation of disaster risk reduction (DRR) measures in Togo seeks to advance the integration of such measures into national and regional development strategies. Initially designed by the Economic Commission for Africa (ECA) and the United Nations International Strategy for Disaster Reduction (ISDR), this Development Account project is expected to contribute to the achievement of the Millennium Development Goals and of the sustainable development goals in Africa. Commissioned jointly by the Executive Secretariat

of the Economic Community of West African States (ECOWAS), ECA and UNISDR, the report sets out the findings of the evaluation of progress and experience in the integration of disaster risk reduction in national and subregional development planning in West Africa.

Methodology

The approach consisted essentially in

- i) Compiling documentary data and information,
- ii) Collecting information from stakeholders and submitting questionnaires to key resource persons and,
- iii) Analysing information and preparing the report. Particular attention was given to the national climate change adaptation plan of action (PANA) and other climate change adaptation measures in Togo. For the purposes of the report, consultations and meetings were held with State institutions, local stakeholders, associations and NGOs, and information was collected from key resource persons.

Disaster risk reduction in Togo was thus found to have several facets. At the political level, the national disaster risk reduction strategy (SNRRC) was drawn up in 2009 and revised in 2013. At the institutional and legal levels, decrees were issued establishing the national policy platform and the disaster relief plan (ORSEC). These measures were put into effect and the institutional framework is operational notwithstanding the financial difficulties. At the technical level, thematic studies have been carried out on climate trends and associated risks, climate scenarios up to 2025, 2050 and 2100, needs for the establishment of a national early

warning system and the mapping of flood and bush fire risk zones. Several other hazards have been identified but have not yet been studied in depth. Similarly, mapping work has fallen far behind in terms of national coverage owing to the various major hazards. Meteorological data are periodically produced in spite of difficulties due to inadequate infrastructure and insufficient geographical coverage of the country.

With regard to data format and availability, in addition to the national disaster risk reduction strategy (SNRRC), currently being prepared for publication, most of the documents prepared or adopted have not been published and disseminated. They have remained as electronic files or provisional versions in the care of the coordinating services. Data on the damage resulting from the various disasters that have occurred are not regularly included in publicly accessible reports.

Highlights of the study

Physical and socioeconomic profile of Togo

Togo is situated in West Africa and has a surface area of 56,600 km². It lies in the hot and humid intertropical zone directly affected by two wind currents, the south-westerly monsoon and the north-easterly harmattan. Average rainfall is 800 mm on the coast, 1,600 mm in the Plateaux region, 1,400 mm in the Central region, 1,500 mm in the Kara region and 1,090 mm in the Savannah region. The mean temperature is generally high, rising to 28°C in the northern regions, 27°C in the coastal region and between 24 and 26°C elsewhere. The mean relative air humidity is high in the south (73 to 90 per cent) but low in the north (53 to 67 per cent). The mean evapotranspiration is 1,540 mm annually countrywide. It is low in the south but steadily increases to the highest level in the north of the country. Average wind velocity is 1.93 m/s and average sunshine is six hours 37 minutes daily.

The territory of Togo forms part of the West African flatland made up of primary rock lying below relatively recent sedimentary stratifications and, for that reason, does not have very marked relief.

Geologically, Togo is composed of Precambrian basement rock represented in the south by a Cretaceous sandy clay sedimentary basin, alternating with more recent Tertiary formations (marls and limestone). Other Cretaceous features (gneiss and clay) are found in the more northern part. In the Pendjari basin, in the north, they protrude into the voltaic complex of Atakora (quartzite, shale and gneiss).

Togo has five main soil types, namely:

- i) Tropical ferruginous soils
 - ii) Crude undeveloped mineral soils
 - iii) Vertisols
 - iv) Ferralitic soils, and
 - v) Hydromorphic clayey soils containing gley.
- The state of degradation of the soil is a result of human activity.

With regard to flora and fauna, and taking into account physical and geographical conditions, Togo is subdivided into five ecological areas (Ern, 1979). As regards flora, 3,491 land species and 261 water species have been identified and listed. As for fauna, 3,476 species have been listed, including 2,312 land species, 1,146 water species and 18 domestic land species.

Togo shows rapid population growth, marked by strong regional disparities. The Togolese population (estimated at 6,817,000 in 2013) is very young, highly mobile and unequally distributed over the national territory. The majority of people still live in rural areas (62.3 per cent in 2010).

Togo has a growth rate of 5.6 per cent (2012). Agriculture remains the sector with the greatest potential for accelerating growth, ensuring food security, creating jobs, increasing low incomes

and contributing to the trade balance and agro-industrial development (strategy for accelerated growth and the promotion of employment (SCAPE), 2012).

Togo is divided into five administrative and economic regions, 35 prefectures, one subprefecture and 21 communes.

Main risks of natural disasters and areas where they occur in Togo

In Togo, only five hazards are regarded as major: floods, coastal erosion, landslides, bush fires and high winds. In historical terms, however, from 1862 to 1939 Togo experienced four earthquakes, from 1942 to 1983 three major droughts and, from 1925 to 2013, more than 60 urban and rural floods, bush fires and high winds every year.

The damage resulting from the main disasters that have taken place in Togo may best be considered in terms of each major disaster.

Between 1925 and 1992, urban and rural floods resulted in material damage and losses of human life (SNRRC, 2013). Floods in the years 2007 to 2013 had particularly disastrous social and economic consequences for the country, including losses of human life, the wholesale destruction of highway infrastructure, dwellings and cultivated land (PANA, 2008).

Locally, post-disaster needs assessment (PDNA) data for 2010 show that the prefectures of Lacs, Yoto, Bas Mono and Grand Lomé were the most affected in terms of the destruction of housing and school, highway and health infrastructure. As examples, by sector, the 2010 floods caused

- i) Damage and losses estimated at US\$5,562,078.96 in the housing sector
- ii) US\$177,778 of damage and US\$1,650,785 of losses in the health sector (iii) US\$1,614,247.48 of damage in the agricultural sector

- iv) US\$234,715.24 of damage and US\$753,033.63 of losses in the drinking water supply and sanitation sectors, and
- v) US\$15,420,000 of losses in the transport sector. Overall, losses and damage were estimated at US\$43,934,165.

In terms of the environment, hundreds of hectares of forests, in particular gallery forests and savannahs, and thousands of wild animals were victims of these disasters. The floods disturbed animal habitats and the reproductive cycle of certain reptiles.

Nearly every year, bush fires have repercussions on natural resources, protected areas, plantations, crops, harvests and housing, and indeed on human life. In terms of surface area, 9,131 km², 9,914 km² and 4,802.09 km² in 2010, 2011 and 2012 respectively were burned. Where property and persons were concerned, 24 and 84 dwellings/houses respectively in 2011 and 2012, then 143 and 524 dwellings/houses respectively in 2011 and 2012 were affected (Directorate of Disaster Management/MASSN).

The three major droughts experienced by Togo resulted in a lowering of agricultural production and famine between 1942-1943, 1976-1977 and 1982-1983.

The phenomenon of high winds often disturbs people's lives, destroys crops, blocks access routes by fallen trees and destroys the roofs of houses and school infrastructure.

Environmental impacts are mainly linked to the destruction of plantations and the habitats of wild animals, particularly birds.

Coastal erosion has contributed to coastline recession by nearly 250 m in the area immediately to the east of the port since 1967, twice removing

national highway No. 2 and leading to losses of property and infrastructure.

Main natural disaster risk reduction policies and strategies in Togo

At the institutional level, the multisectoral, cross-cutting and decentralized character of disaster risk reduction and the need for integrated and coherent action led the Togolese Government to establish by order No. 012/MERF of 17 April 2007 the national natural disaster risk reduction coordination platform. The national platform is a mutual consultation framework for all actors. It therefore comprises representatives of the public and private sectors and civil society organizations. In addition, the platform is provided with a technical secretariat designed to serve as a standing national managerial body.

Analysis of reference documents on natural disaster risk reduction in Togo

The reference documents used for the purposes of this study include:

- i) The national natural disaster risk reduction strategy, 2013-2017
- ii) The second national report on the implementation of the Hyogo Framework for Action, 2010-2012
- iii) The 2010 evaluation of flood damage, losses and post-disaster reconstruction needs in Togo
- iv) The 2010 needs assessment for the implementation of the early warning system
- v) The study on climate trends and associated risks in Togo
- vi) The 2012 second national communication on climate change, and
- vii) The national strategy for accelerated growth and the promotion of employment, 2013-2017.

In the case of the national natural disaster risk reduction strategy (2013-2017), the new document,

which was drawn up with the active involvement of all those concerned, was also approved by the technical and financial partners who provided Togo with financial support for the implementation of the proposed measures through the integrated disaster and land management project (PGICT).

The second national report on the implementation of the Hyogo Framework for Action in Togo focused on the floods of the past few years. The 2010-2012 report on the Hyogo Framework for Action also highlights the measures taken by the various national and international actors in response to emergency situations during the period.

Official maps for disaster risk reduction cover:

- i) Bush fire risks and
- ii) Flood risks in only two administrative regions: the Maritime region and the Savannah region. Few scientific documents provide a picture of the intensity of the flooding phenomenon at the national level. For operational purposes, the Togolese Red Cross has established simplified multi-risk mapping for communities relating, for instance, to floods, bush fires, high winds, drought, rockslides, etc. Existing maps on flood risks offer no more than indications and suffer from insufficient accuracy in their representation of the hazard.

The needs assessment for the implementation of the early warning system conducted in 2010 is a stocktaking of available resources in Togo for the four major components of an early warning system and reveals the lack of availability of several key elements for the establishment of such a warning system. At the institutional level, bodies have been set up and regulations are in place but, owing to insufficient technical and human resources, full implementation and full use of the tools developed are not currently possible. National hydro-metrological networks and measuring and

monitoring tools are not sufficiently operational for there to be effective real-time monitoring of rainfall and rivers or hydro-meteorological forecasting commensurate with the risks incurred.

This being so, it has been suggested that a warning unit be set up using the existing elements. Owing to the difficulties of mobilizing the necessary financial resources, the early warning system (EWS) is not yet operational at the national level. Only the community early warning system put in place by the Togolese Red Cross is operational in certain places (100 villages). Furthermore, the needs assessment has to be updated.

The study of climate trends in Togo carried out in 2010 shows that, like every region of the world, Togo is currently affected by the phenomenon of global warming. The study served to identify the risks connected with climate phenomena – mainly flooding, high winds, rising sea levels and drought. The 2012 second national communication on climate change spells out climate trends going forward to 2025, 2050 and 2100.

Learning from the experience of the various emergency situations that have marked Togo, and particularly the 2007 and 2008 floods, and aware of the need to improve national preparedness and response capacity, the Togolese Government annually draws up a national contingency plan under which it puts in place mechanisms for decision-making, coordination, action and the management of funds and donations to minimize the consequences of disasters for populations. Togo has reached the fourth edition of its national contingency plan.

Established by decree No. 97-227/PR of 22 October 1997, the disaster relief plan (ORSEC) is a mechanism for coordinating relief operations set up at the national, regional, prefectural and local levels to manage emergency situations following any disaster. This plan provides the national

framework for emergency management and enables exceptional resources to be mobilized in response to a disaster. The ORSEC plan is periodically updated.

Implementation of disaster risk reduction measures in Togo

Following the exceptional floods in 2007 and the ensuing mobilization, the Togolese Government set in motion a number of important measures to provide for risk and disaster reduction at the budget and policy levels. It should nevertheless be noted that no handbook for integrating disaster risk reduction into sectoral policies and strategies has been prepared.

Several United Nations agencies are supporting the natural disaster reduction and management efforts of Togo, including the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the Office of the United Nations High Commissioner for Refugees (UNHCR), the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), the Office of the United Nations High Commissioner for Human Rights (OHCHR) and the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UNSPIDER). The Global Environment Facility, the Least Developed Countries Fund and the Global Facility for Disaster Reduction and Recovery also support Togo by funding the integrated disaster and land management project (PGICT).

Other technical and financial partners also stand beside Togo, including the World Bank, the European Union, the United States of America, Germany, China, France, Japan and the TerrAfrica Initiative.

Togo maintains mutual cooperation and solidarity relations with bilateral and multilateral partners, not only for its development but also for

emergency preparedness and response, namely, in particular: the Economic Community of West African States (ECOWAS), the West African Economic and Monetary Union (WAEMU), the West African Development Bank (BOAD), the African Development Bank (ADB), the Islamic Development Bank (IDB) and the African Union (AU).

Associations and NGOs, in particular the Red Cross, the Charity Organization for Integral Development and Secours Catholique, are involved in humanitarian activities alongside national bodies and local NGOs.

Main tools and approaches used in the implementation of disaster risk reduction

For the implementation of disaster risk reduction measures, Togo has developed planning and programming tools that are operational at the national level.

Risk mapping, which is an important tool for risk reduction and disaster management, is not very developed in Togo.

No equipment is available nationally for seismicity monitoring. The equipment of the Ministry of Mines and Energy has been obsolete for several years.

The approach adopted is both national and local. At the national level, strategic tools and operational plans (emergency plans, ORSEC plan) have been developed and a multi-stakeholder institutional framework has been put in place. The institutional framework is based on the national platform assisted by a technical body, the technical secretariat. At the local (regional, prefectural) level, operational plans have also been developed. The institutional framework is based on regional prefectural committees assisted by prefects.

At the national level, the coordination effort has been reflected in the adoption of a strategy for

accelerated growth and the promotion of employment (SCAPE). This national strategy paper sets out the main development policy lines for each sector and clearly integrates disaster risk reduction into the approaches and measures to be adopted by each actor.

The national disaster risk reduction strategy revised in 2013 also sets out the main policy lines for disaster risk reduction and proposes activities to be undertaken in each development sector to reduce disaster risk. The national platform for risk and disaster reduction (PNRCC) serves as a framework for building partner synergy and pooling resources.

Analysis of synergy between disaster risk reduction action and climate change adaptation

In the context of global warming, the topography and water system of Togo have been identified as disaster risk factors for human settlements.

The national investment programme for the environment and natural resources (PNIERN) incorporates several programming and planning documents on climate change adaptation, disaster management, land degradation and deforestation. The integrated disaster and land management project (PGICT) follows the same line of thinking. It is also designed to provide community support for the implementation of activities aimed at climate change adaptation, sustainable land management and community resilience-building.

Good practices and factors for success

In Togo, on the basis of predefined criteria, good practices in disaster risk reduction have been identified in several areas. The good practices noted are:

- The national platform for risk and disaster reduction (PNRCC);
- The flood-specific community early warning system in 100 areas (Savannah, Plateaux and Maritime regions).

The operational success of the national platform for risk and disaster reduction in Togo has grown out of the awareness of stakeholders following repeated floods in the past few years and difficulties in emergency management in 2007 and 2008.

Factors for the success of the community early warning system are:

- i) Community receptiveness to the system
- ii) The action strategy
- iii) The simplicity of the tools used, and (iv) the absence of an operational national early warning system.

Following the various disaster emergency situations that have arisen, the following lessons have been learned:

- i) Communities living in flood-prone areas (low-lying areas, river banks and river beds) are the most exposed to the effects of flooding at times of heavy rainfall
- ii) In urban areas, neighbourhoods without sanitation are the most exposed to the effects of flooding; and
- iii) Communities living in flimsy housing are the most exposed to the effects of flooding.

Notwithstanding the efforts made by the various actors, difficulties still arise on the ground in terms of prevention plans, emergency preparedness and site and victim relief management.

Findings and recommendations for the effective integration and implementation of disaster risk reduction activities within the framework of cooperation and development

In the wake of the successive floods that have affected Togo in the past six years, the Government, with the support of technical and financial partners, has undertaken a process of capacity-building at various levels. Experience of these disasters has shown that

- i) Togo does not have the capacity to manage such emergencies alone; and
- ii) It is essential for there to be concerted, coordinated, collective action by all those involved in disaster risk reduction in the country.

The study shows that efforts are continuing with the launching of the integrated disaster and land management project (PGICT), which serves as a framework for the development of synergies between the contributions of technical and financial partners and the coordination of disaster risk reduction operations on the ground.

The needs identified in the updated SNRRC document are still relevant, namely:

- Support for the improvement of the political, legal and institutional framework;
- Support for the technical capacity-building of those involved in disaster risk reduction;
- Support for the improvement of the disaster risk reduction information system;
- Support for risk reduction in the form of disaster prevention and management;
- Support for disaster preparedness capacity-building.

In addition, ongoing PGICT initiatives will clearly enable Togo to:

- Build national, regional, local and community capacity for disaster risk reduction and sustainable land management;
- Support community activities aimed at climate change adaptation and sustainable land management;
- Make the national early warning system operational.

Nevertheless, it is still important for Togo to maintain and step up its efforts for disaster risk reduction prevention and preparedness. In the light of the study, the following recommendations were made:

Recommendations to the Togolese Government:

In addition to action initiated within the PGICT framework, efforts should continue in all areas of disaster risk reduction. Togo should in particular:

a) *Continue stakeholder capacity-building activities:*

- Support periodic updates of the national contingency plan and of the regional contingency plans aligned with the ORSEC plan;
- Build national capacity for rapid disaster assessment;
- Set up and support a national multisectoral team to assess post-disaster losses, damage and needs;
- Develop and put into operation a standing national mechanism to finance preventive and emergency action (disaster fund);
- Train decentralized personnel in the integration of disaster risk reduction in development planning instruments;
- Take greater account of the disaster risk reduction dimension in environmental impact studies.

b) *Continue efforts to reduce the risks underlying disaster prevention and management:*

- Support the integration of disaster risk reduction in land-use planning, urban development plans and the management of public buildings;
- Promote financial risk-sharing mechanisms through microinsurance;
- Promote the protection and improvement of community facilities and essential infrastructure and define hazard building standards;
- Identify and study risk areas for improved flood management;
- Improve river basin management, including swamps and shallows;
- Support funding efforts to strengthen the protection of fragile ecosystems, particularly Togolese coast land subject to erosion and continue coastal riprap operations.

c) *Strengthen disaster preparedness mechanisms:*

- Systematically assess crisis and disaster vulnerability in Togo and develop multi-risk zone mapping;
- Draw up annual emergency preparedness and management plans;
- Build national capacity for early-recovery programme formulation, implementation and follow-up;
- Support the periodic organization of simulation exercises for the various emergency plans;
- Establish new reception centres in flood-prone areas;
- Set up and put into operation new community early warning networks in areas where they do not yet exist.

Recommendations to the Economic Community of West African States (ECOWAS)

To ensure synergy and complementarity in the implementation of activities aimed at reducing people's vulnerability to disasters, ECOWAS should, alongside partners including United Nations bodies, the World Bank, the European Union, the West African Economic and Monetary Union, Germany, France, China, Japan and NGOs, strengthen its support to Togo in mobilizing the financial resources needed to implement disaster risk reduction measures.

Recommendations to the Economic Commission for Africa

The Economic Commission for Africa (ECA) should:

- Provide assistance Togo for disaster risk reduction capacity-building;
- Join Togo in operations to mobilize the financial resources needed to implement disaster risk reduction measures.

1. Introduction

1.1 Background

There is a rise in the number, frequency and seriousness of disasters in Africa. This is reflected in heightened risks of such phenomena as drought and floods. In the coming years, these risks may be exacerbated as a result of climate change and the associated disasters that it brings in its wake.

When they occur, disasters jeopardize the development of the affected countries by reason of the damage caused to physical property and the natural and ecological heritage, losses of human and financial resources and the erosion of social capital and systems of governance. In 2011 and 2012, 147 disasters were recorded in sub-Saharan Africa, including 67 floods and 19 droughts, which affected millions of people. The economic losses resulting from disasters were estimated at US\$1.3 billion (International Strategy for Disaster Reduction, 2013).²

In Togo, the situation is characterized by major risks of floods, bush fires, high winds/storms, coastal erosion, epidemics, rockslides and landslides.

Between 2007 and 2011, repeated large-scale floods were recorded following heavy rainfall in July, August and September throughout the territory. The period was also marked by rockslides, landslides, pollution, bush fires and high winds. The floods, of marine origin, are affected by high tides which in turn lead to coastal erosion. These floods usually result in the destruction of housing, highway infrastructure, schools, the drinking water supply system, electricity and telephone net-

works, hospitals, markets, crops and livestock and a considerable impairment of the potential offered by natural resources and the environment.³

Despite the significant impact of natural disasters on the country's main areas of development, efforts to integrate disaster risk reduction and climate change adaptation measures into sectoral development policy frameworks remain inadequate. As a result, each disaster that occurs considerably affects food security, economic growth, poverty alleviation and the achievement of the Millennium Development Goals and sustainable development goals as a whole.

Urgent responses, including concrete implementation measures, are therefore needed to minimize huge economic losses, losses of human life and means of subsistence, along with shortfalls in development and other impacts deriving from natural disasters. Accordingly, effective risk reduction measures must be formulated and incorporated into cross-sectoral and sectoral plans and then put into effect in national and local strategies and programmes. Since projections show disproportionate effects of climate change in the country, climate change adaptation needs to be integrated into risk reduction measures.

In most countries south of the Sahel the situation is similar to that of Togo, in terms of the approach taken to the mainstreaming of disaster risk reduction and climate change adaptation. For this reason, the Economic Commission for Africa (ECA), jointly with the Inter-Agency Secretariat of the International Strategy for Disaster Reduction, has

² Africa seeks united position on disaster risk reduction, 2013; http://www.unisdr.org/files/31224_2013no02.pdf

³ National strategy for natural disaster risk reduction, Togo, 2013-2017.

undertaken a project aimed at building the capacity of African decision-makers to integrate natural disaster risk reduction into the national development policies and strategies of African countries. Activities under the project focus mainly on two regional economic communities, namely, the Economic Community of West African States (ECOWAS) and the Southern Africa Development Community (SADC), and selected member States.

The other partners are the African Union Commission (AUC) and the United Nations Development Programme (UNDP).

The assessment was commissioned jointly by the Economic Community of West African States, the Economic Commission for Africa and the International Strategy for Disaster Reduction.

1.2 Aim and scope of the report

The general aim of this report is to provide a comprehensive analytical assessment of the integration and implementation of disaster risk reduction programmes and actions in Togo. More specifically, the report:

- a) Identifies documents and analyses the main disaster risks and, where appropriate, documents any disaster event in Togo, and offers a quantitative and qualitative analysis of the damage and social, economic and environmental losses associated with disasters in Togo;
- b) Identifies and analyses past, ongoing and planned disaster risk reduction measures by Togo and its main partners, including ECOWAS;
- c) Identifies and studies the main strategy, public policy, planning and programming documents of Togo, including those produced by its partners, and assesses the extent to which disaster risk reduction measures are integrat-

ed or taken into account in those documents, including at the implementation stage;

- d) Identifies, documents and analyses the following with a view to promoting the integration and implementation of disaster risk reduction activities as a component of development frameworks:
 - i) Main tools and approaches used by Togo and its partners to integrate and implement disaster risk reduction activities in Togo;
 - ii) Synergy/complementarity and integration of disaster risk reduction and climate change adaptation measures/frameworks;
 - iii) Good practices together with factors for success and lessons learned in the integration and implementation of disaster risk reduction measures at the national level.
- e) Makes concrete recommendations to enhance the effective integration/ incorporation and implementation of disaster risk reduction activities as a component of national and subregional cooperation and development frameworks.

1.3 Methodology

This report is based on data and other information collected.

1.3.1 Retrieval of data and documentary information

The sources of the data and documentary information collected and analysed were the following:

- The national strategy for natural disaster risk reduction, 2013-2017;
- The second national report on the implementation of the Hyogo Framework for Action, 2010-2012;

- Needs assessment for the implementation of the early warning system;
 - Study of climate trends and associated risks in Togo;
 - The national contingency plan;
 - The disaster emergency relief plan;
 - The integrated disaster and land management project (PGICT);
 - The report on climate change (2012);
 - The second national communication on climate change (2012);
 - The national strategy for accelerated growth and the promotion of employment;
 - Reports on disaster-related damage.
- iv) reviewing and assessing the integration of disaster risk reduction and climate change adaptation measures in national, sectoral and local policies within the framework of cooperation with partners, including at the implementation stage;
 - v) describing and analysing the main tools and approaches used to integrate and implement disaster risk reduction and climate change adaptation activities and identifying good practices and lessons learned in the integration and implementation of disaster risk reduction measures.

1.3.2 Collection of information from stakeholders and submission of questionnaires to key resource persons

This phase of the process involved meetings with officials and various other stakeholders in Togo (see Annex 8 for full details).

In this phase, questionnaires were also submitted to key resource persons; these gave a picture of the extent to which stakeholders were aware of the efforts made to implement disaster risk reduction measures in Togo.

1.3.3 Analysis of information and preparation of the provisional report

The information gathered from the various stakeholders was analysed together with specific documentary information for the following purposes:

- i) describing and analysing the main disaster risks at the national level
- ii) describing disasters that have occurred and listing the social and economic damage and losses caused by them
- iii) describing and analysing past, ongoing or planned disaster risk reduction measures

Following this phase, recommendations were drawn up aimed at more fully integrating and implementing disaster risk reduction activities within the framework of cooperation and development plans.

1.4 Outline of the report

The remainder of the report is structured as follows:

- Chapter 2: Physical and socioeconomic profile of Togo;
- Chapter 3: Main risks of natural disasters and areas where they occur in Togo;
- Chapter 4: Main policies and strategies for natural disaster risk reduction in Togo;
- Chapter 5: Implementation of disaster risk reduction measures in Togo;
- Chapter 6: Main tools and approaches used in the implementation of disaster risk reduction;
- Chapter 7: Good practices and success factors;
- Chapter 8: Conclusions and recommendations.

2. Physical and socioeconomic profile of Togo

2.1 Geographical situation

Bordering Ghana to the west, Benin to the east and Burkina Faso to the north, and bound in the south by the Atlantic Ocean,⁴ Togo lies between latitudes 6° and 11° north and longitudes 0° and 1.40° east. It has a surface area of 56,600 km². Often likened to a corridor, it extends over a length of 650 km and has about 50 km of coastline. At its widest point it spans 150 km. This configuration accounts for the great geographic, climatic, economic, human and biological diversity to be seen there.

2.2 Climate

Togo comes within the warm moist intertropical area directly influenced by the atmospheric circulation over West Africa.⁵ This subregional atmospheric circulation is driven by two types of high-pressure air masses, namely:

- The warm moist air mass from the sea known as the monsoon. This originates in south-westerly maritime high pressure and blows from the south-west towards the north-east. It brings rain;
- The warm dry continental air mass known as the harmattan. This blows from the high-pressure system of the Sahara from the north-east to the south-west. It is the dominant air flow in the dry season.

The two air flows, the south-westerly monsoon and the north-easterly harmattan, converge in-

land within what is known as the Intertropical Front (ITF). Latitudinal displacements of the ITF determine two climate systems in Togo:

- The Sudanese tropical system north of the eighth parallel, characterized by a rainy season running from May to October and a dry season from November to April. In this geographical area, mean annual rainfall accumulation varies between 900 and 1,100 mm yearly;
- The Guinean tropical system from the coast to a latitude of 8° north, characterized by two rainy seasons of unequal lengths (a long one, from March-April to July, and a short one from September to November) alternating with two dry seasons (long, from November to March, and short, from July to September). Mean annual rainfall accumulation is usually between 1,000 and 1,400 mm yearly.

Average rainfall is 800 mm on the coast, 1,600 mm in the Plateaux region, 1,400 mm in the Central region, 1,500 mm in the Kara region and 1,090 mm in the Savannah region.

Average temperature is generally high: up to 28°C in the northern areas, 27°C in the coastal area and between 24 and 26°C elsewhere. However, temperatures vary according to altitude, latitude and land use. Temperatures in the plain regions range between 19°C and 34°C, while in the mountain and forest areas they run from 18°C to 29°C.

Mean relative air humidity is high in the southern areas (73 to 90 per cent) but low in the northern areas (53 to 67 per cent). Mean evapotranspira-

⁴ National strategy for disaster risk reduction, Togo, 2013-2017, p. 4.

⁵ Idem.

tion at the national level is 1,540 mm yearly. It is low in the southern part but rises to peak in the north. Given that the northern areas have longer dry seasons, this factor combined with their low relative humidity increases the risks of bush fires with more extensive damage.

Mean wind velocity is 1.93 m/s and mean sunshine duration is six hours 37 minutes daily.

2.3 Topography

The territory of Togo⁶ forms part of the West African flatland made up of primary rock lying below relatively recent sedimentary stratifications and, for that reason, does not have any very marked relief.

The mountain area includes the Togo mountain chain which is the main part of the more extensive Atakora chain. This chain runs along the side of the country from south-west to north-east. The landscape consists typically of deep narrow valleys formed between distinct plateau areas.

In the far north of the country, a vast eastern plain crossed by the Oti river and its tributaries stretches from 9° 20' N to 11° N. The eastern plain rises from south to north and continues towards the south, forming the main plateau in the lagoon area, composed of a lateritic soil known *as terre de barre* which covers more than two thirds of the Maritime region.

The Lama depression, crisscrossed by the wide Mono, Hoho and Zio river valleys, runs almost diagonally across the plateau. The lagoon area, which in places is below sea level, is partly under an intermittent stretch of water. The shoreline forms a low, sandy coast that falls steeply in places under the effect of coastal erosion (MERF, 2007).

⁶ National disaster risk reduction strategy, Togo, 2013-2017, p. 5.

2.4 Geology

Togo is composed of Precambrian basement rock represented in the south by a predominantly sandy clay Cretaceous sedimentary basin, alternating with more recent Tertiary formations (marls and limestone). Other Cretaceous features (gneiss and clay) are found in the more northern part. In the Pendjari basin, in the north, they protrude into the voltaic complex of Atakora (quartzite, shale and gneiss).

2.5 Soil characteristics

Several types of soil can be identified,⁷ according to their nature, fertility, potential and geographic distribution.

Soil studies in Togo reveal five main soil types, namely: crude undeveloped mineral soils, tropical ferruginous soils, ferralitic soils, vertisols and hydromorphic soils. According to their very different agricultural potential, they are characterized by a lack of organic matter and potassium, especially in the Maritime region, in *terre de barre* soil, and mainly of phosphorus in the northern part of the country. They are affected by erosion and a continual decline in their fertility. The deep, sandy shoreline soils are highly exposed to coastal erosion.

Crude mineral soils subject to erosion are found in rugged mountainous terrain. Such soils are of little interest for agriculture or pasture and should be protected. Ferruginous soils cover some 48 per cent of the surface area of the country and show considerable variation. They are generally shallow and gravelly in the uphill areas but deeper downhill.

Slightly ferralitic soils account for nearly 12 per cent of the total surface area of the country and the major part of the surface area in the southern

⁷ Idem.

regions. These are red sandy or sandy loam soils on the surface and sandy clay soils deeper down. The hydromorphic soils and vertisols, representing 10 per cent of the total surface area, have considerable potential for agriculture and as pasture but their main disadvantage is their excessive water content in the rainy season.

The study on land degradation resulting from human activity carried out by the Overseas Office for Scientific and Technical Research (ORSTOM) and the National Soil Institute (INS) in 1996 (Brabant P. et al., 1996) shows that overall there is little soil degradation in Togo. Highly degraded land under the effect of human activity covered only 1.6 per cent, while moderately degraded land represented 21 per cent and slightly degraded land 62.7 per cent. From the same study it emerges that the proportion of non-degraded land was 14.7 per cent. The most degraded areas are in the eastern Maritime region (*terre de barre*), east of the Kara region (in Kabye country, Tamberma) and west of the Savannah region (Moba country). In these areas, land degradation correlates with the high density of the rural population and the fact that land there is no longer left fallow or is left fallow for much shorter periods.

The currently satisfactory situation could however take a turn for the worse in the next few decades under the combined effects of high population growth, unsound agricultural practices (slash and burn agriculture, bush fires, poor contouring techniques, agricultural extensification, etc.) and the migration of farmers leaving degraded areas to farm new land.

2.6 Flora and fauna

Physically and geographically, Togo⁸ is subdivided into five ecological zones, as illustrated in figure 1 (Ern, 1979).

Zone I corresponds to the northern plains and is covered by dry forests, dry savanna with thorny shrubs dominated by *Acacia spp.*, grasslands with *Loudetia* and *Aristida* and gallery forests bordering the rivers.

Zone II includes the northern branch of the Togo mountains mainly covered with open forest dominated by *Isobertliniaspp.*, *Monoteskerstingii*, *Uapacatogoensis*, mixed savannah, gallery forests and patches of thick forest (sacred forests).

Zone III corresponds to the central plain covered with dry forests with *Azeliaafricana*, *Anogeissusleiocarpus*, *Celtisspp.*, *Diospyrosmespiliformis*, *Khayasenegalensis*, etc., Guinean savannah distinguished by remarkably broad-leaved trees and bushes which, with the tall grasses, form a variegated patchwork.

Zone IV corresponds to the southern branch of the Togo Mountains covered with authentic evergreen forests.

Zone V corresponds to the coast and, physiologically, resembles zone III, but benefits from a sub-equatorial climate.

In addition to the many patches of semi-deciduous forest scattered through this zone, a large place is taken by azonal lagoon areas. These contain mangroves and associated formations. In these wetlands, water bodies are covered with hydrophytes, some of which float on the surface and others remain under water. Formations favoured by human beings include coconut and palm tree groves and annual or biennial crop growing areas (maize, cassava, etc.).

8 National strategy for disaster risk reduction, Togo, 2013-2017, p.6

Togolese flora⁹ include 3,491 terrestrial species and 261 aquatic species representing all the systematic groups currently listed in the national territory. A single plant species *Phyllanthus rouxii* (*Euphorbiaceae*) growing on the ferruginous hills north of Bassar is reported to be endemic. Several species are threatened with extinction, endangered or vulnerable.

An inventory of Togolese wildlife has identified 3,476 species, including 2,312 terrestrial species, 1,146 aquatic species and 18 domestic terrestrial species (mammals, birds). Three amphibian species are endemic to Togo these are: *Conrauaderooi* in the semi-deciduous forests of Kloto (Plateaux region), *Aubriasubsubgillata* in Kovie (Maritime region), and *Bufo togoensis* in the Adele mountain range (Central region).

Four species of migratory sea turtles come to the Togolese coast, either to lay eggs (*Cheloniemydas*, *Lepidochelysolivacea*, *Dermodochelyscoriacea*) or to feed (*Erethmochelysimbricata*).

In certain bodies of water distributed throughout the territory, protected species, crocodiles, hippopotamuses and manatees, are reported.

It is both an economic and ecological challenge to maintain the diversity of ecosystems. This is an essential means of preserving a wide variety of species and genes, among both wildlife and domestic species. Unfortunately, we are increasingly witnessing the wholesale destruction of ecosystems by anthropic activities, resulting in an impoverishment of genetic and species diversity.

2.7 Water resources

Togo can be subdivided into three major water basins (PASEA, 2011): the Oti basin, the Mono basin and the coastal basin of Lake Togo.

The Oti basin covers nearly 47.3 per cent of the territory. The Oti river rises in northern Benin and drains on its eastern bank the rivers of Keran, Kara, Mo and Assoukoko. Hydrologically, it forms overall a gently sloping basin dominated in its northern and south-western parts by a vast plain, while the north-eastern part includes a number of mountain escarpments crossed by the fast-flowing Kara, Keran and Mo tributaries. This basin is subdivided into seven secondary basins marked by a topical hydrological regime linked to the rainfall regime of its drainage area. The high-water period is between August and October; the low-water period between December and June.

The Mono basin occupies the central third and all the eastern part of Togo. Its surface area (37.5 per cent of the territory) makes it the second largest basin in the country. It is formed of a large central trough (main river bed) which drains two large parallel secondary valleys, those of Anie and Ogou, and the two tertiary valleys of Amou and Wahala. The hydrological regime of the basin is of the transitional tropical type, characterized by good rather than plentiful rainfall distribution in the year, hardly different from that of the Oti basin. There is only one high-water period – between July and October.

The Lake Togo coastal basin has three components: western, which drains the rivers of Zio; central, which drains the rivers of Haho; and the southern component, formed by the Lake Togo basin proper. It is composed of small lagoon channels and receives additionally water from the actual lake, as well as small channels draining the *terre de barre* plateaux of Vogon-Attitogon and the lower rivers of Zio and Haho. The entire coastal basin covers an estimated surface area of 14.3 per cent of the territory, with a transitional equatorial regime related to the rainfall regime: two dry seasons alternating with two rainy seasons.

9 MERF, 2005. Third national report of Togo on biodiversity.

2.8 Socio-economic conditions

Togo shows rapid population growth marked by strong regional disparities.¹⁰ The resident population, according to the General Directorate of Statistics and National Accounts (DGSCN), numbered 6,191,155 persons in 2010, of whom 48.6 per cent men and 51.4 per cent women. It thus increased from 2,719,567 in November 1981 to 6,191,155 in November 2010, an annual average growth rate of 2.84 per cent. On this basis, the projected resident population in 2015 would be 7,121,673 persons.

The major characteristics of this population are the high proportion of young people and unequal distribution over the national territory.

The Togolese population is also very mobile: young people, in particular, are migrating to an increasing extent, in accordance with economic opportunities, from rural areas to the towns but also to other countries.

As in most countries with an essentially agricultural economy, the majority of the Togolese population still live in rural areas, but to a decreasing extent: the proportion fell from 74.8 per cent in 1981 to 62.3 per cent in 2010. Urban spread has affected mainly the city of Lome and its outskirts, where 23.9 per cent of the population live. Little control has been exercised over this phenomenon, which has not been matched by urban and environmental management measures.

Population growth raises serious environmental problems: deforestation, bush fires, shorter fallow times, crop techniques ill-adapted to the soil and poorer soil quality due to erosion, and overgrazing. These problems are compounded by other environmental problems such as those presented by household waste management, industrial waste and air and water pollution.

On the economic front, Togo has a growth of 5.6 per cent (2012). Consequently, the per capita gross domestic product (GDP) has improved (from US\$432 in 2007 to US\$574 in 2012). The human development index of Togo is 0.459 (UNDP report, 2013), which places Togo in the 159th place worldwide. In the same period, the multidimensional poverty index (MPI) of Togo was 0.284 (UNDP report, 2013).

The incidence of poverty nationwide fell from 61.7 per cent in 2006 to 58.7 per cent in 2011, a drop of three percentage points in five years. This decrease in poverty occurred in both rural and urban areas. Nevertheless, poverty is an essentially rural phenomenon, with more than 73.4 per cent of the rural population living below the poverty line, as against 28.5 per cent for Lome and 44.7 per cent for other urban areas in 2011. The poverty situation has been made much worse by the external shocks experienced by Togo, including higher food prices in 2008 and the floods of 2007, 2008 and 2010.

In 2011, the gross domestic product of Togo, a least developed country, was US\$3,620 billion.¹¹ Analysis of the relative shares of the various sectors in real GDP shows that between 1990 and 2011, the primary sector remained dominant with an average share of 36.8 per cent, followed by the market tertiary sector with 26.0 per cent and the secondary sector with 17.4 per cent. Agriculture has remained the sector that offers the greatest potential for speeding up growth, ensuring food security, creating jobs, raising the lowest incomes and contributing to the trade balance and agro-industrial development.¹²

In terms of access to basic social services, Togolese society is marked by great disparity, to the great misfortune of the poor, especially for access to education and health care. Many challenges still remain in these areas.

10 SCAPE, 2012.

11 <http://donnees.banquemondiale.org/pays/togo>

12 SCAPE, 2012, p. 24.

Table 1: **Incidence of monetary poverty by area (as a percentage)**

	Lome	Maritime	Plateaux	Central	Kara	Savanna	National
Poverty indicators	27,2	53,9	64,7	80,2	68,4	90,8	58,7
Contribution to national poverty	12,1	13,7	25,8	14,1	15,0	19,3	100

Source: DGSCN, Poverty profile 2011 based on QUIBB survey

Togo comprises 38 ethnic groups who speak in a variety of national languages. In this rich tapestry, Ewe, Kabye and Kokotoli remain the dominant languages. Islam is the dominant religion in the north and centre of the country, while animism and Christianity are largely dominant in the Maritime and Plateaux regions.

2.9 Administrative framework

Administratively, Togo is divided into five regions, the Maritime region (6,100 km²), the Plateaux region (16,975 km²), the Central region (13,317 km²), the Kara region (11,738 km²) and the Savannah region (8,470 km²). Each region is subdivided into prefectures, communes, cantons and villages. In all, the country has 34 prefectures, one subprefecture and 21 communes. The prefecture and the commune are administered by two bodies:

The deliberative body, respectively the prefecture council and the municipal council, and

The executive body, respectively the bureau of the prefecture council and the mayor and deputy mayors.

Act No. 2007-011 of 13 March 2007 on decentralization and local freedoms spells out the important and extensive responsibilities assigned to the different territorial authorities constituted by the commune, prefecture and the region. These three levels of territorial authority have officers elected by universal suffrage, administrative and technical support personnel and their own assets.

The decentralization Act establishes the legal personality and financial autonomy of each territorial authority. However, in the absence of implementing regulations for the Act, the local authorities are not able to fully discharge their mission of promoting and financing local development.

3. Main risks of natural disasters and areas of occurrence in Togo

3.1 Frequency of incidence of the main natural disaster risks

Presently in Togo only five major hazards: floods, coastal erosion, landslides, bush fires and high winds.

Historically, however, the situation has been as follows:

- Earthquakes: 1862, 1906, 1911 and 1939;
- Droughts: 1942-1943, 1976-1977 and 1982-1983;
- Floods: from 1925 to 1992, 60 urban and rural floods occurred in Togo and, more recently, in 2007, 2008, 2009, 2010, 2011 and 2013;
- Rockslides and landslides: nearly every rainy season in the Plateaux, Central and Kara regions;
- Bush fires: every dry season in all five regions;
- High winds: every year, particularly in the Central and Savanna regions.

3.2 Impact of the main natural disasters that have occurred

From 1960 to 2013, Togo incurred damage as a result of the various disasters in its territory. In view of the floods that have occurred in Togo over the past few years, flood-related damage is being given special attention by government bodies, civil society organizations and technical and financial partners. Documented information on the floods is available, unlike other disasters connected with drought, bush fires and high winds.

3.2.1 Damage caused by floods

Between 1925 and 1992, the 60 urban and rural floods recorded in Togo resulted in material damage and losses of human life (SNRRC, 2013). The heavy social and economic consequences of floods between 2007 and 2011 were disastrous for the country. There were marked by losses of human life and the wholesale destruction of highway infrastructure, housing and fields (PANA, 2008).

3.2.1.1 Local damage

At the local level, the only available data providing any detail are drawn from the 2010 post-disaster needs assessment (PDNA) report. With the support of the World Bank and UNDP, an assessment was made of damage, losses and reconstruction needs following the 2010 floods in Togo.

The report shows that the Lacs, Yoto and Bas Mono prefectures and greater Lome were the most affected areas (table 3). The damage shown concerns the destruction of housing (photo 1) and school, highway and health infrastructure.

3.2.1.2 Flood damage by sector

a) Effects of floods in the housing sector

In 2010, damage and losses in the housing sector represented an estimated US\$5,562,078.96.¹³

The lack of an operational housing strategy at the national level, considerable land speculation and the high cost of certain building materials (cement, sand, rebar) together with the small degree of development of urban maintenance and

¹³ The PDNA damage assessment in the housing sector was 2,781,039,480 CFA francs in 2010.

Table 2: **Overview of disasters in Togo**

Hazards	Before 1960	1961-1970	1971-1980	1981-1990	1991-2000	2001-2013
Droughts	1942 - 1943 All regions	1976 - 1977 All regions	1982 - 1983 All regions	1989		
Floods	From 1925 to 1992, 60 urban and rural floods recorded in Togo				2007, 2008, 2009 and 2010 Savanna, Plateaux and Maritime regions	2011 et 2013 Savanna, Plateaux and Maritime regions
Rockslides and landslides					Nearly every rainy season in the Plateaux, Central and Kara regions ;	Nearly every rainy season in the Plateaux, Central and Kara regions ;
Bush fires	Every dry season All regions	Every dry season All regions	Every dry season All regions	Every dry season All regions	Every dry season All regions	Every dry season All regions
High winds	Every year Central region.	Every year Central region.	Every year Central region.	Every year Central region.	Every year All regions.	Every year all regions.
Coastal erosion		Ongoing process	Ongoing process	Ongoing process	Ongoing process	Ongoing process
Epidemics (Cholera, meningitis)				1988	1996, 1998	2001, 2002, 2003, 2004, 2005, 2007, 2009
Pre-and post electoral sociopolitical disturbances	1956, 1958	1960, 1963, 1966		1986	1990, 1991, 1992, 1993, 1994, 1998	2005
Influxes of refugees		1960 Refugees from Benin			1993, 1994, Refugees from Ghana and Côte d'Ivoire	2010, 2012 Refugees from Ghana and Côte d'Ivoire

Source: Drawn from studies published by EM-DAT: The OFDA/CRED International Disaster Data Base, adapted.

 Table3: **Summary of damage and losses in the housing sector**

Description	Damage (US)		Losses (US)	
	Public	Private	Public	Private
LACS		275 872		479 848
YOTO		0		481 462
BAS MONO		221 278		351 725
GRAND LOME		4 339 440		745 286
TOTAL		4 836 590		2 058 322

Source: Survey, November, PDNA, 2010

sanitation system infrastructure made this sector very vulnerable to floods. The PDNA shows that 35,578 houses were flooded, 3,832 damaged and 1,330 destroyed. In 2010 in some areas, because of flooding, people were living in water on a daily basis for more than seven months, while others had

preferred to abandon their homes. Wide-diameter wells can no longer be used. Sanitary facilities such as showers, WCs (pit toilets and septic tanks) and cesspools were no longer operational.¹⁴

¹⁴ PDNA, 2010, p. 12

Photo 1: **Flooded house in Lome/Be District**



Source: PDNA, 2010.

Photo 2: **Damaged rural housing in Aklakou**



Source: PDNA, 2010.

Photo 3: **Mud and straw huts destroyed in Tokpli**



Source: PDNA, 2010.

b) Effects of floods in the health sector

The consequences of the 2010 floods in the health sector consisted essentially in the destruction of two buildings, one in the clinic in the village of Akladjenou and the other in Aveve. Stagnant water in certain sanitation facilities such as those of Adakpame and Baguida became breeding grounds for vectors of waterborne diseases. Damage in the health sector was assessed at US\$177,000 and losses at US\$1,650,785.

c) Effects of floods in the agricultural sector

The 2010 floods resulted in damage and losses for farmers at every stage (sowing, heading, harvesting, etc.); livestock and their habitat were affected together with food stocks. These same floods, although they had a lesser impact in the northern

Photo 4: **Water lying stagnant in Baguida for more than seven months**



Source: PDNA, 2010.



Source: PDNA, 2010.

part of the country, were the cause, in the areas considered, of the destruction of 4,737.79 ha of maize fields affecting 16,179 producers. In the Lacs region, the agricultural sector was hard hit. Over a total surface area of 1,445 ha farmed, flooding affected 1,085 ha according to local agriculture officials, or 75 per cent of the fields. The hardest-hit crops were: maize, cassava, market garden crops (vegetables) and palm groves. In all, 9,195 producers out of 12,261 were victims of the floods, which also affected stock breeding, in particular poultry, sheep, goats, pigs and even fish ponds.

In Yoto, the fields farmed by 34 villages were flooded over a surface area of 1,496 ha, belonging to 2,071 producers. Harvests from the main crops (maize, cassava, cowpea) expected for the second agricultural season were completely wiped out. In the cotton fields, an area of 170 ha out of 186 ha was flooded and this impacted 2010-2011 cotton production. Total losses were evaluated at US\$12,829. In the stock breeding subsector, 95 animals were carried away. The estimated cost of the totally destroyed pens was US\$240.

In Bas-Mono, 8.5 ha of fish ponds were destroyed, 1,085 ha of a total of 1,445 ha of crop-growing fields were flooded, and stock breeding installations for 414 small ruminants and 1,218 poultry hens disappeared.

The floods that developed in the Golfe prefecture harmed agricultural activities by significantly damaging standing crops and animal habitats and carrying away livestock. The ensuing drop in production was reflected in short supply and spiralling costs of food products. The maize fields distributed through 20 villages were affected by the floods. In all, in the Golfe prefecture 151 ha of maize were destroyed, representing 2.16 per cent of the flooded area (6,930 ha) in the region. Losses due to the destruction of maize crops were estimated at US\$90,090. The effects of those losses were felt right up to the following harvests in July and August 2011 in terms of food availability and security, and also in terms of vulnerability (farmers affected). The flood damage was recorded in respect of stores, animal pens and market garden irrigation systems.

The damage relating to stores and animal pens amounted to US\$12,655.60 and that relating to irrigation systems to US\$3,000. The main crops (maize, cassava, cowpea) for the second agricultural season were completely lost terms of the surface area affected. The estimated cost of crop and ani-

mal loss was US\$1,598,591.88. Total damage in the agricultural sector amounted to US\$1,614,247.48.

d) Effects of floods in the drinking water supply and sanitation sector

Photo 5: **Maize field destroyed in 2010**



Source: PDNA, 2010.

The people most at risk are those who have chosen to settle in major river beds and swamp areas, making them far more vulnerable to overflow. Drinking water supply and sanitation infrastructure is inadequate. Open air defecation increases the risk of pollution of drinking water supply systems, thus exposing these people to hydro-faecal diseases. In the city of Lome, because of unsound sanitation practices, domestic wastewater pollutes the groundwater and plastic waste prevents infiltration. Proper water flow is impeded by solid waste discharged into community wastewater facilities. The uncontrolled occupancy of the depressions and major bed of the Zio River is a factor that accentuates flood problems (PDNA, 2010). Drinking water supply and sanitation facilities are highly affected by floods due to the submersion of traditional water sources (wells, boreholes, oxbow lakes and pools) and traditional excreta storage pits. The damage recorded mainly concerns the following facilities: wells equipped with manually-operated pumps in Lome, wide-diameter wells, cesspools, public latrines, household latrines, septic tanks, pit toilets and cisterns with side spigots (table 4).

The cost of the damage amounts to US\$234,715.24, including US\$53,400 for the public sector and US\$181,315.24 for the private sector (PDNA, 2010). Most of the damage done to these facilities was so extensive as to utterly destroy them. Losses are due mainly to:

Table 4: **Damaged facilities**

Facility	Number
Well equipped with a manually-operated pump in Lome	01
Wide-diameter well	38
Cesspools	06
Public latrines	07
Household latrines	86
Septic tanks	11
Pit toilets	02
Cistern with side spigots	01

Source: PDNA, 2010, adapted.

- Destruction of water supply facilities in the flood victims' camp at Tokpli;
- Destruction of the solid waste collection system in the city of Lome;
- Demolition and rubble clearance;
- Structural consolidation costs.

The total amount of damage was evaluated at US\$234,715.24 and losses at US\$753,033.63 in the water and sanitation sector, as set out in the summary table above.

e) **Effects of floods in the transport sector**

The heavy rainfall recorded between June and October 2010 throughout the territory inflicted significant damage on highway infrastructure and facilities and on stations. Because of a lack of hydraulic lines, run-off water invaded streets and paths harming highway infrastructure and, in places, carrying away entire structures.

In Lome, damage assessment was conducted over 1,394 km of roadway. Over the initial linear roadway system, the damage is summarized in table 5.

Table 5: **Roadway damage in the wake of the 2010 floods**

Category of road	Portion damaged
Laterite road 178 Km	3.5 km damaged
Earth road 1092 km	73.5 km damaged
Asphalt road 91 km	11.02 km damaged
Paved roads 33 km	1.5 km damaged

Source: PDNA, 2010, adapted.

Other effects of floods included the development of potholes and gulying of the carriageway in places (critical points) on national highway No. 2 at the harbour roundabout, Baguida and Avepozo, partial destruction at Todman and marked deterioration of national highway No. 5. In terms of highway infrastructure, damage consisted essentially in the collapse of drainage, sanitation and crossing structures and the destruction of access ramps. River overflow flooded roads in places, partially or totally cutting off traffic lanes and leading to the isolation of some areas. In all, damage in the transport sector was evaluated at US\$15,420,000.

During the 2007-2011 period, the overall situation in terms of damage incurred is summarized in table 6 below.

3.2.1.3 **Environmental damage caused by flooding**

Hundreds of hectares of forest, including gallery forest and savannahs and thousands of wild animals were among the victims of floods. According to the MERF Directorate of Wildlife and Hunting, nearly 50 per cent of classified forests in northern and southern Togodo and more than 40 per cent of the Oti-Keran Park were affected by the floods.¹⁵ The floods disturbed animal habitats and the reproduction cycle of certain reptiles.

¹⁵ No formal assessment has been made.

Table 6: **Aggregate damage from the 2007-2010 floods**

Year	Population affected	Deaths	Injured	Material damage	Crop area devastated
2007	231 147 victims	42			
2008	80 000 victims 4853 households	-			
2009	45 312 victims 213 households	12	18	-	-
2010	82 767	21	85	3 947 houses flooded, 7 320 houses fallen in, 194 houses with damaged roofs, 921 houses abandoned	7 744,24 hectares

Source: Directorate of Disaster Management/MASSN

3.2.2 Damage linked to bush fires

The phenomenon of bush fires is frequent, particularly in the Savannah and Kara regions, but the entire country could be affected by “traditional” slash-and-burn practices.¹⁶

Togolese farming practices have always involved seasonal land burning. Like elsewhere in the world, nearly all the fires are started on purpose.

The country does not have operational fire-fighting facilities on the ground owing to the inadequacy of the logistic support for fire brigades in the provinces. Community fire brigades exist but they also lack resources.

Nearly every year, bush fires affect natural resources (table 7), protected areas, plantations, crops, harvests and housing, and even human lives (table 8).

Table 7: **Surface area affected by bush fires from 2010 to 2012 in Togo**

Region	Surface area burnt (in Km ²)		
	2010	2011	2012
Savannah	3139	3556	621
Kara	1994	2441	1285,49
Central	705	849	535,56
Plateaux	509	494	267,77
Maritime	774	563	80,27
TOTAL	9131	9914	4802,09

Source: SIRM project satellite data, 2013

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Table 8: **Property and persons affected by bush fires in 2010 to 2012 in Togo**

Categories	2011	2012
Dwellings/Houses	24	84
Persons	143	524

Source: Directorate of Disaster Management/MASSN

3.2.3 Damage linked to drought episodes

Drought is a recurrent phenomenon in West Africa and affected the region almost uninterruptedly for nearly 30 years until the early 2000s, but since 2007, there has been a succession of three very rainy years.

In addition to floods, Togo experienced three major droughts, bringing a drop in agricultural production and famine in 1942-1943, 1976-1977 and 1982-1983. This phenomenon is mainly confined to the Savannah, Kara and Maritime regions and to the eastern part of the Plateaux region.¹⁷ It is characterized by a gradual rise in the ambient temperature, lower rainfall, a decrease in the number of rainy days and a decrease in the rainfall: potential evapotransformation ratio (R: PET).

The socioeconomic and cultural impacts are as follows:

- Lower agricultural yields;
- Death of livestock;

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- Drying up of water bodies;
- Lower income;
- Stronger rural exodus;
- Increased famine;
- Resurgence of diseases;
- Change in eating habits, etc.

The impact on agricultural production is reflected in the following statistical data;

- Cereal (maize) production was 94,520 tonnes in 1976, as against 135,090 tonnes in 1975 and 123,731 tonnes in 1977 (DSID, 2013),
- Cereal (maize) production was 144,663 tonnes in 1983, as against 150,929 tonnes in 1982 and 221,776 tonnes in 1984 (DSID, 2013).

3.2.4 Damage linked to high winds and tornadoes

The phenomenon of high winds which was specific to the northern regions of Togo has become widespread over all the national territory in the past few years. This phenomenon, which was seasonal, linked to the harmattan, is more common in the rainy season when rainfall is preceded or accompanied by high winds.¹⁸ In terms of impact, it disturbs people's lives, destroys certain crops, blocks roads through fallen trees and destroys the roofs of houses (table 8) and school buildings (table 9).

Table 9: **Property and persons affected by high winds and tornadoes in 2010 to 2012 in Togo**

Categories	2010	2011	2012
Dwellings/houses	-	89	17124
Persons	61	1778	5467

Source: Directorate of Disaster Management/MASSN

Environmental impacts consist mainly in the destruction of wildlife habitat.

Table10: **Aggregate damage from high winds and tornadoes from 2010 to 2012**

Region	School buildings affectés
Maritime	21
Plateaux	12
Central	18
Kara	29
Savannah	18

Source: Regional education directorate surveys, 2013

3.2.5 Damage linked to the phenomenon of coastal erosion

The phenomenon of coastal erosion has contributed to coastline regression. Since 1967, the coastline has receded by nearly 250 m in the immediate area east of the port. Elsewhere, at PK20 (Kpogan) and PK30 (Gbodjome), erosion is significant (10 m regression yearly). As a result, the Lome-Aneho coastal road has twice been destroyed. Hotel Tropicana, the phosphate wharf and the Kpeme phosphate plant have been hard hit, as has the church in the town of Aneho.

Table 11: **Losses of property and infrastructure in 2001 to 2013**

Property	Number/length/surface area
Dry land	220ha of 40km of coast
Highway infrastructure	National route N° 2 over 3km
Houses	Several
Factory/Industry	0
Hotel/restaurant/bar	7
Coconut tree plantations	9
Crops (market garden, food crops)	Several
Other plantations	-

Source: Surveys at Directorate of the Environment/MERF, 2013.

In addition, 50 persons were directly affected in 2012 and 63 persons are currently being moved to another area (Directorate of the Environment, 2013).

¹⁸ Second national communication on climate change, Togo, 2010.

4. Main natural disaster risk reduction policies and strategies in Togo

4.1 Overview of disaster risk in Togo

In 2010, a **“Needs assessment for the development of an early warning system in Togo”** was undertaken with the support of UNDP. This study served to identify the main hazards and to gauge the likelihood of their occurring at the national level. The hazards and their effects are summarized in table 12.

4.2 Institutional measures to reduce natural disaster risks in Togo

The multisectoral, crosscutting, decentralized character of disaster risk reduction calls for a strategy model involving numerous institutions in the country and a variety of donors. An integrated, coherent action-oriented approach is favoured for the harmonious and co-ordinated implementation of activities.

Table 12: **Summary of hazards in Togo**

N°	Type of hazard	Effects/Existence
1	Flooding due to rise of the alluvial groundwater or water table	Filling of surface aquifers or alluvial groundwater table during prolonged rainfall; the repetition of very rainy seasons replenishes the water table and causes water to rise to the surface.
2	Landslides and rockslides	The common phenomenon of mountainside deforestation due to agropastoral practices is the main cause of landslides. Collapsing rock masses and rockslides have also been seen in recent years.
3	Coastal erosion and marine submersion	The loss of several metres of coast over the past several decades leading to a loss of habitable area for the local people, the destruction of coastal roads and the dangerous narrowing of the barrier beach which may in the short term endanger the coastal highway.
4	Bush fires and forest fires	Slash-and-burn farming practised by most farmers in Togo, together with the search for new farming land and hunting are the causes of bush fires. Lightning bolts may also be a source of fires.
5	Drought/water stress	This is characterized by a gradual rise in the ambient temperature, lower rainfall, a decrease in the number of rainy days and a decrease in the rainfall: potential evapotransformation ratio. Environmental impacts are mainly land degradation and biodiversity loss.
6	Storms and strong winds	This phenomenon disturbs the lives of the people in the north of the country. In recent years, the phenomenon has become more widespread throughout the country.
7	Earthquakes	Considered an insignificant risk in Togo. Cannot be addressed by early warning.
8	Volcanic activity	Non-existent risk in Togo.
9	Epidemics	Cholera and other diseases and outbreaks of malaria are clearly associated with the aftermath of flood events and stretches of stagnant water which are a public health risk and lend themselves to vector proliferation.
10	Grasshoppers and insects	Not mentioned as a major hazard in official documents setting out priorities for the country.
11	Pollution	Industrial activities, agricultural activities, hydrocarbon emissions from vehicles, domestic waste and bush fires contribute to environmental pollution through the various substances and particles discharged.
12	Salinization	Salinization is observed in freshwater on the Togolese coast, in lagoons and groundwater.
13	Silting of rivers	This phenomenon is widespread throughout the territory because of agricultural activities developed all the way into river beds. The destruction of gallery forests and plant cover alongside rivers increases run-off and particle transport (e.g. sand) into rivers and lakes.

Source: 2012 SNRRC, adapted.

Such was the reasoning behind MERF order No. 012 of 17 April 2007 establishing the national co-ordination platform for natural disaster risk reduction. The national platform is designed to steer, monitor and comprehensively assess the implementation of the strategy, which is conducted at two institutional levels to meet intersectoral and sectoral needs.

The function of the national platform is to frame national disaster risk reduction policy and to integrate it into development policies, plans, programmes and projects.

It is accordingly required to:

- Define the main lines of risk and natural disaster reduction policy in accordance with the Hyogo Framework for Action;
- Ensure the formulation, implementation and monitoring of the national strategy for the reduction of risks and natural disasters;
- Facilitate collaboration and synergy among key stakeholders in the ministries involved, disaster management agencies, academics, civil society, local communities and other sectors associated with risk and natural disaster reduction;
- Maintain a permanent dialogue to ensure the successful implementation of crosscutting strategic measures within the framework of risk and natural disaster reduction;
- Engage in advocacy with national and international partners to mobilize resources and support for risk and natural disaster reduction;
- Adopt Hyogo Framework for Action implementation reports.

The national platform is a coordination framework in which public and private sector actors and civil society organizations are represented.

The national platform is provided with a technical secretariat which has permanent responsibility for managing the national platform.

4.3 Critical analysis of reference documents on natural disaster risk reduction in Togo

The reference documents used for the purposes of this study were the following:

- a) The national strategy for natural disaster risk reduction, 2013-2017;
- b) The second national report on the implementation of the Hyogo Framework for Action, 2010-2012;
- c) Assessment of damage, losses and post-disaster reconstruction needs following the 2010 floods in Togo;
- d) Needs assessment for the implementation of the early warning system, 2010;
- e) Study of climate trends and associated risks in Togo;
- f) The integrated disaster and land management project (PGICT);
- g) Second national communication on climate change, 2012;
- h) National strategy for accelerated growth and the promotion of employment, 2013-2017.

a) National strategy for natural disaster risk reduction, 2013-2017

In the wake of floods that have become recurrent at the national level and in line with the international approach to disaster risk reduction, Togo initiated a national capacity-building process through the establishment of a national platform and the formulation of a national disaster risk reduction strategy in 2009.

In the light of shortcomings noted in the implementation of the 2009 national strategy for disaster risk reduction and having regard to newly available national reference documents, in 2012 Togo proceeded to update the national disaster risk reduction strategy document with the support of the West African Economic and Monetary Union and the European Union.

The diagnosis made during the preparation of the new strategy document revealed strengths and weaknesses in the matter of risk reduction in Togo.

Strong points:

- Political engagement through:
 - i) Coordination of the challenge of disaster risk reduction with national benchmarks for job growth and promotion;
 - ii) Adoption of a national disaster risk reduction platform by administrative order and eventually by presidential decree;
 - iii) Integration of disaster risk reduction into the environmental framework Act of 30 May 2008;
- A commitment by technical and financial partners to support the State's efforts.

Weak points calling for improvement:

- Weakness in the coordination system: similarity of roles and responsibilities of the various institutions involved in disaster risk reduction;
- Inadequacy of material and human resources and lack of technical capacity at the level of institutions with responsibility for emergency action;
- Weakness of the information system (vulnerability analysis, unified rapid assessment grid, post-disaster assessment, risk mapping not yet systematized, national early warning system not yet established);
- Difficulties in implementing decentralization policy;

- Weak coordination in the development partner community;
- Limited access to international financing mechanisms for disaster risk reduction, particularly preventive aspects;
- Weak mobilization of financial resources: at State level (lack of an emergency fund) and at the level of non-State actors;
- Small involvement of communities and civil society in disaster risk reduction;
- Lack of implementation of the national master plan and regional master plans for land management;
- Lack of mapping of areas at risk at the national level;
- Inadequacy of sanitation infrastructure;
- Low protection of fragile ecosystems (river banks, mountain sides, coasts);
- Low implementation of legal texts on housing and land tenure.

To give renewed momentum to the efforts of the Government and concerned stakeholders, the updated disaster risk reduction strategy document sets the goal of enhancing the disaster resilience of Togo and its local authorities by 2017 and offering the population acceptable and safe living conditions. In keeping with this goal, it proposes strategic action along the following lines:

- Improving the political, legal, regulatory and institutional framework of disaster risk reduction;
- Enhancing the technical, material and financial capacity of institutions and stakeholders for disaster risk reduction;
- Improving the disaster risk reduction information system;
- Reducing the underlying risks of disaster prevention and management;
- Enhancing disaster preparedness.

This new strategy document, prepared with the strong involvement of all those concerned, was also approved by the technical and financial partners who placed a total amount of US\$16,947,408 at the disposal of Togo for the implementation of action proposed under the integrated disaster and land management project (PGICT).

b) *Second national report on the implementation of the Hyogo Framework for Action, 2010-2012*

It emerges from the second national report on the implementation of the Hyogo Framework for Action in Togo that recorded rainfall in the 2010-2012 seasons was heavy and of short duration, causing large-scale flooding in rural and urban areas. The floods resulted in deaths and material damage in respect particularly of the highway, electricity, and drinking water supply systems, housing and drainage channels, health-care centres, school and university buildings, shopping centres, fields and crops, industrial production units, administrative and private services, etc.

Following the emergency situations triggered by these floods throughout the country, food prices and the cost of living soared and the pace of socioeconomic life slowed down because of problems of urban and interurban traffic, communication, housing, risks of contamination, sanitation, drinking water, etc.

The report on the Hyogo Framework for Action was able to show how Togo put the Framework for Action into effect through development activities over the period 2010-2012.

The 2010-2012 report also highlights the emergency action taken by the various national and international actors over the period.

c) *Mapping of areas at risk*

Official maps for disaster risk prevention show: (i) risks of bush fires and (ii) flood risks in only two administrative regions: the Maritime region and the Savannah region.

Scientific information on the intensity of the phenomenon of flooding, as noted in the UNDP report in 2008, is not easily obtained. The report shows that, in July 2008, there was in one month between two and three times the usual annual amount of rainfall in some areas.

One NGO operating at the national level, the Togolese Red Cross, undertook for the communities a simplified mapping exercise covering several risks: floods, bush fires, high winds, drought, rockslides, etc.

Flood-risk maps of the two regions remain tentative and not sufficiently accurate, particularly in regard to hazard representation. They do not offer a means of truly identifying flood-prone areas that can be used by those concerned with early warning and crisis management or for land-use planning.

In addition, the map established by the Togolese Red Cross, although it covers several hazards and has the advantage of being easily used and understood by those living in flood-prone areas, has no practical value outside this community context. It cannot be integrated into a flood-risk information system (UNDP, 2010).¹⁹ Consequently, this map is not a suitable tool for the effective management of the hazards identified.

¹⁹ Needs assessment for the development of an early warning system in Togo – Diagnostic report and recommendations, p. 27.

Figure 2: Areas vulnerable to bush fires

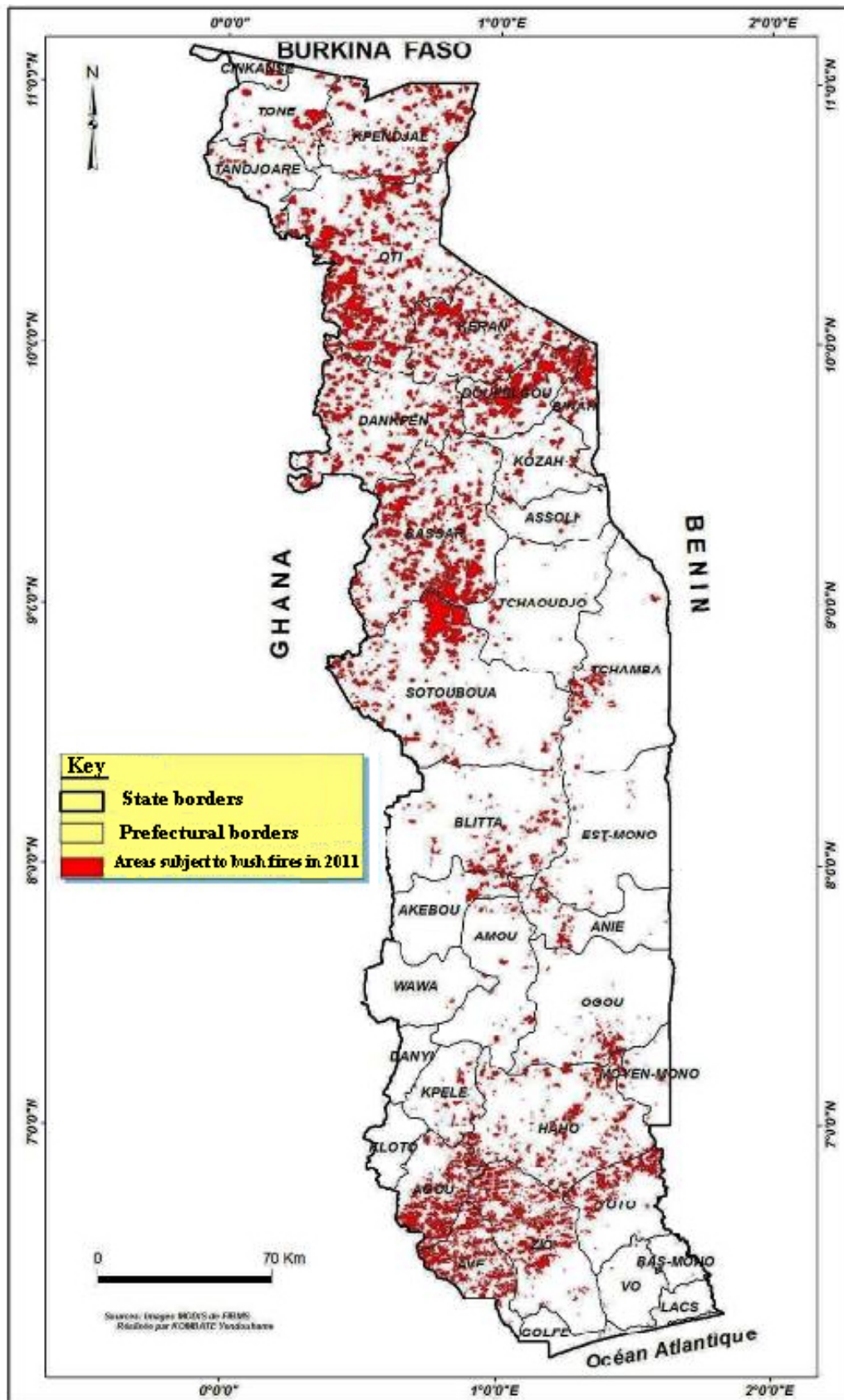
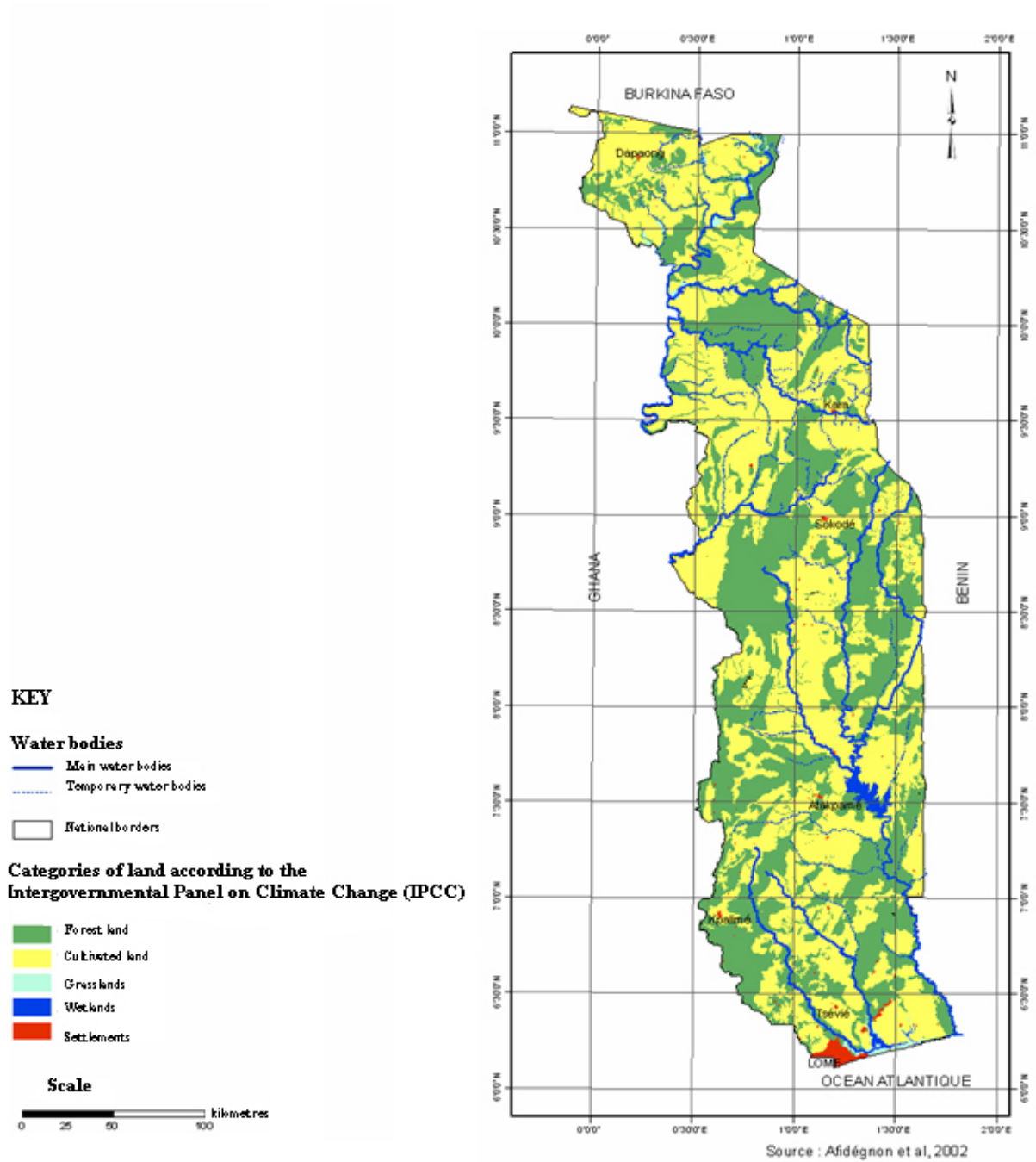


Figure 3: Forest Land (DCN, 2011)



Source: Survey, identification and mapping of areas at risk in Togo: flood risk in the Maritime region and the Savannah region, May 2009, Disaster Risk Reduction Technical Secretariat –MERF

Figure 4: Map of flood-prone areas in the Maritime region

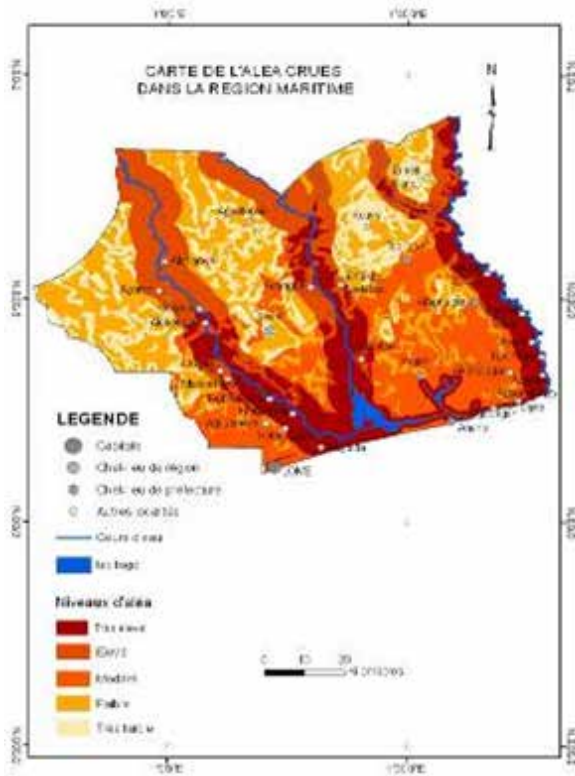
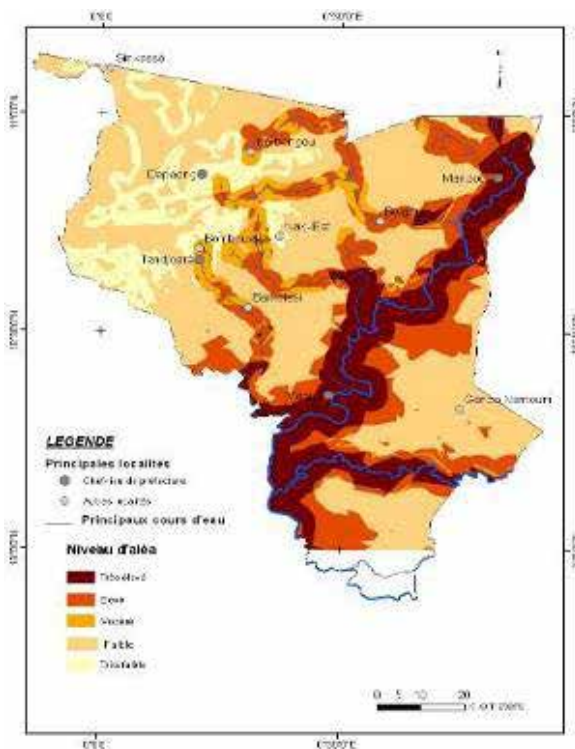
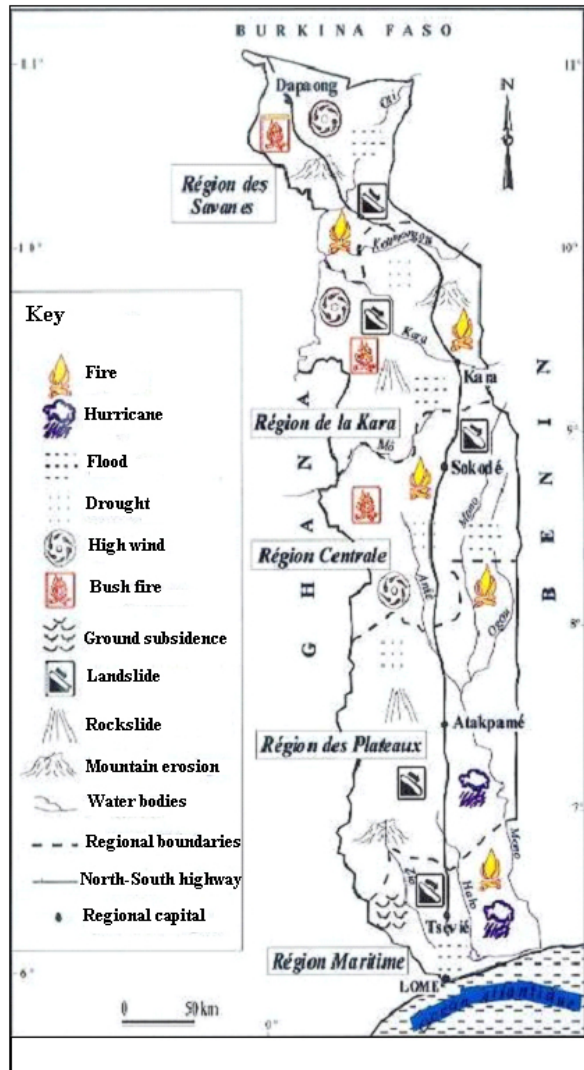


Figure 5: Map of flood-prone areas in the Savannah region



Source: Survey, identification and mapping of areas at risk in Togo: flood risk in the Maritime region and the Savannah region, May 2009, Disaster Risk Reduction Technical Secretariat –MERF

Figure 6: Map of natural hazard distribution over the territory of Togo



Source: Togolese Red Cross

a) Needs assessment for the implementation of the early warning system

The needs assessment for the implementation of the national early warning system was carried out in 2010. The survey of the preparedness of Togo in the four major areas on which an early warning system needs to be based reveals a lack of preparedness in respect of several key factors for the development of such a system. These four factors are:

- i) Knowledge of the risk
- ii) Monitoring and warning service
- iii) Dissemination and communication, and
- iv) Response capacity.

So far as is currently known, flood hazard is the main threat for Togo. Not enough is known about other hazards, apart from coastal erosion, which is a slow-moving phenomenon that has been ongoing for several decades.

At the institutional level, regulatory instruments and bodies have been established but, because of a lack of technical and human resources, it is not currently possible to make full use of such tools as the national contingency plan and the ORSEC plan. National hydrometeorological measurement and monitoring systems are not as yet sufficiently operational to allow effective real-time monitoring of rainfall and water bodies or hydro-meteorological forecasting commensurate with the dangers faced.

The national meteorological service does not yet have the capacity to forecast rainfall events.

To date, only the Togolese Red Cross has developed a community warning system that was able to be used during the 2009 floods. The Electricity Community of Benin (CEB)²⁰ has also developed an early warning mechanism for those living downstream from the Nangbeto dam in the event of water releases. The Oti river is controlled upstream from Togo by a dam located in Burkina Faso. An international partnership needs to be established to ensure that the Togolese authorities are duly informed about water releases from this dam.

In the light of the diagnosis, it is proposed that a warning unit be developed using existing elements and based on:

- The collection of meteorological data (satellite forecasts and rainfall monitoring) from international monitoring services (the Tropical Rainfall Measuring Mission in particular);
- Interpretation of forecasting data by the Directorate of National Meteorology (DGMN) and the Directorate of Water Resources (DRE),²¹ responsible for hydro-metric monitoring, working in tandem;
- Data of international origin, which will be supplemented by data from the monitoring systems already set up and from new hydrometric monitoring stations over the Oti river basin;
- Monitoring and warning messages prepared on the basis of these forecasts and the legacy of the community monitoring network of the Togolese Red Cross, whose maintenance needs to be ensured by the State;
- A monitoring and warning scale combined with behaviour pattern messages;
- The national platform for risk and disaster reduction (PNRRC), which must assume the task of centralizing and redistributing to the Lome and provincial State services the messages produced by the DGMN/DRE tandem, which must also transmit messages directly to media outlets for country-wide dissemination.

Because of difficulties of mobilizing the necessary financial resources, the early warning system is not yet operational at the national level. Only the community early warning service developed by the Togolese Red Cross is in operation in certain areas (100 villages). In addition, the needs assessment has to be updated.

²⁰ An intergovernmental organization set up by Benin and Togo whose functions include: (i) producing and managing electricity in Benin and Togo; (ii) putting in place and operating in accordance with the rules applied by industrial and commercial companies electric energy production facilities for the needs of the two States; putting in place and operating in accordance with the rules applied by industrial and commercial companies electric energy transport facilities throughout the territories of the two States as the exclusive carrier. In addition, it benefits from single purchaser privileges for the purposes of the two States.

²¹ Formerly the Directorate of Water Resources Planning and Management (DPGRE).

b) Study of climate trends and associated risks in Togo

The 2010 study of changing climate trends in Togo shows that, like every other region of the world, Togo is also a victim of global warming. The study helps to identify the risks associated with climate phenomena.

The examination in 2010 of former rainfall trends in comparison with the latest data in eight stations in Togo reveals two relatively homogenous major rainfall distribution areas on either side of the eighth parallel.

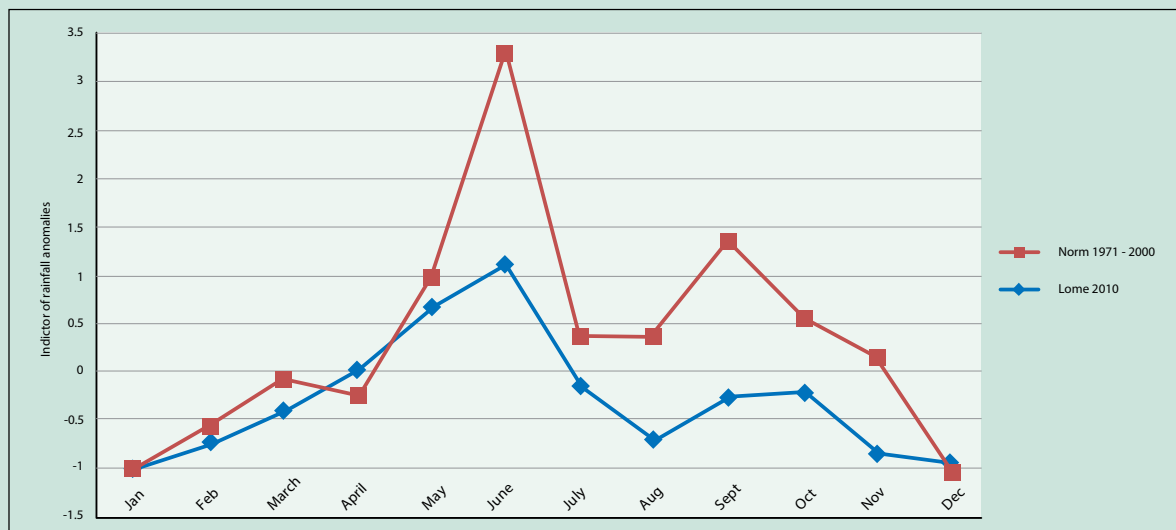
In the south, the Lome, Tabligbo, Kouma Konda and Atakpame stations show generally similar rainfall distribution. Rainfall patterns over the past decade show that, over the two regularly recurring rainy

seasons, maximum rainfall still corresponds to the normal months, June and July for the main rainy season, and September-October, sometimes July-August, for the lesser rainy season. Minimum rainfall is recorded in August, July or even June and sometimes September for the main season; for the lesser season, November, December, October, August and September sometimes. Exceptional peaks, that is to say anomalies, occur from time to time.

The months in which they appear, in the main season, are April, March and February; in the secondary season, July (once). The ensuing troughs occur in April, March, May, August and November. Late peaks, in other words those occurring after the secondary season, develop in November, September and October. The corresponding late troughs occur in December.

Box 1: Rainfall norms and anomalies in the Maritime region

Graph 1: **Lome station**



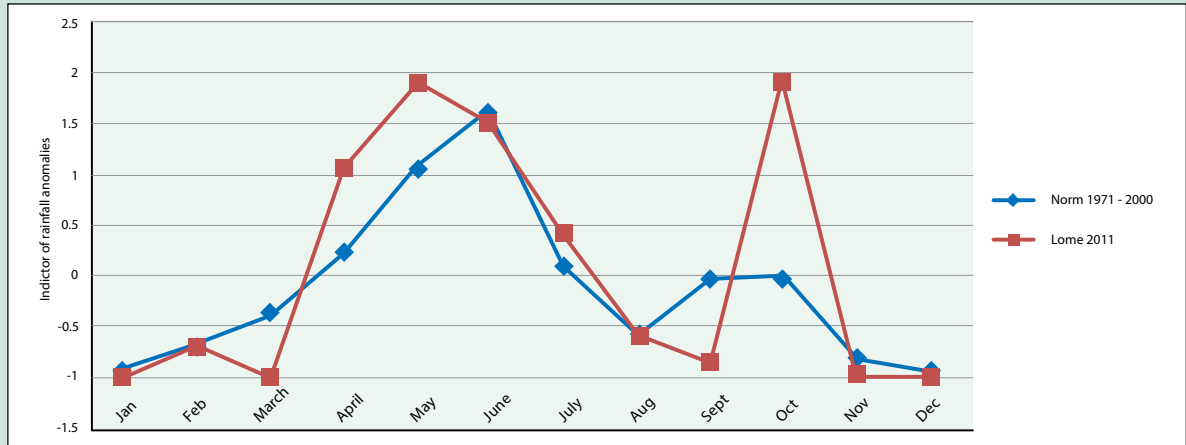
Source: Constructed on the basis of DGMN data

In 2010, an upper threshold is seen in June, far higher than the normal, followed by a secondary threshold in September lower than the first. The typical August trough appears but, contrary to the norm, the month is not dry.

Rainfall for 2010 is thus seen to be higher than normal. It is particularly higher from May to November.

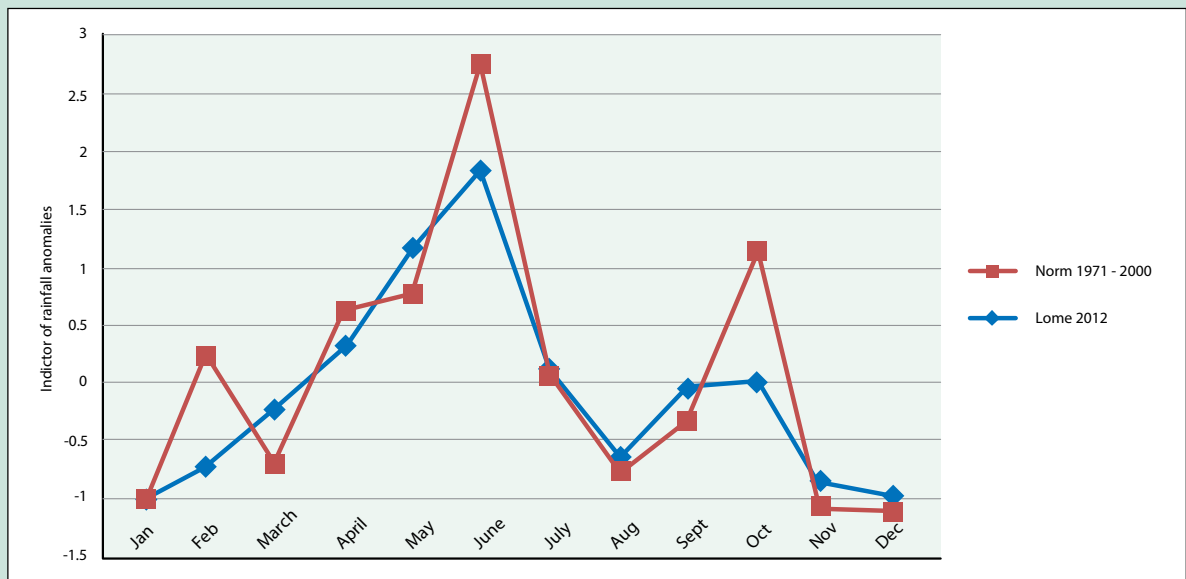
Box 1: Rainfall norms and anomalies in the Maritime region

Graph 1: **Lome station**



Source: Constructed on the basis of DGMN data

In 2011, unlike 2010, two similar upper thresholds appear in May and October. October is much rainier than normal. Two dry troughs appear in March and September and are lower than normal.



Source: Constructed on the basis of DGMN data

In 2012, the traditional June peak remains but is far higher than normal. A second peak is also seen in October, lower than the first but higher than normal. March and August show the two dry troughs. However, February, which is usually dry, shows some rainfall.

North of the eighth parallel, there is a single rainy season of longer duration (five to six months). The highest values are around September, July and August. The ensuing minima are around November, December, October and August. Early exceptional peaks in that area generally appear in

April, or in March, May, July, June, or in February. The corresponding troughs occur in March, April, May, June, July and August. Late peaks also appear in September, October and November, with associated late troughs in October, November and December.

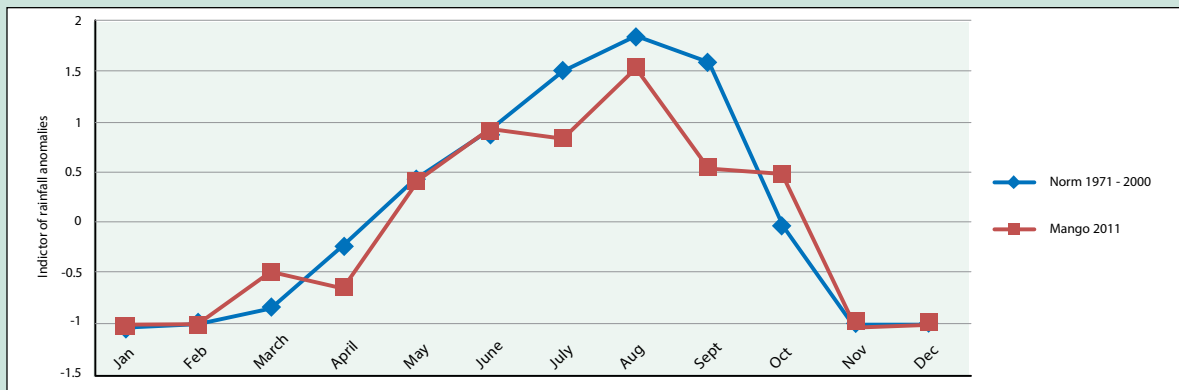
Box 2: Rainfall norms and anomalies in the Savannah region

Graph 2: **Mango station**



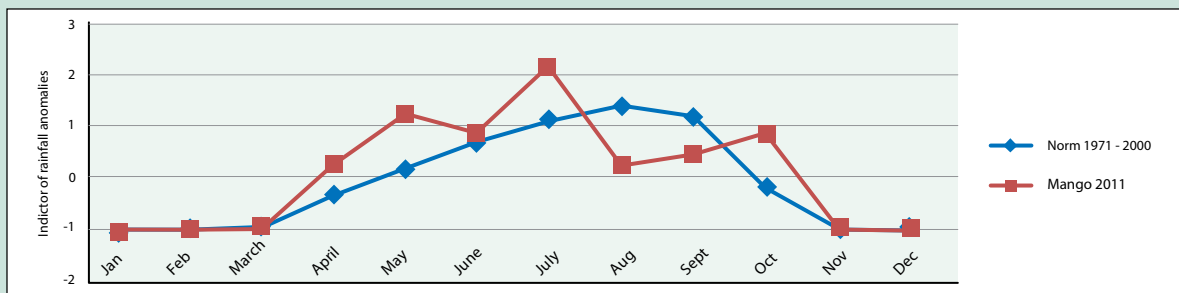
Source: Constructed on the basis of DGMN data

In 2010, the upper threshold appeared in September. Rainfall for 2010 follows the normal trend.



Source: Constructed on the basis of DGMN data

In 2011, the highest peak was attained in August but was lower than normal. Similarly, July and September show lower values than normal.



Source: Constructed on the basis of DGMN data

In 2012, the upper threshold appears in July. Two troughs are noted: the first in June higher than normal, the second in August, lower than normal. Rainfall from April to July and October is higher than normal.

The graphs above supplement the information contained in the study "Towards the development of a weather and climate forecasting mechanism in Togo: the new climate trends", conducted in 2010 by the United Nations Development Programme (UNDP) and the Ministry of the Environment and Forest Resources (MERF). The main findings of the study show that rainfall patterns over these different periods, although the periods are of varying lengths and sometimes overlap (Kara), reflect the major rainfall trends overall. Comparison of the norms from one graph to another accordingly allows them to be discovered more rapidly. However, the advantage of this method is that it makes it easier to systematically identify the anomalies emerging from behind these general trends. It allows these anomalies to be detected as soon as they appear and to integrate them at an early stage into weather and climate forecasting analyses whenever useful, particularly for the purposes of early warning, including for the adjustment of agricultural calendars. Climate patterns are still so to speak in line with traditional norms in spite of disruptions and disturbances linked to global warming. Climate projection scenarios indicate that if nothing is done about the causes of global warming, it is likely to become more pronounced.²²

Rising temperatures could lead to greater disruption of the climate, with all the ensuing disturbances. Early or late peaks could persist and further unsettle people's activities. Climate-related disasters could become increasingly violent and leave more and more victims.

Such developments could have increasingly harmful effects on areas subject to the risks of climate-related disasters. In particular, the disturbance of rainfall distribution and the concentration of rainwater, even if its quantity decreases,

over short seasonal periods exacerbate the risks of climate-related disasters to which particular areas, human settlements and communities are exposed.²³

The risks related to climate phenomena that have been identified in Togo are as follows:

1. **Flood risks:** Torrential rain inevitably causes flooding when the natural configuration of the relief and the shaping of rural or urban habitat do not lend themselves to effective water drainage;
2. **Rockslides:** Rockslides are caused by the fragmented and disaggregated state of rocky outcrops in mountain areas following erosion and disintegration under the effect of rainwater and other eroding agents;
3. **Mudslides:** These occur inevitably in the presence of soft rocky material or an alternation of hard and soft rock;
4. **Dust emissions:** Passing winds sweep away dust particles (solid aerosols) released by various sources of local emission, which may be terrain subject to wind erosion or polluting industries, or by remote sources such as the north-east trade winds (harmattan);
5. **High winds:** These take the form of hurricanes or storms which may knock down trees and flimsily built houses;
6. **Rise of sea level:** This is due to the higher temperature of sea water with the risk of submergence of coastal regions and increasingly violent rain and floods;
7. **Droughts:** These occur inevitably when there is largely insufficient rainfall at times of intense sunshine, evapotranspiration and evaporation.

²² Vers le développement d'un dispositif de prévision du temps et du climat au Togo: les nouvelles tendances climatiques, UNDP/MERF, p.189.

²³ In terms of the approach adopted, real climate risks were defined on the basis both of old data and of data on current climate trends. Irrespective of their geographical location, the various types of relief react physically in the same way, in accordance with the same laws, to climate phenomena.

The 2012 second national communication on climate change spells out expected climate trends up to 2025, 2050 and 2100.

Up to 2025, variations in temperature and annual rainfall were compared with the variations noted from 1971 to 2000. Studies of scenarios show that climate change will already be perceptible by 2025, in terms of both temperature and rainfall. There will be a 1 per cent variation in rainfall in the north from 11° N to -1.5 per cent at latitude 5° N in the south of the country. There will be a slight increase in rainfall in the Savannah region, while in other regions (Maritime, Plateaux, Central and Kara) there will be a decrease (0 to -1.5 per cent). Mean annual temperature will show a variation of 0.66°C in the south of the country to 0.80°C in the far north. On average, high temperatures will be recorded in the Savannah region in April (32.6°C).

Up to 2050, the scenarios show that the variations will become more significant as compared with the variations noted from 1971 to 2000. Temperature variations will range from +1.46°C in the south-west to +1.76°C in the north-east of the country, while rainfall will decrease in the south of the country (-3 per cent) and increase (+2 per cent) in the north. The highest temperatures will be seen in the Savannah region, while the biggest rainfall shortages will be recorded in the Maritime region and part of the Plateaux region. The Savannah region will receive the most rainfall.

In the 2100s, the effects of climate change will be notable throughout the country. Global warming will be felt countrywide. In comparison with the current climate, it will be very hot both in the south and in the north. There will be an 8 per cent decrease in rainfall in the south, while in the far north there will be an increase ranging from +1 per cent to +5 per cent.

c) *The national contingency plan and the regional contingency plans*

Drawing lessons from the various emergency situations experienced by Togo, particularly the 2007 and 2008 floods, and aware of the need to enhance national preparedness and response capacity, the Government of Togo annually draws up a national contingency plan under which it establishes mechanisms for decision-making, coordination, action and fund and donation management to minimize the consequences of disasters for the population.

The various contingency plans provide information about levels of risk in the country, responsibilities, available resources and their whereabouts and emergency funding sources; there are also designed to ensure synergy between ORSEC plan agents, civil society and the partner community before, during and after crises.

The general aim of contingency plans in Togo is to help disaster victims and to assist affected and vulnerable persons as swiftly and as effectively as possible without wasting time, duplication of efforts, omissions or even injustices, in accordance with universal humanitarian principles.

The specific aims of the contingency plans are to:

- Clarify relations and responsibilities between the various technical services of the State and humanitarian partners;
- Identify and reduce the most likely risks;
- Provide a general framework for joint planning covering emergency risks;
- Integrate the prevention, preparedness and response process into national development plans and programmes;
- Reduce response times and the number of losses of human life.

Accordingly, the Togo national contingency plan for 2013-2014 covers:

- i) general matters;
- ii) context and risk analysis;
- iii) disaster coordination and management (existing coordination mechanisms, flood risk management, information management mechanism, disaster response plan by sector, budget of the national contingency plan, update process for the plan).

Annexes set out the list and contact information of sectoral focal points, the list of emergency supplies, rapid assessment tools, country mapping data, assessment team profiles, the outline for the Government's consolidated report, technical data qualification and evaluation standards and a code of good conduct based on humanitarian principles.

Togo has reached the fourth edition of its national contingency plan. While it is an exhaustive national plan, it does overlook the specific features of the regions, prefectures and communes. On the basis of the national plan, each territorial community is required to draw up its own local multi-risk contingency plan for disaster preparedness and response. Regions sharing specific features can draw up joint priority plans.

In 2011 and 2012, regional multi-risk contingency plans were also prepared in each of the country's five regions.

This annual exercise offers the advantage of informing the concerned parties beforehand, sitting out an estimated budget, evaluating the capacities of the various actors and ensuring synergy between any operations that may be launched in the event of disaster. Because of financial constraints, the territorial communities are finding it difficult to draw up their respective contingency plans. It would have been wiser to draw up local, prefectural and regional contingency plans before finalization of the national plan.

d) Disaster emergency relief plan

Established by decree No. 97-227/PR of 22 October 1997,²⁴ the disaster relief plan (ORSEC) is a mechanism for coordinating relief operations set up at the national, regional, prefectural and local levels to manage emergency situations connected with any disasters that may arise in the country. This plan provides the national framework for emergency management and enables exceptional resources to be mobilized in response to a disaster. The plan has two main engines:

- The planning committees, of which there are two types: the national relief planning committee (CNPS) and the sectoral relief planning committees (CSPS), and
- The emergency management units formed by the command unit, itself composed of the fixed command post (PCF) and the operational command post (PCO). These units are supported by the following sectoral commissions: police and information, relief and rescue, medical care and mutual assistance, transport and public works, liaison and transmission, reception and shelter. These commissions operate as task forces in emergency situations. This organizational plan for relief operations applies at all levels of territorial administration (regional, prefectural and local). The ORSEC plan is periodically updated.

²⁴ Decree No. 97-227/PR of 22 October 1997 approving the ORSEC disaster relief plan for Togo.

5. Implementation of disaster risk reduction measures in Togo

5.1 Incorporation of disaster risk reduction measures in the development budget and in development plans

From 1960 to 2006, disasters occurred in Togo that significantly affected the country at the economic, social and environmental levels. Notwithstanding

bush fires throughout the territory in the dry season and the high winds that almost regularly lash certain regions of the country but with limited effects, national risk and disaster awareness grew out of the exceptional floods in 2007. Thus, following the mobilization of all stakeholders to address that situation, the Togolese Government initiated a number of important measures to take into account disaster risk reduction in budgeting and policy-making.

Table 13: **Efforts to integrate disaster risk reduction into policies, strategies, plans and programmes**

Component	Means of integration
Budgeting of disaster risk reduction measures Budgeting of disaster management at the level of ministries responsible for social action, security and the environment.	<ul style="list-style-type: none"> • Funding of the operating costs of the National Directorate of Disaster Management/MASSN and assistance measures; • Funding of the operating costs of the National Solidarity Agency and assistance to disaster victims; • Funding of the operating costs of civil protection services (fire brigades) and actions; • Funding of the operating costs of the PNRRC technical secretariat.
Integration of disaster risk reduction in policies, strategies and plans	<ul style="list-style-type: none"> • National environment policy, section 3.2.2.9. is devoted to natural disasters and technological hazards. «The Government will ensure the prevention of natural and technological disasters by: <ul style="list-style-type: none"> • building national capacity for the prevention and management of natural disasters and technological hazards; • incorporating disaster risk in development programme and project planning, design and management.» • National disaster risk prevention strategy 2013, the national strategy framework for steering natural disaster risk reduction and management measures. • Strategy for accelerated growth and employment promotion (SCAPE), crosscutting components: This document assigns priority to disaster prevention and management described as «effective disaster management». The Government accordingly undertakes to: (i) build the capacities of institutions and entities responsible for national risk reduction policy, (ii) scale up integrated disaster and land management, (iii) incorporate disaster risk reduction issues in development programmes, (iv) identify and adapt areas at risk for improved flood management and sustained coastal and environmental management». <p>The National Agricultural Investment and Food Security Programme (PNIASA), provides in its 2010-2015 investment plan, in paragraph 268, for early warning capacity building of the national risk and disaster reduction platform (weather forecasts, mapping of agro-ecological areas, disaster risks, land use, etc)». In paragraph 230 of the section «Measures of protection and support», provision is made for «Bush fire management and fire fighting».</p> <p>To address situations of water stress, provision is made for lowland management, etc.</p> <p>In the national strategy document for the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and the National Plan of Action for Climate Change Adaptation (PANA), the major climate risks identified in Togo include: floods, drought and high winds. Adaptation measures have been proposed in respect of these risks.</p>

Table 14: **State budget support for the various services and programmes**

INSTITUTIONS	2009 US dollars	2010 US dollars	2011 US dollars	2012 US dollars	2013 US dollars
Environment and forest resources					
Natural risk and disaster prevention and management programme			1 733 145,36	239 406,25	170 515,79
Integrated disaster and land management project					137 967 493,15
Social action and national solidarity					
Assistance and civil reparations	414 628,07	414628,07	-----	414628,07	414 628,07
Sheltering of refugees and internally displaced persons	10 365,70	62 194,21	82 925,61	82 925,61	-----
National Solidarity Agency	124 388,42	124 388,42	124 388,42	124 388,42	124 388,42
National Refugee Assistance Coordination	21 571,02	25 058,04	36 935,06	34 571,68	31 841,36
Directorate of Vulnerability Prevention	5 35906	8 292,56	29 880,17	34 463,88	34 436,93
Directorate of Disaster Coordination and Management	-----	59 903,39	54 366,03	63 521,02	60 324,23
Town planning and habitat					
Togo town planning project (PAUT)			2 487 768,47	9 679 758	43 536
Emergency project for the rehabilitation of electricity infrastructure and services (PURISE)			8 294 078	20 247 444	16 92 282
Lagoon area management project (PAZOL)			2 614 230		

Source: State budget (2009, 2010, 2011, 2012, 2013), Directorate of the Budget (Ministry of the Economy and Finance)

Value at 28 May 2014: US\$1 = CFAF482.36

The Government's efforts to provide budget support for preventive action have been very significant since 2011. In terms of the care of victims, the Government's efforts remain constant and indeed have improved over the past three years (table 14).

It should be noted, however, that no handbook has been prepared for the integration of disaster risk reduction into sectoral policies and strategies.

5.2 Role of United Nations bodies and development assistance projects

The United Nations Development Programme (UNDP) also provides support, not only for mo-

bilizing resources, disaster preparedness and response but also for recovery.

In their respective fields of competence, United Nations bodies support the Government's efforts: UNDP for capacity building and coordination, the World Health Organization (WHO) for national health system and vaccination coverage capacity-building, the United Nations Population Fund (UNFPA) for reproductive health and psychosocial support, the United Nations Children's Fund (UNICEF) for educational support, water, hygiene and sanitation and protection of the rights of children and women during crises, the Office of the United Nations High Commissioner for Refugees (UNHCR), the Food and Agriculture Organization (FAO) for the protection of natural and cultivated plant species, the World Food Programme (WFP)

for food security, the Office of the United Nations High Commissioner for Human Rights (OHCHR) for human rights protection, and the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) for real-time release of geospatial data in the event of disaster.

The Global Environment Facility, the Least Developed Countries Fund and the Global Facility for Disaster Reduction and Recovery also help to finance the integrated disaster and land management project (PGICT).

5.3 Main donors for disaster risk reduction

The World Bank provides support to the Government for the implementation of a disaster reduction plan in Togo. It has accordingly extended financial and technical assistance to the Government for the organization of missions to evaluate the floods of the past four years, capacity-building workshops for the central and regional focal points of the ORSEC plan, psychosocial support, through food and non-food assistance, provision of vehicles and emergency relief equipment, and funding for the integrated disaster and land management project (PGICT). With the support of the World Bank, the State was able to build in Logope, in the Golfe prefecture, a permanent facility that can provide shelter for between 1,000 and 3,000 persons.

The European Union, through its humanitarian office, ECHO, conducted an air reconnaissance and tracking mission over areas affected by the 2008 and 2010 floods and financed an anti-cholera project in the areas affected by the 2010 floods. The images produced by the mission facilitated Government intervention. It also financed the building of a fourth lake in order to reduce the impact of floods on local communities.

The United States of America assists the Togolese Government in the technical training of key personnel.

China, for its part, has provided the Government with special rescue equipment. It also rebuilt the Amakpape and Togblekope bridges and restored the Lilikope bridge.

Lastly, the TerrAfrica mechanism was instrumental in the development of the national environment and natural resources investment programme (PNIERN) and also contributed to the funding of the integrated disaster and land management project (PGICT).

5.4 Partnerships with neighbouring and other African countries, and with regional, African and international institutions

Togo maintains relations of cooperation and solidarity with bilateral and multilateral partners not only in the sphere of development but also in respect of emergency preparedness and response.

Within the framework of traditional relations of solidarity and mutual assistance in difficult situations, Togo has given notable assistance in multiple areas to African countries affected by natural disasters, food crises and civil wars. It has benefited from reciprocity in times of trial, particularly during the 2010 floods.

Regional institutions that have shown support for Togo in emergency management include the Economic Community of West African States (ECOWAS), the ECOWAS Bank of Investment and Development (EBID), the

West African Development Bank (BOAD), the African Development Bank (ADB), the Islamic Development Bank (IDB), the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS), the African Union (AU), etc.

In emergency situations, the United Nations Resident Coordinator maintains liaison between the Government and its partners and ensures the coordination of their actions and assistance projects through frequent reports. The United Nations inter-agency contingency plan is the emergency planning and management tool used by the United Nations system in collaboration with NGOs for the provision of support to the Government.

5.5 Role of NGOs and civil society organizations in disaster risk reduction

Organizations such as the Red Cross, the Charity Organization for Integral Development, Secours Catholique and the Catholic Relief Services engage in humanitarian work along-

side national bodies. Others, whether development bodies (Togo Plan, the Regional Centre for Low-cost Water Supply and Sanitation (CREPA), CARE International) or charity/religious organizations (*Mission Adventiste* or ADRA-Togo, *Église des Assemblées de Dieu*), initiate projects or undertake action to assist the populations concerned.

For example, the German Red Cross, with the help of funding from the German Government, has through its Togolese counterpart undertaken various types of charity work including two disaster preparedness projects incorporating an early warning system in 2009 and 2010 (establishment in certain regions of 100 flood level markers) and the implementation from October 2010 to September 2012 of an integrated flood victim rehabilitation project for 256 households (163 flood victim households and 93 households in the host village) in Yoto prefecture.

Several institutions contributed in various ways to the implementation of measures identified at the national and local levels for disaster risk reduction (table 15).

Table 15: **Main institutions involved and their area of action**

Institution	Area of action
PNRCC/ST	<ul style="list-style-type: none"> Formulate national disaster risk reduction policy and ensure its integration into development policies, plans, programmes and projects.
Ministry of Security and Civil Protection	<ul style="list-style-type: none"> Contribute to the development of an early warning system and raise public awareness; Ensure intersectoral coordination of relief, individual protection and property, rescue and evacuation operations; Organize simulation operations and assess needs
Ministry of National Defence	<ul style="list-style-type: none"> Provide transport and logistic support for other rescue and relief services; Provide support for public works and for the management of reception and shelter services.
Ministry of Health	<ul style="list-style-type: none"> Ensure life support and care for victims, patient selection and relief, medical transport to hospitals in collaboration with other rescue services, evacuation of bodies and certification of deaths in collaboration with police or gendarmerie services, transport of medical equipment and medical services to temporary shelters and evacuation camps; Prevent and treat epidemics, poisoning and other health consequences of the disaster; Provide a health care service at victim muster points; establish a reception service.

Institution	Area of action
Ministry of Social Action	<ul style="list-style-type: none"> Operate a victim reception and registration service, distribute food and non-food items (blankets, sleeping mats, mosquito nets, etc.), direct the sick to health care centres, organize on-site courses with the support of the Ministry of Education, return victims to their communities, mobilize resources, provide school kits for child disaster victims and material and psychological assistance for all those affected, shelter the homeless, organize local communities to take care of disaster survivors and rehabilitate victims.
Ministry of Water, Sanitation and Village Water Supplies	<ul style="list-style-type: none"> Provide drinking water in evacuation camps; Bore waterholes in reception areas without easily accessible running water; Ensure rainwater evacuation.
Ministry of Mines and Energy	<ul style="list-style-type: none"> Provide electric lighting in evacuation camps.
Ministry of Public Works	<ul style="list-style-type: none"> Restore communication lines; Provide and coordinate transport and civil engineering facilities; Carry out clearance, demolition and consolidation work.
Ministry of Postal and Telecommunication Services	<ul style="list-style-type: none"> Ensure liaison and transmission.
Ministry of Finance	<ul style="list-style-type: none"> Provide necessary financial resources and transport facilities (central garage).
Ministry of the Environment	<ul style="list-style-type: none"> Implement the disaster risk reduction strategy; Evaluate environmental damage.
Ministry of Town Planning and Housing	<ul style="list-style-type: none"> Monitor the rainwater evacuation system; Protect flood areas; Apply land-use rules and regulations; Monitor and place floodwater pumping equipment.
Ministry of Communication	<ul style="list-style-type: none"> Ensure public information through State and private media.
Ministry of Agriculture, Stock Raising and Fisheries	<ul style="list-style-type: none"> Identify appropriate support measures for farmers affected by floods so that they do not become dependent on welfare; Restore the productive capacity of farmers and stock breeders.
Ministry of Education	<ul style="list-style-type: none"> Support role for the organization of courses for child disaster victims in reception areas.
Ministry of Justice	<ul style="list-style-type: none"> Protect the rights of vulnerable persons (children, women, older persons, persons with disabilities).
National and international NGOs	<ul style="list-style-type: none"> Provides technical and material support (donations of equipment, drugs and consumables, food and non-food items for disaster victims)
United Nations agencies and other development partners (embassies, African Union, European Union, ECOWAS, WAEMU)	<ul style="list-style-type: none"> Support for the development of tools to implement disaster risk reduction measures (strategy paper, studies, vulnerability mapping); Provide technical, financial and material support.

Source: ORSEC Plan, 2013.

6. Main tools and approaches used in the implementation of disaster risk reduction

For the implementation of disaster risk reduction measures, Togo has developed tools and adopted specific approaches.

6.1 Tools used in the implementation of disaster risk reduction measures

The planning and programming tools developed and put into operation at the national level are summarized in table 16.

Mapping, which is an important tool in risk reduction and disaster management, is not very developed in Togo.

No equipment is available at the national level for seismicity monitoring. The equipment of the Ministry of Mines and Energy has not been functional for several years

6.2 Operational approach

The operational approach is both national and local.

At the national level, strategic tools and operational plans have been developed and a multi-actor institutional framework has been established. The institutional framework is underpinned by a national platform assisted by a technical body, the technical secretariat.

At the local (regional, prefectural) level, operational plans are also developed. The institutional framework is underpinned by regional or prefectural committees assisted by prefects.

6.3 Coordination of tools

At the national level, efforts to bring the various tools into line with one another have been reflected in the adoption of the strategy for accelerated growth and the promotion of employment (SCAPE). This national strategy paper sets out the main lines of development for each sector and clearly integrates disaster risk reduction into the approaches and measures to be adopted by each actor.

The national disaster risk reduction strategy (SNRRC) revised in 2013 also sets out the main policy lines for disaster risk reduction and proposes activities to be undertaken in each development sector to reduce disaster risk.

The operating mechanisms of the national risk and disaster reduction platform (PNRCC) and of the ORSEC plan largely contribute to building partner synergy and pooling resources to address emergency situations in Togo.

Table 16: **Planning and programming tools developed and put into operation**

Planning tools	National plan of action for the environment (PNAE); Priority action plan (PAP) for the disaster risk reduction sector; Annual emergency preparedness and response plan; National plan of action to combat desertification and land degradation (PAN/LCD); National forest action plan (PAFN); National climate change adaptation plan of action (PANA); National contingency plan; ORSEC plan; Regional multi-risk contingency plans.
Programming tools and projects	National environmental management programme (PNGE); National investment programme for the environment and natural sources (PNIERN); Capacity-building programme for environmental management (PRCGE); Integrated disaster and land management project (PGICT); Support project for agricultural development in Togo (PADAT); Support project for the agricultural sector (PASA); Integrated rural development project for Mo plain (PDRI-Mo); Project for the agricultural development of low-lying areas; Mono river lower valley development project; Emergency project to rehabilitate electricity infrastructure and services (PURISE); Togo urban development project (PAUT), fourth Lome lake.
Environmental disaster risk assessments	Mono river lower valley development project; Project for the utilization of lagoon and lakeside sand in the lagoon system of the town of Aneho; Project for the utilization of sand in the Lome lagoon system east and west of Be; Project for the dredging of the Lome port access canal; Project for the semi-mechanized extraction of sand from the Mono river bed.
Technical tools	Flood vulnerability mapping of the Maritime and Savannah regions; Satellite images via EMODIS to monitor bush fires; ArcView 3.2a extended (digital shoreline analysis system) for the processing of oceanographic data; Desinventar to gather information about the occurrence of disasters at the national level.

6.4 Analysis of synergy between DRR action and climate change adaptation

The study on climate change trends in Togo in the current context of global warming identifies the topography and water system of Togo as disaster risk factors for human settlements. Topographic features or human structures prevent drainage systems from reaching their natural outlets and thus increase vulnerability to risk. To reduce the risks of water-related disasters, it is important to

make adjustments in the light of the system of natural outlets and water run-off levels and to put in place improved outlets. The choice of location of human settlements usually determines vulnerability to risk, especially water-related risk. Combined with the adjustments introduced, the weather and climate forecasting system and the early warning system to be developed, together with the existing and yet-to-be improved system of emergency assistance, will have an effective role in adapting the population and the country as a whole to climate-related disasters linked to global warming.

In 2010, Togo accordingly crafted a national investment programme for the environment and natural resources (PNIERN) in order to identify and budget for national priorities. This programme combines earlier plans and strategies in a set of subprogrammes focusing in particular on:

- i) institutional, legal, financial and technical capacity-building for sustainable environmental and natural resources management;
- ii) support for the implementation and dissemination of best environmental and natural resources management practices in rural areas;
- iii) mitigation of the effects of climate change, disaster management and risk reduction;
- iv) reduction of emissions produced by deforestation and land degradation, and
- v) development and integration of a knowledge and management system, monitoring and evaluation and a communication strategy in support of environmental and natural resources management.

PIERN also includes the national climate change adaptation plan of action (PANA). The first project priority under this plan of action is the adaptation of agricultural production systems in the three regions through techniques integrating climate change and improving agro-meteorological information. The second project priority is the development of an early warning system for real-time information on floods in the Maritime and Savannah regions. In addition, environmental and water resources management is a crucial aspect of disaster risk reduction.

The integrated disaster and land management project (PGICT) follows the same line of thinking in that it is designed to provide community support for the implementation of activities aimed at climate change adaptation and community resilience-building.

7. Good practices and success factors

7.1 Identification of good practices

In Togo, good practices in disaster risk reduction can be identified at several levels. This is done on the basis of predefined criteria.²⁵

On the basis of these criteria, disaster risk reduction measures have thus been evaluated in the following table.

More than 70 per cent of the actions identified meet the above criteria for good practices. At the national level, everyone is agreed on the national risk and disaster reduction platform (PNRCC) and the Red Cross community early warning system.

7.2 Good practices noted

In the light of the good practices identified above, the good practices noted are:

- The national platform for risk and disaster reduction
- The flood-specific community early warning system, 100 localities (Savannah, Plateaux and Maritime regions).

7.3 Success factors

The operational success of the national platform for risk and disaster reduction is due to stakeholder awareness following the repeated floods of the past few years and the difficulties involved in emergency management from 2007 to 2008.

The success of the community early warning system is based on:

- The positive attitude of communities to the introduction of the system;
- The strategy of action;
- The simplicity of the tools used;
- The non-existence of an operational national early warning system.

7.4 Lessons learned in the implementation of measures to reduce natural disaster risk in Togo

Exposed to the risk of disasters, particularly floods which have become recurrent in the past few years, Togo has made efforts to acquire strategic tools and appropriate programming tools for disaster risk reduction and emergency management. Through the ongoing integrated disaster and land management project, Togo has recently adopted a pragmatic approach to disaster risk reduction which will eventually lead to a considerable reduction in the risks connected with climate change and disasters. After dealing then with various emergency situations, the Togolese Government has drawn the following main lessons:

- Communities living in flood-prone areas (depressions, river banks and beds) are the most exposed to the effects of floods in times of heavy rainfall;
- In urban areas, neighbourhoods without sanitation infrastructure are the most exposed to the effects of floods;

²⁵ Cf. Terms of reference of the study.

Table 17: **Efforts to integrate DRR into policies, strategies, plans and programmes**

Types of action initiated in relation to disaster risk reduction	Criteria								
	Stakeholder ownership of practices/measures/operations	Existence of solid supporting statistics and information	Participation of all stakeholders concerned by risk reduction, including non-traditional interest groups	Effective institutional arrangements for risk reduction	Incorporation of the social, economic and environmental dimension	Translation of policies, strategies and plans into concrete results on the ground	Effectiveness and convincing character of risk reduction and resilience building practices	Reproducibility where appropriate of the operations/practice	Sustainability of the measures/practice proposed/adopted
PNRRC: the national coordinating framework for disaster risk reduction, a national platform bringing together the various types of entity involved: governmental actors, private sector actors and civil society organizations;	X	X	X	X		X	X	X	X
Formulation and periodic review of SNRRC;	X	X	X		X	X	X	X	X
Formulation and periodic review of the national contingency plan ;	X	X	X		X	X	X	X	X
Flood-specific community early warning system, 100 localities (Savannah , Plateaux and Maritime regions) of the Togolese Red Cross;	X	X	X		X	X	X	X	X
Development and implementation of PGICT 2010-2013 (pilot phase) and 2014- 2017	X	X	X		X	X	X	X	X
Implementation of urban sanitation and lagoon management infrastructure (PAUT, PURISE);	X	X	X		X	X	X	X	X
Coastal rockfill projects (WAEMU/ EU);	X	X	X		X	X	X	X	X
Reforestation activities and creation of community forests;	X	X	X		X	X	X	X	X
Ban on removal of marine sand;		X	X		X	X	X	X	X
Pre-placing of food and non-food items in the regions for immediate ad hoc assistance to communities from the National Solidarity Agency in the event of floods;	X	X	X		X	X	X	X	X
Creation of a disaster victim reception area in Logope in 2010.	X	X			X	X	X	X	X

Source: Author, 2013

- Communities living in flimsy housing are the most exposed to the effects of floods;
- Communities that have been informed and educated about risks are better prepared to cope with emergency situations;
- Plantations, particularly of teak trees, helped to reduce the force of high winds in the Central region of the country;
- The existence of forest cover on mountain sides in hilly terrain contributed to a reduction in landslide risk;
- Failure to design and build highway infrastructure with due regard to extreme natural events makes it more vulnerable to the effects of floods and river overflow;
- The vulnerability mapping of certain regions in the country facilitates the observation and monitoring of those areas in the rainy season;
- The preparedness of actors contributes enormously to the success of assistance operations and to the reduction of the effects of disasters on communities;
- The existence of an institutional framework for the coordination of emergency interventions helps to ensure the timely availability of field information, mobilize actors and resources in time and enhance the effectiveness of the interventions.

Notwithstanding the firm resolve of the various actors and the resources made available by the Government and development partners, various kinds of difficulty still arise on the ground.

In terms of prevention

Low meteorological and hydrological network coverage and difficulties in the collection and transmission of reliable data, which did not allow

the most recent floods in the Savannah region to be accurately forecast;

Slow development of certain technical tools, namely, national hazard mapping and an operational national early warning system;

In terms of emergency preparedness

Limited public awareness of the phenomenon of climate change and the threats that it may bring;

The flood-prone areas which should have been subject to forced evacuation still remain occupied;

Inadequacy of (human and material) resources to optimize interventions, for example in the case of fire-fighters;

In terms of relief, site and victim management

- Inadequacy of means of reconnaissance, evacuation and assistance and even of the dropping of food and non-food items (e.g. aircraft);
- Unavailability of emergency funds and difficulties in connection with rapid assessment;
- Inaccessibility of certain areas due to lack of vehicles adapted by monitoring services;
- Inadequate pre-placing of food and non-food items;
- Lack of communication network between main actors in the management of floods and other disasters;
- Lack of country mapping (geographical information system) in risk and disaster management.

In terms of the mobilization of financial resources

- Low-level mobilization of national budget resources for the financing of disaster risk reduction activities.

Box 3: Coordinating framework for risk and disaster reduction: the national platform for risk and disaster reduction (PNRCC)

Action taken

By order No. 012/MERF of 17 April 2007, the Togolese Government put in place with effect from 2007 a coordinating framework linking together all those involved in disaster risk reduction in Togo. This framework is the national structure for the coordination and implementation of the Hyogo Framework for Action. Its specific tasks are: (i) to develop the national strategy for disaster risk reduction and ensure that it is implemented and monitored; (ii) to determine the main lines of disaster risk reduction policy in accordance with the Hyogo Framework for Action; (iii) to promote information sharing and mutual consultation; (iv) to facilitate interaction between key stakeholders; (v) to engage in advocacy to mobilize resources; (vi) to promote synergy in the design, development and implementation of disaster risk reduction measures; and (vii) to support the integration of disaster risk reduction in national planning documents. It is provided with an operational technical secretariat.

Results

The national platform for risk and disaster reduction brings together public and private sector actors and civil society organizations for the concerted management of disaster risk reduction in Togo. It has served to rally stakeholders around national disaster risk reduction policy lines and to ensure synergy in respect of action taken in response to disasters in Togo since 2008. The platform is also to be credited with developing (2009) and updating (2013) the national strategy for disaster risk reduction.

Good practice

Effective institutional arrangement for risk reduction

In place since 2007, the PNRCC is an effective operational framework for risk reduction at the national level. At the local level, its effectiveness also derives from the establishment of regional and prefectural platforms. It is also planned that communal platforms will be set up. The local platforms ensure the coordination of disaster risk reduction measures in the regions and prefectures. Thus, during the recent floods, in the areas concerned, the prefectural platforms largely contributed to the collection of information on the emergency situation and the planning and coordination of responses.

Incorporation of economic, social and environmental aspects

A concern to incorporate economic, social and environmental aspects in disaster risk reduction led the State to bring together within the national platform for risk and disaster reduction actors involved in the different sectors. This has had the desired result. For example, the reception and accommodation of victims have not adversely affected the economic activities of host communities or natural resources.

Sustainability

The institutional arrangement developed for disaster risk reduction has been gradually integrated into the national institutional framework. After six years of existence, testing and contributing to disaster risk reduction coordination, the sustainability of the national platform has not as yet been called into question.

Lessons learned

Unlike 2007, when emergency response was slow in getting off the ground, once the national platform for risk and disaster reduction had been put into operation in 2008, timely warnings were able to be issued and the action taken in response to the ensuing floods was swiftly coordinated.

In prefectures where local platforms are in operation, the challenge remains of mobilizing the resources needed for them to perform their functions.

Notwithstanding efforts to ensure synergy, some actors are reluctant to pool resources and, for a variety of reasons, continue to act in isolation.

Challenges

In operational terms, the greatest challenge in respect of the national platform is to preserve the unified approach of this institutional framework at the national and local levels. A further challenge is to maintain operational platforms at the local level.

Duplication

The national platform for risk and disaster reduction, as a coordinating framework, can be reproduced in other sectors, such as agriculture, environment, energy, etc, in cases where it does not exist.

Countries that have not yet put in place a similar coordinating framework might well be advised to be guided by the experience of Togo.

Box 4: Community early warning system of the Togolese Red Cross

Action taken

Following the 2007 and 2008 floods, the Togolese Red Cross launched a community early warning project. Its aim is to build local community capacity for the management of neighbourhood early warning. Through this initiative, volunteers have been trained in each community and have been organized into monitoring groups in flood-prone areas. A visual record is kept by volunteers on the ground who transmit their observations by telephone to neighbouring communities and to the headquarters of the Red Cross in Lome. Neighbouring communities can also keep each other directly informed by telephone without going through central headquarters. The project has benefited from the support of the German Red Cross.

Results

The project has resulted in community information, training and preparedness and in the organization of communities into flood-monitoring networks in their respective areas. In all, the early warning system has been set up in 100 communities, together with a network of flood level markers (cf. photo 6).

Photo 6: Example of markers placed by the Togolese Red Cross for the identification of major floods



Source: Needs assessment for the establishment of an early warning system in Togo: Diagnostic report and recommendations, UNDP, January 2010

Good practice

The communities concerned swiftly assumed ownership of the measures adopted by themselves taking responsibility for the local monitoring of flood events. This initiative forms part of the effort to ensure local ownership of decentralized environmental management. It also unified local stakeholders and constitutes a concrete contribution to risk reduction.

In areas where the community early warning system is in operation, flood damage in 2009, 2010 and 2011 was less significant.

In terms of sustainability, after five years of being operational, this community system continues to be used by the beneficiary communities despite the deterioration of materials (posters) in some places. This system has demonstrated its effectiveness and is planned to be extended to all flood-prone areas under the integrated disaster and land management project.

Box 4: Community early warning system of the Togolese Red Cross)***Lessons learned***

The existence of an operational community early warning system contributes to a reduction in the risks of community exposure and to the preservation of human life and property.

Challenges

The major challenge lies in finding how to extend the community early warning system to all flood-prone areas. There is also the problem of how information is to be relayed to the authorities in case of need. Lastly, the reluctance of some communities to move out of their home areas following an imminent threat warning is often an obstacle to the achievement of results. The availability of reliable hydrographic data remains an asset for the success of such a system.

Duplication

The community early warning system project of the Red Cross can be tried out in other flood-prone areas in Togo. By virtue of the simplicity of the tools used and rapid community ownership, this approach can be transposed to other African countries, particularly the ECOWAS countries.

8. Conclusions and recommendations

8.1 Conclusions

The resurgence of disasters, caused by natural hazards, mostly of a hydro-meteorological nature (floods, drought, high winds) and bush fires, is becoming a growing threat for Togo. Following the successive floods experienced by the country in 2007, 2008, 2009, 2010 and 2013, the Government with the support of technical and financial partners initiated a process of political, institutional, legal and technical capacity-building in the field of natural disaster risk prevention and management. The experience of coping with those floods made it clear that:

- Togo does not have the capacity to deal with such emergency situations alone;
- Collective, concerted and coordinated action by all actors is essential.

This process of assessment has shown that efforts are continuing through the launching of activities under the project for integrated disaster and land management, which offers a framework for ensuring synergy between the contributions of technical and financial partners and for coordinating disaster risk reduction measures on the ground.

The needs identified in the updated national disaster risk reduction strategy paper still need to be met, namely:

- Support for the improvement of the political, legal and institutional framework;
- Support for technical capacity-building of actors in the field of disaster risk reduction;
- Support for the improvement of the DDR information system;

- Support for the reduction of risks underlying disaster prevention and management;
- Support for the strengthening of disaster preparedness.

In addition, ongoing initiatives under the project for integrated disaster and land management will enable Togo to:

- Enhance the capacities of key national, regional, local and community bodies engaged in disaster risk reduction and sustainable land management;
- Partner community activities for climate change adaptation and sustainable land management;
- Make the national early warning system operational.

Notwithstanding these efforts, other equally important aspects require special attention, namely:

- i) strengthening the legality, legitimacy and representativeness of the platform;
- ii) capacity-building of actors;
- iii) reduction of underlying risks;
- iv) strengthening of disaster preparedness mechanisms.

8.2 Recommendations

Togolese Government:

In addition to the measures set in motion under the project for integrated disaster and land management, efforts should be continued in all areas of disaster risk reduction. Togo must:

1. Continue capacity-building activities:

- Support periodic updates of the national contingency plan and the regional contingency plans aligned with the ORSEC plan;
- Build national capacity for rapid disaster assessment;
- Set up and support a national multisectoral team to assess post-disaster losses, damage and needs;
- Develop and put into operation a standing national mechanism to finance preventive and emergency action (disaster fund);
- Train decentralized personnel in the integration of disaster risk reduction in development planning instruments;
- Take greater account of the disaster risk reduction dimension in environmental impact studies.

2. Continue efforts to reduce the risks underlying disaster prevention and management:

- Support the integration of disaster risk reduction in land-use planning, urban development plans and the management of public buildings;
- Promote financial risk-sharing mechanisms through microinsurance;
- Promote the protection and improvement of community facilities and essential infrastructure and define hazard building standards;
- Identify and study risk areas for improved flood management;
- Improve river basin management, including swamps and shallows;
- Support funding efforts to strengthen the protection of fragile ecosystems, particularly Togolese coast land subject to erosion and continue coastal rip-rap work.

3. Strengthen disaster preparedness mechanisms:

- Systematically assess crisis and disaster vulnerability in Togo and develop multi-risk zone mapping;
- Draw up annual emergency preparedness and management plans;
- Build national capacity for early-recovery programme formulation, implementation and follow-up;
- Support the periodic organization of simulation exercises for the various emergency plans;
- Establish new reception centres in flood-prone areas;
- Set up and put into operation new community early warning networks in areas where they do not yet exist.

Economic Community of West African States (ECOWAS):

To ensure synergy and complementarity in the implementation of activities aimed at reducing the population's vulnerability to disasters, ECOWAS should, alongside partners including United Nations bodies, the World Bank, the European Union, the West African Economic and Monetary Union, Germany, France, China, Japan and NGOs, strengthen its support to Togo in mobilizing the financial resources needed to implement disaster risk reduction measures.

To the Economic Commission for Africa:

The Economic Commission for Africa (ECA) should:

- Provide assistance to Togo for disaster risk reduction capacity-building;
- Join Togo in operations to mobilize the financial resources needed to implement DRR measures.

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<http://www.emdat.be/database>, (*EM-DAT: The OFDA/CRED International Disaster Database*)

Annexes

Annex 1: Flood-related damage at the local level

Table 18: **Number of school facilities impacted by floods**

Prefecture	Age					Number of buildings	Total m ²	Number of playgrounds	Total m ²	Number of items of furniture
	Level	3-5	6-12	13-17	>18					
Lacs	Preschool	55	0	0	0	1	126	1	1125	40
	Primary	0	816	189	0	5	315	12	13500	60
	Middle	0	53	1 639	250	3	189	6	6750	55
	Secondary	0	0	480	110	1	315	2	2250	58
Yoto	Preschool	0	0	0	0	0	0	0	0	0
	Primary	2492	35 857	4662	0	6	1 316	0	0	0
	Middle	0	0	0	0	0	0	0	0	0
	Secondary	0	0	0	0	0	0	0	0	0
Bas Mono	Preschool	0	0	0	0	0	0	0	0	0
	Primary	161	2 279	359		19	1 630	0	0	0
	Middle	0	0	0	0	0	0	0	0	0
	Secondary	0	0	0	0	0	0	0	0	0
Grand Lome	Preschool	8947	0	0	0	8	1 512	4	3 960	140
	Primary	0	235 480	0	0	80	15 120	20	81 000	3 360
	Middle	0	0	82 327	0	14	3 528	7	28 350	1 400
	Secondary	0	0	0	27	4	756	2	8 100	414
Total		11 655	274 485	89 656	28	141	24 807	54	145 035	5527

Source: PDNA survey-assessment, 2010 floods

Table 19: **Post-flood assessment of damage sustained by school buildings and furniture**

Prefecture	Level	Number of buildings	Total m ²	Value per m ² (in US dollars)	Subtotal (in US dollars)	Number of items of furniture	Unit value (in US dollars)	Subtotal (in US dollars)
Lacs	Preschool	1	126	256	32 256	40	33	1 320
	Primary	0	0	0	0	0	0	0
	Middle	0	0	0	0	0	0	0
	Secondary	0	0	0	0	0	0	0
Bas-Mono	Preschool	0	0	0	0	0	0	0
	Primary	5	315	256	80 640	60	44	2 640
	Middle	3	189	270	51 030	55	44	2 420
	Secondary	1	315	270	85 050	58	44	2 552
Yoto	Preschool	0	0	0	0	0	0	0
	Primary	6	1316	97	127 652	0	0	0
	Middle	0	0	0	0	0	0	0
	Secondary	0	0	0	0	0	0	0

Prefecture	Level	Number of buildings	Total m ²	Value per m ² (in US dollars)	Subtotal (in US dollars)	Number of items of furniture	Unit value (in US dollars)	Subtotal (in US dollars)
Grand Lomé	Preschool	8	1 512	71 429	108 000 648	140	15 000	2 100 000
	Primary	80	15 120	47 619	719 999 280	3 360	35 000	117 600 000
	Middle	14	3 528	35 715	126 002 520	1 400	35 000	49 000 000
	Secondary	4	756	47 619	35 999 964	414	35 000	14 490 000
Total		122	23 177		990 379 040			183 198 932

Source: PDNA survey-assessment, 2010 floods

Table 20: Post-flood assessment of losses sustained by the education sector

Losses per component	Cost in US dollars
A. Loss of income	
1. Loss of income (private schools) during the period of temporary school closure	13 778
B. Higher costs	
2. Costs of repairs/purchases of buildings/tents used temporarily	862 180
3. Costs of rental of rooms used alternatively as classrooms	44
4. Overtime paid to teachers	1 778
5. Other costs	30 391
6. Total of higher costs (2 + 3 + 4 + 5)	894 393
C. Other losses	
7. Costs of demolition and rubble removal	45 618
8. Costs of reinforcing, improving and rebuilding structure	335 088
9. Transport costs	512
Total (1 + 6 + 7 + 8 + 9)	2 183 782

Source: PDNA survey-assessment, 2010 floods

Annex 2: List of persons interviewed/key resource persons

N°	NAME	Responsibility	Institution /Contacts
	Lomé		
1.	Ms. Dédé Ahoéfa Ékoué	Minister of the Environment and Forest Resources	MERF
2.	Mr. Kossivi Essiomle	Secretary-General	MERF
3.	Mr. Morou Amidou A.	National Coordinator of PGICT	MERF
4.	Mr. Akibode Nelson	Administrator of PGICT	MERF
5.	Tchinguilou Abiziou	National Coordinator DCNCC	MERF
6.	Egbare Awadi Abi	Director-General	National Meteorology Directorate 90181903
7.	Mr. Laogbessi Tchitchi-thé Egbessem	Division Chief	National Meteorology Directorate 90877544
8.	Alouka Sena	Executive Director	ONG JVE 90216740
9.	Todzro Mensah	Executive Director	ONG Les Amis de la Terre-Togo 90195996
10.	Mr. SamDjobo	Executive Director	GRADSE
	Tsévié		
11.	Mr. Bakai Piwèlon	Regional Director of the Environment and Forest/ Maritime Resources	MERF

N°	NAME	Responsibility	Institution /Contacts
12.	Ms Geraldo Mouniratou	Clerk	Tsévié town hall
13.	Mr. Raven Edu Koku	Communication officer, former president	FONGTO 99462230
14.	Mr. Tabe Nikabou	Forester	MERF
<i>Dapaong</i>			
15.	Mr. Nam Pakédame	Regional director of the Savannah plan	MPDAT
16.	Yatombo Tadanlenga	Coordinator	NGO RAFIA (Research, Support and Training for Self-directed Development Initiatives)
17.	Tchimbiandja Y. Douti	Secretary-General of Tône Prefecture	Tône Prefecture 90 34 23 93
18.	Poumpouni Tchadarou	Regional director	Regional Directorate of Social Action Savannah 27 70 80 29/90 05 72 03
19.	Aremou Lassissi	Regional coordinator	Togolese Red Cross/Savannah 90 05 36 13
20.	Baddoh Bambah	Agricultural statistics officer /Savannah	Ministry of Agriculture 27 70 81 02/90 93 55 70
<i>Village of PANABAGOU, Pana Canton, Tône Prefecture (Dapaong)</i>			
21.	Yarbadja Assibi	President of mothers' clubs	93 17 68 27
22.	Djada Leng	President of the campaign against child trafficking	CVD 90 65 30 46
23.	Tongou Kandjime	Member of the water community (sanitation)	99 81 56 09
<i>Village of BORGOU</i>			
24.	Alassani Amadou	Secretary of the Head of Canton	Village of BORGOU 90 86 99 78/ 97 15 92 45
25.	Djouale Badjié	President	CVD 93 00 20 35
26.	Douti Kangbéni	Togolese Red Cross focal point Borgou	98 21 63 76
27.	Waldja Marceline	Secretary of the Tintoa unit	-
28.	Sandan Babilé	Ressource person	-
<i>TANDJOARE</i>			
29.	Djayouri Yempape	Prefect/Tandjoare	90 02 48 26
30.	Djatoite Bampini	President	CVD de Bogou 93 16 86 85
31.	Gore Djapolik	Village chief	Bogou Centre 91 52 52 04
32.	Djayouri Michel	President	Togolese Red Cross Local Section 91 72 45 72
<i>MANDOURI/ Prefecture of KPENDJAL</i>			
33.	Namounou Damintot	Prefect	90 01 07 82
34.	Djakpere Tignoiti	Head of Canton	90 31 24 36
35.	Mimpaguiliba Goumbound	DP. Kpendjal Social Action	90 84 75 32
36.	Koumonga Jean	Togolese Red Cross Prefectural President Kpendjal	91 98 35 30
37.	Kao Tchaa	DP Environment	90 78 78 21/99 62 08 50
38.	Sanwogou Tampandi	Secretary CVD	99 31 68 28/99 39 93 02

N°	NAME	Responsibility	Institution /Contacts
<i>NANO Village TANDJOARE Prefecture, Savannah Region</i>			
39.	Doubik Gnoumba	Regent of Nano	90 34 72 44
40.	Karsongue Comfora	Agricultural adviser ICAT	90 34 22 30
41.	Konlani Bassoume	Red Cross focal point	91 89 84 56
42.	Banganare Mintre	President CVD	91 72 51 06
43.	Barnabo Bipabi	Secretary CVD	99 45 16 63
<i>DJANGOU Village, DAPAONG Canton, TONE Prefecture</i>			
44.	Moigbalibe Lardja	Chief's secretary	DJANGOU Village 91 24 30 91
45.	Boukari Noundja	President CVD	DJANGOU Village 91 37 88 80
46.	Lardja Gnoate	Secretary	Togolese Red Cross Local Section 93 39 74 51/ 99 92 97 84
47.	Kalmongou Damban	Community health officer	DJANGOU Village 91 61 03 05
48.		AFANGNAN	
49.	Magloh Djifanou Koffi	Prefect of Bas Mono	AFANGNAN/ 90 77 40 43
<i>AKLAKOU-ZONGO</i>			
50.		Adviser	Togolese Red Cross / 91 79 21 20
51.	Adamou Salou	Chief's adviser (butcher)	91 70 34 89
52.	El Hadj Abdoulahi Rassidou	Chief's representative (farmer)	91 94 85 92
<i>AVEVE</i>			
53.	Kekou Konte	Village chief's secretary	99 39 17 59
54.	Segbenou Kokou	Local coach/voluntary observer	Togolese Red Cross 98185391
55.	Akpo Koukou Jean	Shopkeeper	98 86 75 46
56.	Doamekpo Bossa	President Togolese Red Cross	–

Annex 3: Analysis of the results of the assessments made by the key resource persons

In order to determine the degree of development and application of disaster risk reduction meas-

ures/tools in Togo, the key resource persons were asked to complete an assessment sheet.

Aspect	Non-existence of DRR frameworks/tools	Existence of inadequate DRR frameworks/tools	Existence of adequate DRR frameworks/tools but not implemented	Existence of adequate and implemented DRR frameworks/tools
Political, strategic and programmatic framework for DRR	-	1	22 2 222222	3333333
	0%	6%	53%	41%
National legal framework for DRR	00	11	222222222	3333
	12%	12%	52%	24%
Institutional framework for DRR	0	1	222	333333333333
	6%	6%	18%	70%
Information and warning system	00	1111	222222222	33
	12%	24%	52%	12%
Stakeholder participation mechanism	0	11	222222222222	33
	6%	12%	70%	12%
Post-disaster assistance mechanism	0	111111	22222	33333
	6%	36%	29%	29%
Disaster risk preparedness framework	00000	11	222222222	3
	29%	12%	53%	6%
Information, education and communication (IEC) materials on risk management	000000	11111	2222	3
	38%	31%	25%	6%
Institutional and stakeholder capacity-building programme	00	11	222222 22222	33
	12%	12%	64%	12%

Annex 4: Survey questionnaire

There is a rise in the number, frequency and seriousness of disasters in Africa due to heightened risks, particularly of drought and floods. These risks can be expected to be exacerbated as a result of climate change and may also lead to more frequent associated disasters in the region.

Disasters strongly affect patterns of development in the countries concerned through loss of human lives, damage to physical property and the natural and ecological heritage, losses of human and financial resources and the erosion of social capital and systems of governance. In 2008, 96 disasters

were recorded in sub-Saharan Africa, including 44 floods and 9 droughts, which affected 16.3 million persons. The ensuing economic losses were estimated at US\$1 billion.

Despite the effect of natural disasters on Africa's main areas of development, efforts to integrate disaster risk reduction and climate change adaptation measures into sectoral development policy frameworks at various levels in the region remain inadequate. As a result, each fresh disaster that occurs considerably affects food security, economic growth, poverty alleviation and the achievement of the Millennium Development Goals and sustainable development goals as a whole

In Togo, in 2007, 2008, 2009, 2010 and 2013, large-scale floods were recorded following heavy rainfall in July, August and September throughout the territory. Rockslides, landslides, pollution, bush fires, high winds and floods of marine origin marked by high tides and coastal erosion were also recorded. They led to the destruction of housing, highway infrastructure, schools, the drinking water supply system, electricity and telephone networks, hospitals, markets, crops and livestock and a considerable impairment of the potential offered by natural resources and the environment.

Urgent responses, including concrete implementation measures, are therefore needed to minimize huge economic losses, losses of human life and means of subsistence, along with shortfalls in development and other impacts deriving from natural disasters. Accordingly, effective risk reduction measures must be formulated with due regard to crosscutting aspects, and put into effect in the context of national and local strategies and programmes. Since projections show disproportionate effects of climate change in the region, climate change adaptation needs to be integrated into risk reduction measures.

In this regional and national context, the Economic Commission for Africa (ECA), jointly with the Inter-

Agency Secretariat of the International Strategy for Disaster Reduction, has launched a project to strengthen the capacity of African decision-makers to integrate natural disaster risk reduction into national and regional policies and strategies in Africa.

In order to allow Togo to form an accurate idea of the real situation, the main actors involved in disaster risk reduction in Togo are requested to answer the following questions.

Please be so good as to complete the questionnaire below.

1. Data on the institution or individual

Name	
Village/town	
Prefecture	
Contacts	
Area of intervention	

2. Level of development and implementation of disaster reduction and management measures/tools in Togo

Please grade the following aspects in terms of national effort for DRR and post-disaster management. Grade estimates range from 0 to 3.

Aspect	Baseline indicators	Grade estimate	Grade assigned
Political, strategic and programmatic framework for DRR	Non-existence of a political, strategic and programmatic framework for DRR	0	
	Existence of an inadequate political, strategic and programmatic framework for DRR	1	
	Existence of an adequate political, strategic and programmatic framework for DRR but not implemented	2	
	Existence of an adequate and implemented political, strategic and programmatic framework for DRR	3	
National legal framework for DRR	Non-existence of a political, strategic and programmatic framework for DRR	0	
	Existence of an inadequate political, strategic and programmatic framework for DRR	1	
	Existence of an adequate political, strategic and programmatic framework for DRR but not implemented	2	
	Existence of an adequate and implemented political, strategic and programmatic framework for DRR	3	

Aspect	Baseline indicators	Grade estimate	Grade assigned
Institutional framework for DRR	Non-existence of an institutional framework for DRR	0	
	Existence of an inadequate institutional framework for DRR	1	
	Existence of an adequate but non-operational institutional framework for DRR	2	
	Existence of an adequate operational framework for DRR	3	
Information and warning system	Non-existence of an information and warning system for DRR	0	
	Existence of an inadequate information and warning system for DRR	1	
	Existence of an adequate but non-operational information and warning system for DRR	2	
	Existence of an adequate operational information warning system for DRR	3	
Stakeholder participation mechanism	Non-existence of a DRR stakeholder participation mechanism	0	
	Existence of an inadequate DRR stakeholder participation mechanism	1	
	Existence of an adequate DRR stakeholder participation mechanism but not implemented	2	
	Existence of an adequate and implemented DRR stakeholder participation mechanism	3	
Post-disaster assistance mechanism	Non-existence of a DRR post-disaster assistance mechanism	0	
	Existence of an inadequate DRR post-disaster assistance mechanism	1	
	Existence of an adequate DRR post-disaster assistance mechanism but not implemented	2	
	Existence of an adequate and implemented DRR post-disaster assistance mechanism	3	
Disaster risk preparedness framework	Non-existence of a disaster risk preparedness framework	0	
	Existence of an inadequate disaster risk preparedness framework	1	
	Existence of an adequate but non-operational disaster risk preparedness framework	2	
	Existence of an adequate operational disaster risk preparedness framework	3	
IEC risk management mechanism	Non-existence of an IEC risk management mechanism	0	
	Existence of an inadequate IEC risk management mechanism	1	
	Existence of an adequate but non-operational IEC risk management mechanism	2	
	Existence of an adequate operational IEC risk management mechanism	3	
Institutional and stakeholder capacity-building programme	Non-existence of a capacity-building programme for DRR institutions and actors	0	
	Existence of an inadequate capacity-building programme for DRR institutions and actors	1	
	Existence of an adequate capacity-building programme for DRR institutions and actors but not implemented	2	
	Existence of an adequate and implemented capacity-building programme for DRR institutions and actors	3	

3. Identification of good practices

For the purposes of disaster risk reduction and post-disaster management, several measures and

courses of action are often initiated by various local, national and international actors. Some of these contribute to effective and sustainable risk

and crisis management. These measures or actions are described as good practices when they meet the following conditions:

- i) Stakeholder ownership of the practices/measures/actions;
- ii) Existence of relevant supporting statistics and information;
- iii) Participation of all stakeholders concerned about risk reduction, including non-traditional interest groups;
- iv) Effective institutional arrangements for risk reduction;
- v) Incorporation of the social, economic and environmental dimension;
- vi) Translation of policies, strategies and plans into concrete results on the ground;
- vii) Effectiveness and convincing nature of the risk-reduction and resilience-building practices;
- viii) Reproducibility of the action/practice, where appropriate;
- ix) Sustainability of the measure/practice proposed/adopted.

Please help us to identify good practices in your village, canton, prefecture or region, or even in your country, Togo.

No.	Good practice in order of importance

4. Lessons learned at the local and national level

The years 2007, 2008, 2009 and 2010, and even 2013, were particularly marked by floods that had disastrous social and economic consequences in some parts of Togo. As disaster victims or active participants in disaster risk reduction and management systems, what lessons did you learn during these painful events affecting communities?

Annex 5: Interview guide

Background

There is a rise in the number, frequency and seriousness of disasters in Africa due to heightened risks, particularly of drought and floods. These risks can be expected to be exacerbated as a result of climate change and may also lead to more frequent associated disasters in the region.

Disasters strongly affect patterns of development in the countries concerned through loss of human lives, damage to physical property and the natural and ecological heritage, losses of human and financial resources and the erosion of social capital and systems of governance. In 2008, 96 disasters were recorded in sub-Saharan Africa, including 44

floods and 9 droughts, which affected 16.3 million persons. The ensuing economic losses were estimated at US\$1 billion.

Despite the effect of natural disasters on Africa’s main areas of development, efforts to integrate disaster risk reduction and climate change adaptation measures into sectoral development policy frameworks at various levels in the region remain inadequate. As a result, each fresh disaster that occurs considerably affects food security, economic growth, poverty alleviation and the achievement of the Millennium Development Goals and sustainable development goals as a whole

In Togo, in 2007, 2008, 2009, 2010 and 2013, large-scale floods were recorded following heavy rainfall in July, August and September throughout the territory. Rockslides, landslides, pollution, bush fires, high winds and floods of marine origin marked by high tides and coastal erosion were also recorded. They led to the destruction of housing, highway infrastructure, schools, the drinking water supply system, electricity and telephone networks, hospitals, markets, crops and livestock and a considerable impairment of the potential offered by natural resources and the environment.

Urgent responses, including concrete implementation measures, are therefore needed to minimize huge economic losses, losses of human life and means of subsistence, along with shortfalls in development and other impacts deriving from natural disasters. Accordingly, effective risk reduction measures must be formulated with due regard to crosscutting aspects, and put into effect in the context of national and local strategies and programmes. Since projections show disproportionate effects of climate change in the region, cli-

mate change adaptation needs to be integrated into risk reduction measures.

In this regional and national context, the Economic Commission for Africa (ECA), jointly with the Inter-Agency Secretariat of the International Strategy for Disaster Reduction, has launched a project to strengthen the capacity of African decision-makers to integrate natural disaster risk reduction into national and regional policies and strategies in Africa.

In order to allow Togo to form an accurate idea of the real situation, the main actors involved in disaster risk reduction in Togo are requested to answer the following questions.

Please be so good as to complete the questionnaire below.

Authority interviewed	
Village/town	
Prefecture	
Contacts	
Sphere of intervention	

1. Information on flood damage

Information on destruction of housing, public infrastructure (schools and other public facilities) and loss of crops and livestock.

Number of victims/communities affected:

Number of persons injured:

Number of deaths:

2. Flood relief

Did you receive food and non-food assistance?

Were you given help in being rehoused?

Did you receive medical and/or psychological assistance?

How do you rate the measures taken by the authorities, NGOs and other entities in response to the recent unhappy events?

Have you returned to your home?

How can emergency relief measures be improved?

3. Prevention

Have measures been taken in your area in recent years to inform and alert people about flood risks?

Does the Togolese Red Cross community information system exist in your area?

How do you suggest improving the information system, including the form it might take if it was to be set up?

4. Identification of good practices

For the purposes of disaster risk reduction and post-disaster management, several measures and courses of action are often initiated by various local, national and international actors. Some of these contribute to effective and sustainable risk and crisis management. These measures or actions are described as good practices when they meet the following conditions:

- i) Stakeholder ownership of the practices/measures/actions;
- ii) Existence of relevant supporting statistics and information;
- iii) Participation of all stakeholders concerned about risk reduction, including non-traditional interest groups;
- iv) Effective institutional arrangements for risk reduction;
- v) Incorporation of the social, economic and environmental dimension;

- vi) Translation of policies, strategies and plans into concrete results on the ground;
- vii) Effectiveness and convincing nature of the risk-reduction and resilience-building practices;
- viii) Reproducibility of the action/practice, where appropriate;
- ix) Sustainability of the measure/practice proposed/adopted.

Please help us to identify good practices in your village, canton, prefecture or region, or even in your country, Togo.

No.	Good practice in order of importance

5. Lessons learned at the local and national level

The years 2007, 2008, 2009 and 2010, and even 2013, were particularly marked by floods that had disastrous social and economic consequences in some parts of Togo. As disaster victims or active participants in disaster risk reduction and management systems, what lessons did you learn during these painful events affecting communities?

6. Recommendations/suggestions (Local authorities: prefects or mayors)

Do you have any suggestions on how to improve emergency preparedness and management?

Note: This is an interview guide. You may organize the interview as you see fit. What is important for us is being able to collect information on the various aspects covered.

We count on your objectivity.

The purpose of the study is to assess the efforts of Togo in the field of risk reduction and emergency management.

Annex 6: Descriptions of good practices

Description of the national joint planning and coordination framework (PNRR)

Established by order No. 012 of 17 April 2007, the national platform for risk and disaster reduction is the body responsible for steering, monitoring and comprehensively assessing strategy implementation.

Function of the national platform for disaster risk reduction

The national platform for natural disaster risk reduction frames national DRR policy and ensures that it is integrated into development policies, plans, programmes and projects.

It is accordingly required to:

- Define the main lines of natural disaster risk reduction policy in accordance with the Hyogo Framework for Action;
- Develop, implement and monitor the national strategy for natural disaster risk reduction;
- Facilitate collaboration and synergy among key actors in the ministries involved, disaster management bodies, academics, civil society, local authorities and other sectors concerned with natural disaster risk reduction;
- Maintain a permanent dialogue for the implementation of crosscutting strategic measures within the framework of risk and natural disaster reduction;
- Engage in advocacy with national and international partners to mobilize resources and support for natural disaster risk reduction;
- Adopt Hyogo Framework for Action progress reports.

Function of the technical secretariat of the national platform for disaster risk reduction

The technical secretariat ensures coordination by:

- Implementing the component parts of the strategy;
- Carrying out administrative activities;
- Providing the scientific, technical, financial and administrative support needed for the work of the platform;
- Helping to mobilize resources for the implementation of sectoral components and activities;
- Providing necessary support where appropriate to sectors involved in disaster risk reduction;
- Conveying reports and requests (complaints, recommendations) to competent institutions;
- Reviewing the compliance of documents with the Hyogo Framework for Action and national development priorities, in particular the strategy for accelerated growth and the promotion of employment (SCAPE);
- Producing periodic reports.

The national platform for disaster risk reduction is composed of:

- The Minister of the Environment and Forest Resources or his/her representative;
- The Minister of Territorial Administration, Decentralization and Local Communities or his/her representative;
- The Minister of Security and Civil Protection or his/her representative;
- The Minister of Social Action and National Solidarity or his/her representative;
- A representative of the Ministry of Defence;
- A representative of the Ministry of Finance;
- A representative of the Ministry of Public Works;
- A representative of the Ministry of Mines and Energy;

- A representative of the Ministry of Water, Sanitation and Village Water Supply;
- A representative of the Ministry of Primary and Secondary Education and Literacy Instruction;
- A representative of the Ministry of Town Planning and Housing;
- A representative of the Ministry of Agriculture;
- A representative of the National Meteorology Directorate;
- A representative of the Health Directorate;
- The Chief of the Fire Brigade;
- A representative of the Ministry of Development Planning and Land-use Management;
- A representative of the National Assembly;
- The operational focal point of the United Nations International Strategy for Disaster Reduction;
- A representative of NGO federations in Togo;
- A representative of the traditional chiefs;
- Representatives of development partners;
- Two representatives of women's associations;
- A representative of employers.

Brief description of the Togolese Red Cross community early warning system

This network of flood level markers set up under the Togolese Red Cross and German Red Cross community early warning project has been in operation since 2009, for the benefit of 100 communities.

The project was confined to the installation of markers. It has enabled communities to be informed and receive preparedness training and to be organized into flood-monitoring networks in their respective areas.

Monitoring is done visually on the ground by a volunteer who transmits the results of his observations by telephone to neighbouring communities and to Togolese Red Cross headquarters in Lome. Neighbouring communities can also keep each other directly informed by telephone without going through central headquarters.

Annex 7: Brief description of the integrated disaster and land management project (PGICT)

Launched in 2011, this project covers a four-year period. It went through a pilot phase from 2012 to 2013. The full project implementation phase is scheduled for 2014 to 2016. The total budget is US\$16,947,408. The project has three main components.

Component 1: Institution-building and awareness-raising

Institution-building: Capacity-building for key national, regional, local and community institutions involved in disaster risk reduction and sustainable land management will be ensured through the provision of equipment and training.

Awareness-raising: Increased awareness of the risks of floods and land degradation will be developed through targeted information and awareness-raising campaigns at the national and local levels.

Component 2: Community activities for climate change adaptation and sustainable land management

Community activities in river basins and flood-prone areas: Flood-resilience building through targeted local pilot activities which will enable communities to better manage disaster risk and land degradation.

Community activities on croplands and grazing lands: Agricultural resilience to climate change, the promotion of land productivity, efficient water use and best sustainable land management practices will be piloted and developed in target areas.

Sustainable forest and wetland management at the community level: Assistance to communities in the preparation of sustainable financing plans and the development of small income-generating activities in and around protected areas and selected forests in order to reduce pressure on forest resources and restore ecosystem services.

Component 3: Early warning, monitoring and tracking systems

Early warning system: A national early warning system will be developed to warn communities about possible future flood events and enable them to take suitable steps to protect lives and property through increased collaboration and

communication between national hydrological and meteorological services and the Togolese Red Cross. Specific equipment and training will be made available to key actors.

Environmental monitoring: A national climate and land monitoring system, including geospatial data, will be developed to monitor plant cover and land use (crops, grazing lands/range lands, forests, wetlands, protected areas and other relevant kinds of land) and to estimate carbon sequestration in selected areas of the project.

Tracking: A partial update of national mapping and targeted risk assessments will be undertaken to identify appropriate disaster mitigation investments and/or risk transfer mechanisms, including analyses of hazards, strengths and vulnerability. A guide to selected best sustainable land management practices taking into account climate change impacts will also be prepared.

Annex 8: Methodological details

Different stages in the study

The main stages in the study are:

Data and documentary information retrieval

During this stage the following material was collected:

From the technical secretariat of the national platform for disaster risk reduction, essential documents such as:

- a) The national strategy for natural disaster risk reduction, 2013-2017;
- b) The second national report on the implementation of the Hyogo Framework for Action, 2010-2012;
- c) Needs assessment for implementation of the early warning system;

- d) Study of climate trends and associated risks in Togo;
- e) The national contingency plan;
- f) The emergency disaster relief plan;
- g) The integrated disaster and land management project (PGICT);

From the national coordination office for the third communication on climate change:

- h) The report on national circumstances and climate change, 2012;
- i) The second national communication on climate change, 2012;

From other actors:

- j) The national strategy for accelerated growth and the promotion of employment;
- k) Reports on disaster-related damage.

Collection of information from actors and submission of questionnaires to key resource persons

During this stage in the process, the following persons were interviewed:

- a) The Secretary-General of the Ministry of the Environment and Forest Resources;
- b) The national coordinator of the integrated disaster and land management project, also serving to coordinate the technical secretariat of the national platform with institutions directly concerned by disaster risk reduction;
- c) The national coordinator of the second communication on climate change;
- d) The director of disaster management at the Ministry of Social Action;
- e) The prefect of Bas-Mono;
- f) The director-general of the national directorate of meteorology and his colleagues;
- g) The national coordinator of disaster risk reduction/climate change adaptation of the Togolese Red Cross;
- h) Traditional chiefs or their representatives;
- i) Voluntary observers from the Togolese Red Cross (community early warning system markers).

At this stage in the process, question sheets were also submitted to key resource persons. The replies provided a picture of how those directly involved regard the efforts made to implement disaster risk reduction measures in Togo.

Analysis of information and preparation of the provisional report

The information gathered from those directly concerned was analysed, as was specific documentary information. At this stage in the process, it became possible to:

- i) Describe and analyse the main disaster risks at the national level;

- ii) Describe disasters that have occurred and analyse the social and economic damage and losses related to those disasters;
- iii) Describe and analyse past, ongoing or planned disaster risk reduction measures;
- iv) Review and evaluate the integration of disaster risk reduction and climate change adaptation measures into national, sectoral and local policies and into partner cooperation frameworks, including at the implementation stage, and lastly
- v) Describe and analyse main tools and approaches used to integrate and implement disaster risk reduction and climate change adaptation activities and identify good practices and lessons learned in the integration and implementation of disaster risk reduction measures.

Lastly, this stage provided a sound basis for making action-oriented recommendations aimed at more fully integrating and implementing disaster risk reduction activities within cooperation and development frameworks.

Review of the national climate change adaptation plan of action and other frameworks for climate change adaptation in Togo

The national climate change adaptation plan of action (PANA) drawn up in 2008 on the basis of studies conducted for the purpose of the initial national communication on climate change clearly identified:

- The harmful effects of climate variability and climate change on biophysical elements and key sectors: climate change will be seen in higher monthly mean temperatures along a south-north gradient in the country from 1.00 to 1.25°C. This trend shows higher

increases in the northern part of the country near the Sahel region. With regard to rainfall, the country will be split into two by a 0.00 isohyet running from the north-east to the north-east slightly to the north of the towns of Kara, Mango and Dapaong. From the south of this isohyet to the Atlantic coast, there will be a marked drop from 0 to 0.80 per cent along isohyets running from north-west to south-east. The most affected areas will be southern half (Maritime region and Plateaux region), while the north-eastern corner of the country (some 15 per cent of the territory) will show a slight increase in rainfall from 0 to 0.60 per cent along a reversed gradient: the north-east will receive more rainfall than the north-west;

- A resurgence of the warming phenomenon in Togo along with a tendency towards greater aridity, which will have disastrous effects on various sectors. The rainfall: potential evapotranspiration ratio (R: PET), which is the aridity index, is also declining, showing a tendency towards climate aridification.
- In terms of immediate effects, the rainy season now begins on average up to as much as 30 days later nationally. When, however, the season begins on time, it is interspersed with periods of drought which impede the proper conduct of agricultural activities. High temperatures are also reported generally in all regions of the country with multiple consequences for communities and their livestock, but also for natural resources.

The phenomenon of coastal erosion, which was originally a shoreline dynamic reaction to the building of hydroelectric and harbour infrastructure, is boosted by rising sea levels following global warming.²⁶ Data on coastal erosion under current conditions show on average a shoreline

²⁶ "The phenomenon of coastal erosion, which was originally a shoreline dynamic reaction to the building of hydroelectric and harbour infrastructure, is boosted by rising sea levels following global warming", PANA, p. xi.

recession of 5 m yearly. There is no doubt that, in view of climate change, this figure will gradually increase up to 10 m yearly. The consequences in terms of land area will be significant.

With strong infiltration of seawater into the barrier beach system, salt water intrusion will rapidly advance and the freshwater/saltwater interface will rise, thus reducing the thickness of the table water reserve of freshwater in relation to brackish water. This will lead to a considerable shortage of freshwater, with the following effects:

- Vulnerability of Togo to climate change: vulnerability of resources and three priority sectors (agriculture, water resources, human settlements and health);
- Main climate hazards: floods, drought, poor rainfall distribution, late rainfall and high winds;
- Vulnerability assessment of village communities most exposed to climate hazards and their means of subsistence: food crops, cash crops, market gardening, stock raising and marketing of agricultural products;
- The most vulnerable ecosystems: coastal ecosystems, agro-ecosystems, water bodies, forest ecosystems;
- The most vulnerable groups: small-scale farmers, who are also the dominant social group in the country.

This 2009 PANA document proposes, at the national level, concrete climate change adaptation measures along four major strategic lines:

- Capacity-building for farmers and rural producers exposed to climate change through support for production and diversification;
- Rational management of endangered natural resources;
- Protection and security of infrastructure and structuring equipment at risk;
- Early warning of climate disasters.

Four years after being proposed, most of these measures have not been able to be put into effect owing to inadequate funding. Moreover, in the light of the conclusions of the studies conducted for the second national communication on climate change, the PANA plan needs to be updated.

Institutions/persons consulted

State institutions

The meetings with the *Minister of the Environment and Forest Resources* and the Secretary-General of that ministry focused mainly on the value added and relevance of the new study for Togo, given that Togo had recently reviewed and updated its national disaster risk reduction strategy. Other stakeholders should not have the impression of being asked to provide almost the same information about disaster risk reduction. At the level of that ministry, efforts were being directed more towards PGICT start-up activities. However, guidelines were set to ensure success.

Discussions with the *coordination office of the third national communication on climate change* focused on updated data on national circumstances and climate change and the launching of the study on national circumstances and thematic studies. The national coordinator reverted to the links between climate change and natural disasters and to the implementation of adaptation and disaster risk reduction measures. The discussions wound up with a look at the assessment of disaster risk reduction tools at the national level.

At the meeting with the *PGICT coordinator*, discussions focused on the methodological approach and aspects not covered by the integrated disaster and land management project.

Lastly, the questionnaire to assess the implementation of disaster risk reduction measures was analysed.

At the meeting with the *National Meteorology Directorate*, the following concerns were addressed:

Difficulties:

- Inadequate meteorological coverage of the national territory;
- Lack of regular transmission of data from rainfall data centres to the meteorology directorate;
- Destruction of climate monitoring stations by bush fires owing to lack of maintenance of areas around those stations;
- Ancient equipment with dilapidated buildings and very small national meteorological staff;
- Lack of data collection and processing equipment and computer maintenance;
- Lack of vehicles for inspections (not a single covered wagon).

Needs:

- Rehabilitate the national observation network to make it operational, with a technical capacity in line with World Meteorological Organization (WMO) standards;
- Set up three meteorology stations (Notse, Blitta, Mandour) and 15 climate stations (at least one climate station for each prefecture);
- Equip the synoptic and climatological network with measuring instruments, means of transmitting and processing data (telephone lines, Internet, networking of centres with the National Meteorology Directorate);
- Strengthen the transportation capacity of the National Meteorology Directorate for visits to climate stations nationwide;
- Strengthen the system of Internet connection in order to ensure a permanent, lasting connection;
- Develop personnel training capacity.

The working meeting with the National Director of Disaster Management focused on:

- Data on disasters in Togo since 2007;
- Inadequacy of work facilities: premises, office materials and vehicles;
- Low capacity of existing victim reception facilities and consequential need to build other facilities in flood-prone regions;
- Need to give greater support to emergency management operations.
- The information provided by the Regional Directorate of Land-use Planning of the Savannah region concerned:
 - Existence of an ORSEC plan at the regional and prefectural levels, which is a real asset for disaster management;
 - Existence of a contingency plan is also an asset;
 - Existence of warning teams;
 - Operationalization of disaster management institutions;
 - Need for increased mobilization to overcome disasters;
 - Need for measures to prevent the building of housing and public infrastructure in flood-prone areas;
 - Need to bring the early warning system into operation at national level.
- The empowerment of women and other vulnerable groups (persons with disabilities and children) and older persons as a means of building resilience;
- Reliability of disaster risk reduction measures at the national level;
- The regrettably low level of domestic resource mobilization to deal with floods;
- The failure to put into operation a national early warning system remains one of the weaknesses of the disaster risk management approach;
- Uncontrolled occupancy of river basins and river beds, which are highly flood-prone areas;
- Poor use of rainwater evacuation gutters is one of the main causes of flooding in towns and villages;
- The need to monitor rivers that run through built-up areas;
- The need to promote sustainable natural resource management.

NGOs and associations

The viewpoints of *civil society actors* (Amis de la Terre-Togo, JVE, RAFIA, GRADSE), as expressed through the questionnaires, served to highlight:

- The recurrence of floods and their effects on communities;
- The link between the ineffectiveness of climate information and the lack of an early warning system on the one hand, and on the other, the scale of flood-related damage;
- The need to pool the efforts of all those concerned for effective risk reduction;

The meeting with the *Togolese Red Cross* offered an opportunity to assess the progress made by Togo in implementing disaster risk reduction measures. The strategic and institutional frameworks were considered adequate. National DRR strategy continues to be implemented only in part. At the institutional level, the national platform and its technical secretariat are operational at the central level. Their decentralized bodies are not fully operational. At the local level, there seems to be some uncertainty about the implementation of the ORSEC plan and the contingency plan. Local actors fail to link together these two instruments.

With regard to the assistance to be given for post-disaster management, apart from 2007 and 2008 when there were some operational hitches, since 2010 there has been a distinct improvement, particularly in terms of the swiftness, coordination and concerted nature of responses.

For disaster preparedness, the mechanism in place is adequate. However, it is not fully operational in terms of pooling resources in emergencies. Some of those involved remain stuck to an individual approach. Some humanitarian agencies are somewhat reluctant to provide governmental actors with the means to respond. Their attitude is said to be justified by administrative red tape in certain State institutions.

With regard to the hazard information and awareness mechanism, the measures taken by State institutions do not appear to reach directly the actors concerned, namely local communities. Radio and television information campaigns are not concrete measures and do not take into account the realities of the various communities vulnerable to disasters. The action taken suffers from a lack of effectiveness. Greater use should be made of village development committees, neighbourhood development committees and community-based associations and organizations in order to transmit messages through the appropriate channels.

Thus, since 2010, there have been fewer victims, fewer injuries and fewer deaths, in areas covered by the Togolese Red Cross (community early warning system).

It is suggested that efforts be made to strengthen fire brigade capacity in terms of equipment and material, establishment of new fire stations throughout the national territory for better coverage, and the organization of training and simulation exercises. Hydrological and meteorological services should also benefit from capacity-building in terms of equipment and training. Lastly, it is considered necessary for there to be a large-scale mobilization of all those concerned at every level by disaster risk reduction and to put the national early warning system swiftly into operation.

Analysis of assessments through completed questionnaires

Of the 22 key resource persons identified, 17 returned their completed forms. The following findings emerge:

- 53 per cent of respondents think that the political, strategic and programmatic frameworks of DRR are adequate but not implemented. However, 41 per cent of respondents say that these frameworks are adequate and implemented;
- 52 per cent of respondents state that the DRR national institutional network is adequate but not implemented;
- 70 per cent of respondents state that the DRR national institutional network is adequate and implemented;
- 70 per cent of respondents state that the stakeholder participation mechanism is adequate but not implemented;
- 53 per cent of respondents state that the disaster preparedness framework is adequate but not implemented;
- 38 per cent of respondents state that no mechanism exists at the national level;
- 64 per cent of respondents state that the stakeholder capacity-building programme is adequate but not implemented.

Analysis of data and overview of information

In Togo, several bodies of data exist in respect of disaster risk reduction. At the political level, the national strategy for disaster risk reduction was developed in 2009 and revised in 2013.

At the institutional and legal levels, an order establishing the national platform and a decree establishing the ORSEC plan have been issued.

These documents have been put into effect and the institutional framework is in operation notwithstanding financial difficulties.

At the technical level, thematic studies have been carried out on climate trends and associated risks, climate scenarios up to 2025, 2050 and 2100, needs for the development of a national early warning system, and the mapping of areas at risk of floods and bush fires. Several other hazards have been identified but have not yet been studied in detail. For example, mapping is a long way from achieving national coverage, owing to

various major hazards. Meteorological data are periodically produced in spite of difficulties connected with the obsolescence of equipment and inadequate geographical coverage of the country.

In terms of format and data availability, most of the documents prepared or adopted have not been published and disseminated. They remain as electronic files or provisional versions in the care of the coordinating services. Data on the damage resulting from the various disasters that have occurred are not regularly included in publicly accessible reports.

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