

Madagascar : Country Case Study Report

How Law and Regulation Supports Disaster Risk Reduction

International Federation of Red Cross and Red Crescent Societies

June 2014



Case Study:

IFRC-UNDP Series on Legal Frameworks
to support Disaster Risk Reduction

About this report

This report was commissioned by the International Federation of the Red Cross and Red Crescent Societies (IFRC) and prepared by Dr Karen da Costa, legal consultant, in early 2013. It is one of a series of case studies the IFRC has undertaken with UNDP as part of a global research project to learn about how law and regulation supports disaster risk reduction, particularly at the community level. For more information about the project and various case studies as they become available, please visit www.drr-law.org.

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Executive Summary

This report begins by considering the extent to which disaster risk reduction (DRR) is mainstreamed into the disaster risk management laws and institutions in Madagascar. It identifies key laws and regulations in the area of disaster risk management (DRM), especially those applicable nationwide. It finds that these legal frameworks currently focus more on response and recovery than on prevention and DRR. Legislation also provides for DRM bodies at all levels of government administration, including at the community level, although the establishment and effective functioning of these bodies remains a challenge, due in particular to a lack of resources. Hence, although, at a practical level, Madagascar has made considerable progress in preparedness through implementing early warning systems, and many community-level projects are building DRR capacity at the local level, they are not yet well supported by legislative mandates.

The report also finds that, in terms of national institutional frameworks for DRR, there has been some overlap between the mandates and practical involvement of two key national DRM bodies, namely the National DRM Coordination Office (the “BNGRC” for the French, Bureau National de Gestion des Risques et des Catastrophes) and the Unit for the Prevention and Management of Emergencies (the “CPGU” for the French, Conseil National de Gestion des Risques et des Catastrophes). Practitioners reported that this had caused some confusion as to which agency should be approached concerning particular aspects of DRM, especially with regard to DRR issues. However, subsequent to the country mission, steps have been taken by the government to clarify these institutional mandates at national level. The overlap does not persist at the sub-national levels, as only the BNGRC has administrative structures at these levels.

Many interviewees also indicated that Madagascar’s previously strong record on DRM issues has been adversely affected in recent years by the political changes affecting the country, saying this had reduced government capacity to oversee and implement legal frameworks in DRM, including those relating to DRR.

Early warning systems (EWS) and risk mapping are largely unregulated by specific laws, with the exception of disaster alert phases and regulations on telecommunications. At the time of the country visit, and during consultations to verify the draft of this report, there were divergent views expressed about the extent to which there is a national EWS mandated by law, as there are a number of systems set up by government authorities under their general mandates on disaster risk management. These include the use of mass media and mobile telephone messages (where communities have access to electricity) to warn of cyclones, floods and storms, and a drought and food security warning system for the south of the country. A programme of risk mapping to support EWS and preparedness was also being planned at the time of the country mission in December 2012. However, the report finds that there is not yet a clear legislative framework for a national EWS, and that, based on stakeholder views, significant gaps remain in practice even while some regions and types of hazard have effective EWS.

In relation to DRR and law on specific hazards, there are laws on fire risk, which set penalties for fire-related incidents. There is also partial regulation of flooding control, through laws dealing with particular geographic areas and/or specific situations. Community consultations suggested, however, that there is little community awareness about laws concerning such risks. Community members have nevertheless adopted practices to cope with specific hazards, an awareness which has often come through projects by the Malagasy Red Cross (MRC), international and national non-governmental organization (NGOs) and international organizations.

On the regulation of the built environment, the building code is applicable nationwide and contains rules of relevance to DRR. Additionally, there is a new Decree on the Construction of Cyclone-Resistant Buildings which, if enforced, could significantly enhance the ability of affected communities to cope with these recurring seasonal hazards. There is also positive practice relating to the observance of this decree, especially in some community projects instigated by NGOs, including the UNICEF initiative to construct cyclone-resistant schools. Some initiatives to rebuild houses destroyed in February 2012 by Cyclone Giovanna were focusing on reconstruction that was more resistant to cyclone damage than before. However, in relation to housing in general, the underlying risk remains of concern, due to the fact that many people live in fragile houses under precarious conditions, especially in large urban centres.

Land use planning is partially regulated through the Urbanisation and Habitation Code. Although compliance with these legal provisions remains a challenge in practice, this law has the potential to improve human safety in relation to new residential and industrial developments. Regarding land tenure, which can be relevant to DRR in terms of investment and a sense of guardianship of land, there are laws recognizing the customary occupation of land by traditional communities. However, during the country visit, it became evident that land tenure is often an issue of dispute, especially because many people do not have formal title to the land on which they live, and which they use for their livelihoods.

In relation to urban water and flood management, there is a Water Code which contains some provisions relevant to DRR: for example, on the need to conduct a public inquiry and/or an environmental impact assessment (EIA) when planned constructions are likely to affect the environment and the aquatic ecosystem.

On regulation of the natural and rural environment, particularly on human risks in environmental change, the law known as the Environmental Charter¹ sets out the main national rules and policies. It covers, among other issues, EIAs, potential social costs and the likely impact on human health of intended businesses developments. However, during the country visit, some interviewees reported that an increase in mining activity (both legal and illegal) poses a considerable challenge for effective environmental management.

Regarding forest management and exploitation, the main issues of concern related to the customary practice of 'tavy' (the use of burning-off to clear land for agriculture and regenerate pasture, which both depletes the land and often results in wildfires) and deforestation linked to the production of charcoal (which is used by households across the country for cooking). Of additional note is the existence of a law on the community use, conservation and management of forests, although this law was not well known in the communities visited.

On the matter of rivers and watercourses in rural areas, this report highlights the recurrent issue of river pollution due to improper waste disposal. This remains a challenge for the communities who use river water for various purposes, including human consumption. Some of the communities visited reported that they had designed and introduced customary rules prohibiting practices that polluted their rivers, albeit with differing levels of success.

On the issues of drought and food security, the study did not find specific legal regulation. Practice in this area seemed to be driven by initiatives led by international actors aiming to increase the resilience of rural communities likely to face food insecurity due to natural disasters. Their focus is mainly on agriculture and distribution of food and related items.

¹ Environmental Charter (Code de L'Environnement et ses Modificatifs: Law No. 90-033 of 21 December 1990,

Although law does not, as such, regulate DRR education and awareness, some notable initiatives were identified. These include a manual for public school pupils on DRR issues, which has been developed by public institutions together with international partners² and a Master's degree in DRM, offered by the public University of Antananarivo.

While there is no specific legal framework on responsibility, accountability and liability relating to DRR in Madagascar, there are some general legal provisions that could be applied. So far there has not been developed a practice of legally holding to account persons and/or institutions in relation to misconduct or under performance in the area of DRR or natural disasters more broadly.

Amongst good practices identified in Madagascar were:

- The early warning systems for cyclones, floods and storms have used mass media and mobile phone networks effectively in a number of regions, while monitoring systems are being put in place for tsunamis, which will use similar systems for communicating warnings.
- There are also effective programs of reconstruction and rehabilitation (especially after the passage of Cyclone Giovanna in 2012) that include DRR awareness, as well as training programs engaging youth.
- Many actors highlighted as positive the collaboration between different partners on the ground, especially in regard to the collection and sharing of information, and preparation for natural disasters (for example, storing materials, or running joint simulation exercises).

Gaps identified included:

- Many different stakeholders reiterated that there are a number of good laws to support DRR, but that a large proportion of the population is not aware of them, and that there are significant gaps in the effectiveness of their implementation.
- Implementation challenges identified through interviews included the need for better communication between different levels of government administration, more effective decentralization to local level, and clarification of the mandates of the two main national governmental agencies in charge of DRM in the country.
- In addition, stakeholders often noted the negative effects of the ongoing political changes in recent years, saying these had had a negative impact on the effectiveness of government institutions in DRM, as well as discontinuity in the supporting activities of international humanitarian and development actors.

On the effectiveness of community-level implementation, the communities visited seemed well accustomed to coping with cyclone disasters, due especially to the cyclical occurrence of these hazards and the many inputs through community level projects by non-governmental organizations (NGOs), the Malagasy Red Cross (MRC) and international actors. However, communities identified some key issues that remain to be addressed:

- the effective inclusion of those most vulnerable in DRR initiatives
- better tailored distribution of assistance based on needs assessments of those affected by natural disasters
- access to local government services such as water and sanitation
- enforcement of their traditional laws – *dinas* – to help safeguard river water supplies from human pollution

² Throughout the development of the project, different partners were involved, such as the Ministry of Education, the BNGRC, the Institute and Geophysical Observatory of Antananarivo (IOGA, the acronym for the French name Institut et Observatoire de Geophysique D' Antananarivo), the Unit for the Prevention and Management of Emergencies (CPGU, the acronym for the French name Cellule de Prévention et de Gestion des Urgences), and the United Nations Development Programme.

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Partners

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Contributors

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This report is based on material obtained in interviews conducted during the three week country mission to Madagascar, and on desk research undertaken for the Background Report: Law and Regulation for the Reduction of Risk from Natural Disasters in Madagascar - A Desk Survey, March 2013, also prepared by Dr Karen da Costa on behalf of the IFRC. The desk survey is published online separately.

List of Abbreviations

ANDEA	National Authority for Water and Sanitation (for the French: Autorité Nationale de l'Eau et de l'Assainissement)
BNGRC	National DRM Coordination Office, (for the French: Bureau National de Gestion des Risques et des Catastrophes)
National DRM Council	For the French: Conseil National de Gestion des Risques et des Catastrophes – CNGRC
CPGU	Unit for the Prevention and Management of Emergencies (for the French: Cellule de Prévention et de Gestion des Urgences)
CRIC	Stakeholders' Committee for Reflection about Disasters (for the French: Comité de Réflexion des Intervenants en Catastrophes)
CRS	Catholic Relief Service
DAGT	Directorate of General and Territorial Administration (for the French: Direction de l'Administration Générale et Territoriale)
DIPECHO	Disaster Preparedness - European Community Humanitarian Office (ECHO)
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EFA	Efforts for Rural Development (in Malagasy: Ezaka ho Fampanandrosoana any Ambanivohitra)
EIA	Environmental Impact Assessment
EWS	Early Warning System(s)
FAO	Food and Agriculture Organization
FID	Intervention Fund for Development (for the French: Fonds d'Intervention pour le Développement)
HFA	Hyogo Framework for Action
ICPM	Joint Initiative for Advocacy in Disaster Risk Reduction in Madagascar (for the French: Initiative Commune de Plaidoyer pour la Réduction des Risques des Catastrophes à Madagascar)
IFAD	International Fund for Agricultural Development
IO	International Organization
IOC/COI	Indian Ocean Commission (for the French: Commission de l'Océan Indien)
IOGA	Institute and Geophysical Observatory of Antananarivo (for the French: Institut et Observatoire de Géophysique d'Antananarivo)
MRC/CRM	Malagasy Red Cross (Croix Rouge Malagasy)
NGO	Non-Governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ODDIT	Development Body of the Diocese of Toamasina (for the French: Organe de Développement du Diocèse de Toamasina)
ORSEC	Relief Organisation Plan (for the French: Plan d'organisation des secours)

PIROI	Platform for Disaster Response in the Indian Ocean (for the French: Plateforme d'Intervention Régionale de l'Océan Indien)
PREE	Environmental Commitment Program (for the French: Programme d'Engagement Environmental)
SADC	Southern African Development Community
UNDP	United Nations Development Programme
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WFP	World Food Programme



1. Introduction, background & project objectives

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1. Introduction, background & project objectives

1.1. Law & DRR Project Background

This case study analyses the extent to which legal frameworks in Madagascar support national and local efforts towards disaster risk reduction (DRR). The study covers a broad scope of law and regulation relevant to DRR for natural hazards, including issues such as the integration of DRR into disaster risk management laws and institutional arrangements, responsibility and liability, early warning systems, infrastructure, building codes, land use planning, environmental management/climate change adaptation, early warning systems, and awareness-raising and education. Its methodology of speaking with stakeholders at national, sub-national and local levels was also designed to identify gaps, challenges and good practices in the way the legal framework is implemented.

This study is also part of a broader project undertaken by the International Federation of Red Cross and Red Crescent Societies (IFRC) and the United Nations Development Programme (UNDP) on how law and regulation supports DRR. The purpose of the country studies as a whole was to assist IFRC and UNDP in compiling a global report on DRR and legislation, to provide ideas, analysis and baseline data for states wishing to facilitate DRR through legislation. The results of these studies are also being used in wider consultations towards the development of tools for lawmakers wishing to better adapt the legislative framework for effective DRR implementation. This case study, therefore, has the dual objective of providing country level information and analysis for the global initiative, and also providing insights into the legislative framework for DRR practitioners in Madagascar.

The general background to the project dates back to January 2005, when a UN Conference of over 4,000 representatives of governments, non-governmental organizations NGOs, the Red Cross and Red Crescent, UN agencies, academic institutions and the private sector adopted the Hyogo Framework for Action (HFA) 2005-2015. The HFA is a set of commitments and priorities to take action to reduce disaster risks. The first priority for action in the HFA was to “ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation,” notably through “policy, legislative and institutional frameworks for disaster risk reduction.”

In the years following the HFA, a significant amount of new legislation has been adopted in various parts of the world aimed at strengthening the focus on risk reduction. However, important gaps still remain, particularly with regard to follow-through at the community level. This was confirmed in a number of reports prepared around the time of the mid-term review of the HFA,³ and subsequently, including desk research by IFRC during 2010-2011, and initial country case studies in Brazil, the Dominican Republic, Nepal and South Africa.⁴ Communities were found not to be well enough informed, engaged and resourced to take an active part in reducing risks, and it was noted that rules to deter risky behaviours (particularly in construction and land use) often go unenforced. While legislation is certainly not the only way to address some of the issues, it can be an important part of the puzzle.

3 UNDP, A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management, 2007; Global Network of Civil Society Networks for Disaster Risk Reduction (GNDR), “Clouds but Little Rain” Views from the Frontline: A Local Perspective of Progress Towards Implementation of the Hyogo Framework for Action, 2009; IFRC Hyogo Framework for Action: Red Cross and Red Crescent Mid-Term Review, October 2010; UNISDR, Hyogo Framework for Action: Mid-Term Review 2010-2011; GNDR “If We Do Not Join Hands”.

4 IFRC, Analysis of legislation related to disaster risk reduction in Brazil(2012); IFRC, Analysis of legislation related to disaster risk reduction in the Dominican Republic , (2012); IFRC, Analysis of legislation related to

In 2011, the states parties to the Geneva Conventions took up this issue at the International Conference of the Red Cross and Red Crescent. Their resolution encouraged states, with support from their National Red Cross and Red Crescent Societies, the IFRC, UNDP, and other relevant partners to review the existing legislative frameworks in light of the key gap areas identified in the IFRC report to the Conference, and to assess whether they adequately:

- a. make disaster risk reduction a priority for community-level action;
- b. promote disaster risk mapping at the community level;
- c. promote communities' access to information about DRR;
- d. promote the involvement of communities, RCRC National Societies, other civil society and the private sector in DRR activities at the community level;
- e. allocate adequate funding for DRR activities at the community level;
- f. ensure that development planning adequately takes into account local variability in hazard profiles, exposure, and vulnerability and cost-benefit analysis;
- g. ensure full implementation of building codes, land use regulations and other legal incentives; and
- h. promote strong accountability for results in reducing disaster risks at the community level.

The current report fits within this context, and considers the matter from the particular national perspective of Madagascar.

In this report, DRR is defined according to the United Nations International Strategy on Disaster Risk (UNISDR) terminology: "The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposures to hazards, lessened vulnerability of people and property, wise management of land and environment, and improved preparedness for adverse events."⁵

This report draws on a background report, Law and Regulation for the Reduction of Risk from Natural Disasters in Madagascar: A Desk Survey ("the Desk Survey"), which aimed to identify the main national laws and some provincial or local laws where relevant and available, which primarily used resources available online or through libraries.⁶ This case study analyses the legislation documented in the desk survey and, based on stakeholder interviews during a three-week country visit, considers the laws' implementation and any gaps in the legal framework.

The key idea has been to identify - at national, state/provincial, local and community levels - whether or not laws to support DRR are in place and how well they are implemented. Attention is paid to two aspects of this equation:

- a. good practices enabled or mandated by legislation, including good examples of wording/drafting, institutional structures, coordination and planning between sectors, and involvement of civil society and communities, that provide the basis for effective reduction of risk from natural disasters; and
- b. gaps in the legal and institutional frameworks and resources available for DRR, including the implementation of legal frameworks, especially against natural disasters, and the views of stakeholders about what forms of regulation or implementation would be effective in closing these gaps, especially at the community level.

disaster risk reduction in Nepal (2011); and IFRC, Analysis of legislation related to disaster risk reduction in South Africa , (2012) - all available at: <http://www.ifrc.org/en/what-we-do/idrl/research-tools-and-publications/disaster-law-publications/>

5 2009 UNISDR Terminology on Disaster Risk Reduction, Geneva, 2009.

6 IFRC, Geneva, 2013, also prepared by Dr Karen da Costa.

1.2. Geography and Disaster Risk Profile of Madagascar

Madagascar is a large island which lies in the southwest Indian Ocean, with a population of 21.32 million and a GDP (2011) of 9.912 billion USD, it is classified as a low income country according to the World Bank.⁷ To the west, the Mozambique Channel separates it from the African continent, and to the east lies the Indian Ocean. Stretching 1,600 km from north to south and 580 km wide, it has an area of 587,041 km² with 5,603 km of coastline. Its terrain is varied, and is mountainous in the interior, although the highest mountain does not exceed 3000 m. Overall, the country is characterized by a tropical climate with two distinct seasons: (1) the rainy season or summer from November to April, with the highest rainfall during December and January; and (2) the winter or dry season, from May to October, with the lowest rainfall in September and October.

The annual average temperature varies between 23°C and 27°C. In the south-west, the climate is semi-desert and the region is prone to drought. In the east coast region, the climate is tropical and humid, and is subject to tropical cyclones, such as Cyclone Giovanna in February 2012, which brought torrential rain and wind speeds of up to 231 km per hour, and Cyclone Haruna in February 2013, which caused devastation in the south-west of the island.

The country regularly faces four major natural hazards, namely cyclones/tropical storms, floods, droughts, and locust invasions. Madagascar is also one of the countries most vulnerable to climate change, especially due to increasing extremes in weather events in recent years.⁸ Cyclones are reportedly more frequent and violent than in the past. For example, in March 2010, Cyclone Hubert seriously affected agricultural production, destroying 61,000 hectares of agricultural land, and in February 2011, Cyclone Bizinga hit the north-east of the Island, in addition to Cyclones Giovanna in 2012 and Haruna in 2013 as mentioned above. In addition, locusts regularly destroy crops, especially in the south-west. The country's vulnerability to natural disasters is extreme: the country has witnessed 46 natural disasters over the past 35 years, cumulatively affecting over 11 million people and causing damage estimated at USD 1 billion.⁹

Additionally, some of the key natural resources of the country are becoming severely degraded. For example, 1.2 million hectares of forest was lost between 1990 and 2005, and deforestation continued at an annual rate of about 40,000 hectares per year between 2000 and 2005. Although natural disasters have contributed to this situation, it also has human origins. Deforestation is due mainly to the clearing for charcoal production and gathering firewood or wood for construction. Also the practice of tavy (the slash-and-burn method of agricultural cultivation), uncontrolled bush fires, illegal commercial exploitation of precious woods, and mining activities, pose huge challenges to the country's environmental management systems. Slopes are cleared and planted for crops to meet population growth, often using non-adapted agricultural practices that cause soil erosion, an issue identified as central to food security in Madagascar.¹⁰

1.3. Governmental and Law-Making Structure

Madagascar is divided into 22 regions, 119 districts, 1,558 municipalities ('communes') and 17,433 village communities.¹¹ According to the 2010 Constitution, the Republic of Madagascar is a unitary

7 World Bank data, <http://data.worldbank.org/country/madagascar>, accessed 15 March 2013.

8 On the subject, see, for example, <http://www.trust.org/alertnet/news/madagascar-squares-up-to-extreme-climate-vulnerability>, visited 08 March 2013.

9 According to A/HRC/19/59/Add.4, of 26 December 2011- Report of the UN Special Rapporteur on the right to food, Olivier De Schutter – Mission to Madagascar, pages 3-4.

10 'Deforestation accelerates soil erosion, which has reached proportions found in few other places on the planet' – translation, Report of the UN Special Rapporteur on the right to food, Olivier De Schutter – Mission to Madagascar (A/HRC/19/59/Add.4, of 26 December 2011), at page 6.

11 See the report submitted by the Government of Madagascar in the framework of the Universal Period Review/Human Rights Council, document A/HRC/WG.6/7/MDG/1, of 3 November 2009, §4.

and republican state, based on a system of decentralized territorial communities composed of municipalities, regions and provinces.¹²

In relation to the legal system, Madagascar follows the French model and therefore the civil law tradition. The types and hierarchy of norms are the following (from the top downwards): (1) constitutional norms; (2) ratified international treaties; (3) organic Law (adopted by qualified majority, namely two-thirds of votes in parliament); (4) law (adopted by simple parliamentary majority) and ordonnance (in English: 'ordinance' – with the same status as law, though it is a Presidential act taken in exceptional circumstances, subject to later parliamentary endorsement). All the referred norms, except from ordinance, belong to the legislative sphere and can be considered as primary legislation. There are further official acts with mandatory force, but which have rather a regulatory character, being secondary legislation. They are: (1) decree passed by the Council of Ministers, aiming to supplement a statute; (2) decrees; (3) arrêté (in English: 'Order', which normally provide details in relation to decrees) and; (4) notes (normally passed at the Ministerial level, for example, assigning a specific role to a civil servant).

Impact of political changes

From December 2008 to 2013, Madagascar faced significant political changes, which are noted here because many interviewees cited the climate of instability as having had negative effects on DRR activities. Following 2008 protests against the previous ruling government, the then President of the Republic, Mr. Ravalomanana, transferred full powers to a military directorate, who in turn transferred power to the leader of the opposition movement, Mr. Rajoelina. In March 2009, the High Constitutional Court took note of this transfer and recognized Mr. Rajoelina as the Transitional President exercising the functions of president of the republic. In 2010 a referendum was held which approved the new Constitution, although its legal status remained disputed.

Several international attempts were made to arrive at an agreement between opposing parties in Madagascar, finally resulting in the signing by different political parties of a roadmap to end the crisis, in September 2011, under the auspices of the Southern African Development Community (SADC). It was under this framework that presidential elections were under preparation during the country visit, which were then held in late 2013 and the final results announced in January 2014. The roadmap listed a series of provisional institutions to be set in place during the transition of the country, and most of these had been set up at the time of the country visit. For the purposes of the current report the text of the 2010 Constitution was used as the main text organizing the country, but account was also taken, when relevant, of the SADC roadmap, as well as to the 1992 Constitution (as amended up to 2007).

Although governmental structures remained in place throughout all these changes, it was frequently noted by stakeholders that their work had been adversely affected by the climate of uncertainty and a consequent decline in international assistance, both contributing to a rise in poverty. Among other things, they indicated that this instability had negatively impacted the observance of the laws in place and the drafting of new legislation.

12 According to Articles 1 and 3 of 2010 Constitution. Although the new Constitution refers to 'provinces' they are not yet in place, along with further references especially to bodies and governmental institutions.

13 Key documents authorizing such changes are: Ordonnance n° 2009-001, of 17 March 2009; and Ordonnance 2009-002 of 17 March 2009.

14 Meeting with the Ministry of Foreign Affairs.



2. Methodology



2. Methodology

The current report used as its starting point the Desk Survey, the research for which was undertaken simultaneously by the project consultant. This initial research relied on internet sources and was then supplemented by additional national and sub-national laws and regulations obtained during the country visit, although it was not possible to obtain copies of all relevant laws mentioned by interviewees.

Localities for the Country Visit

The focus of the country visit was on stakeholder interviews. Meetings held in the capital provided an account of the subject at the national level. When choosing the locations for the regional and local visits, preference was given to visiting areas affected by cyclones and floods, as these hazards strike Madagascar on a regular basis. In particular, it was decided to visit areas hit by Cyclone Giovanna in February 2012, which had devastating effects in terms of population affected and economic losses. While it is recognised that other natural hazards also affect the country, especially locust invasion and drought, it was not possible to meet with communities affected by these hazards in other parts of the island within the limited time frame of the present study. The methodology was to hold more in-depth focus groups in a sample of communities in one region affected by Cyclone Giovanna, rather than attempting to cover all regions and hazards.

The country visit was divided into meetings at national, regional and local levels, as follows:

- 1) Week one in the national capital, Antananarivo;
- 2) Week two in the Atsinanana region, an eastern coastal region which was affected by Cyclone Giovanna. The capital of the region is Tamatave/Toamasina,¹⁵ located about 350 km east of Antananarivo, and meetings were held with regional authorities based in the capital of the region, together with relevant stakeholders. Also of interest is that this town has the main and largest seaport nationwide, from which most of the import/export activities take place. The region also hosts major industries, such as Ambatovy (located in the village of the same name), a partnership of four international companies specialized in the extraction of minerals, especially nickel and cobalt.¹⁶ Tamatave/Toamasina is considered the second most important city of the country;
- 3) Week three at the local and community levels, in Brickaville, one of the seven districts that form the Atsinanana region, which is located about 100 km west of Tamatave/Toamasina, and which was severely hit during the Cyclone Giovanna. The District of Brickaville has 187,000 inhabitants, according to the 2011 census. Meetings were held with local authorities and stakeholders were at the district level (the District of Brickaville comprises seventeen municipalities, or 'communes'), and also at the municipality level, namely in the Municipality of Brickaville.

Community visits were held in three municipalities, two rural and one urban, all of them regularly hit by natural hazards, especially cyclones and floods, including Cyclone Giovanna in 2012. All communities visited belong to the District of Brickaville. The idea was to gather the views of both rural and urban communities, bearing in mind that all were recently affected by natural disasters.

They were:

- a) the rural Community of Namahoaka, part of the Municipality of Vohitranivony, and located about 15 km Northeast of Brickaville town. Established at the end of the 19th century, the population is currently around 725, the average family has 4-5 children, and women significantly outnumber

¹⁵ The first is the Malagasy name to the town, and the second is the French name.

¹⁶ See their website, namely <http://www.ambatovy.com>, visited on 29 December 2012.

ber men. Many community members tend to leave to search for work elsewhere, sometimes as itinerant traders. The community is ethnically homogeneous, with all but two individuals being from the original people inhabiting the area between Brickaville and Tamatave, called the Betsimisarako.¹⁷ Their main livelihoods are rice cultivation and zebu farming.

- b) the rural Community of Vohiboazo, part of the municipality of Mahatsara, and located about 36 km Southeast from Brickaville town. Their main livelihoods are rice cultivation and production of straw hats by the women; and
- c) the urban fringe Community of Ambodiapaly, part of the municipality of Brickaville, located on its outskirts. Established in the first half of the 20th century, the population is around 750, with a significant minority of people who come from other parts of the country. Their main livelihood is agriculture, cultivation of rice, corn, manioc and beans.

Stakeholder Interviews

In choosing the stakeholder organisations for interview, attention was paid to covering the range of subject areas relevant to legal frameworks to support DRR, and range of types of organisations. The starting point for interviews were those concerned with DRR in the context of disaster risk management, including the governmental institutions and organisations working on the issue, the MRC, NGOs and international organizations (mainly UN agencies), and then with specialists in related areas of law not always associated with DRR (mostly those covered in sections 3.5 to 3.7 of the current report).

Every effort was made to meet the greatest possible number of stakeholders who could provide inputs on the different subject areas covered in the terms of reference. The challenge within the project timeline was to meet the key stakeholders specialized in different subject areas (such as DRM, built environment, forest management) in all levels of government relevant to the research (national, regional, local and community level). Hence, coverage at all levels of government was only attained in relation to DRR in the disaster risk management system, while other areas of regulation were discussed with relevant stakeholders at the very minimum at one administrative level. While this approach covered all the themes, one difficulty was that there was less opportunity to compare information on similar subject areas at different levels of government, requiring some caution in validation of information.

Interviews with stakeholders were structured conversations based around guiding questions, which were adapted to the particular expertise or field of work of the interviewee. The interview method sought, first of all, to identify the legal framework applicable to the work of the particular stakeholder, so that any additional laws, regulations or policies they mentioned could be sought out and later analysed. But the primary objective was obtain the stakeholder's view of the ways the legal framework supported DRR and the institutional system, and its real impact on communities, together with good practices they would like to share that could serve as inspiration to other countries facing similar situations, or challenges still to be met. Especially when the legal framework was already known by the consultant, or when the stakeholder was not familiar with the existence or the content of existing legislation on the subject, attention was also given to further initiatives, projects and programmes related to DRR that may have an impact at the community level. Finally, stakeholders were asked to add any particular aspects they considered relevant and which were not touched upon by the consultant during the interview, or any questions or comments they had.

17 Visit to the Community of Namahoaka.

Community Focus Groups

Community focus groups were conducted by the consultant and an MRC representative with knowledge of the area visited, who also provided Malagasy-French interpretation. On average, each meeting with community members had about 30 participants. In introducing the subject and purpose of the meetings, attention was paid to key areas relevant to DRR and issues of relevance to the research. However, community members were invited to share their views on the areas covered by the research or those they considered related and that they felt affected them and were worthy of discussion. A challenge when speaking with communities was that they lacked knowledge of laws and regulations in general, as well as the specific regulations that may be relevant to their localities. It was indicated that they had little engagement with public institutions, including local government, that some people were not literate, and also that their language was Malagasy while the laws were in French.

Separate group meetings were held when found necessary. For example, in one community, the head of the community and his main counsellors spoke formally for the community, but as there were no women serving as counsellors to the head of the community, a subsequent meeting was held with the women of that community. This measure was considered necessary to make sure women could bring any matter relevant to them to the attention of the consultant. In other communities, a single long meeting was held with all those interested in sharing their experiences, and all adult participants shared their views and joined the discussion. There were significantly more women than men present in all the communities visited. Also, the visiting delegation spoke individually with some community members before and after the official meeting, with some leading figures or other community members who wished to approach the delegation individually.

During community visits the consultant and MRC delegation sought to pay particular attention to the poorest of the community, but in fact it was observed that generally community members lived in equally straitened conditions, with very limited economic resources.

The delegation also strived to visit key areas and points cited by each community, for example: houses affected by Cyclone Giovanna; houses rebuilt with the support of different NGOs; a new water pump built up by an NGO; a latrine built by community members after an NGO intervention on water and sanitation awareness-raising with incentives to the community (namely a package of 18 kg of rice for every family who built a latrine); and a river which a community used for washing clothes and dishes, bathing and playing, but which some of its nearby members used as toilets and/or for garbage disposal.

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3. Findings on Regulatory Frameworks for DRR and their Implementation

3.1. DRR in Disaster Management Law & Institutions

National Level

There are two key laws in Madagascar that deal with disaster risk management. They are: Law No. 2003-010, of 05 Sep 2003, on the national policy on disaster risk management (hereinafter: 'DRM Law'), and Decree No. 2005-866, of 20 Dec 2005 (hereinafter: 'DRM Decree'), which provides detailed rules for the application of the 2003 DRM Law.¹⁸ These two laws apply at all levels of government, however, at the sub-national level, there are further laws which build upon them, primarily seeking to establish DRM committees at their respective levels of government. Neither of these laws is focused on DRR, but both cover preventive activities in a general manner.

The legal framework provides for three key national DRM institutions, namely: the National Disaster Risk Management Council (hereinafter National DRM Council),¹⁹ the National Disaster Risk Management Coordination Office (hereinafter "BNGRC" for its commonly used acronym based on the French Bureau National de Gestion des Risques et des Catastrophes) and the Unit for the Prevention and Management of Emergencies (hereinafter "CPGU" for its commonly used acronym based on the French, Cellule de Prévention et de Gestion des Urgences):

- The National DRM Council was envisaged as an inter-ministerial strategic body with advisory and supervisory roles,²⁰ but in practice it is not operational.²¹
- The BNGRC is the operational arm in the national DRM system,²² and is in charge of DRM activities throughout the country. The legal framework provides for the establishment of DRM committees at each level of government (following the model of the national BNGRC).²³ It has the lead role in managing disasters, both according to the legal framework and in practice, and is responsible for collecting, gathering and distributing information and assistance, among other activities. Based on interviews during the country mission it can be said that the BNGRC is the official body playing the lead role in disaster response, which also has a key role to play in DRR.
- The CPGU is the third relevant body in terms of DRM. It is represented in the capital only and it has a team of 20 persons.²⁴ According to the legal framework, it is a technical body in charge of advising the prime minister, the head of the government and the National DRM Council on disas-

18 There are further laws that also pertain to DRM but which are accessory to the key legal framework. Examples at the national level are: (1) Decree No. 2006-904, of 19 December 2006, providing further details on the BNGRC's structure and role; and (2) Decree No. 2006-892, of 12 December 2006, providing further details on the structure and organisation of the Unit for the Prevention and Management of Emergencies - CPGU. Examples at the regional level are: (1) Order (Arrêté) no. 007/REG/ATS/AG/GRC, of December 2012, sets the creation of a DM Committee in the Region of Atsinanana; (2) Order (Arrêté) no. 004/2012 of 12 September 2012, establishing an Industrial Risk Management Commission in the Region of Atsinanana; and (3) Order (Arrêté) no. 015/2012-REG/ATS/GRC, establishing a Regional Committee for Essential Services, in the framework of preparation and response to major disasters in the Region of Atsinanana.

19 In French - Conseil National de Gestion des Risques et des Catastrophes (CNGRC). DRM Decree, arts. 5-6.

21 Meeting with CPGU, UNDP.

22 DRM Decree, article 5 and article 20; and Decree No. 2006-904, of 19 December 2006, providing further details on the BNGRC's structure and role.

23 DRM Decree, art. 10.

24 Meeting with the CPGU.

ter issues, especially on strategy and evaluation.²⁵ It was created as an ad hoc structure intended to tackle a food crisis that affected Madagascar in 2005.²⁶ After the crisis had been dealt with, the Government decided to keep the CPGU in place, and its mandate has evolved to include a range of DRM activities, such as drafting a decree on anti-cyclone buildings, a Relief Organisation Plan (Plan ORSEC²⁷), an atlas on natural disaster risks, and the organisation of a workshop about DRM legislation for NGOs working in Madagascar.²⁸ The CPGU also seems to be informally filling a gap by taking on part of the role originally envisaged for the National DRM Council which, as noted above, has never become operational.²⁹ It has also been active in training and capacity building on DRR, in particular, as part of a World Bank initiative.³⁰

The operation in recent years of both the BNGRC and the CPGU in the field of DRM was described by different external stakeholders as confusing at times. For example, some NGOs represented in the capital, identified the CPGU rather than the BNGRC as in charge of the DRM system. Others said it was hard to know which organizations to approach on specific natural disaster issues.³¹ For example, it was noted that usually an annual DRM contingency plan was drafted and validated by the BNGRC, whereas a similar or overlapping role appeared to have been allocated to the CPGU in recent years in the form of drafting a Relief Organisation Plan (Plan ORSEC). During the period of stakeholder validation of a draft of this report, however, the case study authors were advised that the government has now moved administratively to clarify and differentiate the roles of these two institutions. In any event, outside the capital the potential overlap in roles of these two institutions has had less impact, since only the BNGRC has a sub-national institutional structure in place, and also long standing cooperative arrangements with counterpart institutions at the different levels of government.³²

Prior to the political changes that affected the country from 2008, the national government was also able to play a more central role in DRM in Madagascar.³³ For example, a committee was set up under the auspices of the BNGRC in order to bring together all relevant actors in the sector operating in Madagascar (national and international NGOs, ministries and further governmental structures, etc.).³⁴ The committee, named the Stakeholders' Committee for Reflection about Disasters (CRIC³⁵), is still operational and it facilitates the exchange of information relating to disasters between different partners. It was reported, for example, that often before a cyclone strikes, a CRIC meeting is held with the meteorological services in order to estimate its likely impact.³⁶ After a cyclone, partners jointly evaluate the situation, in order to collaborate in terms of response and to agree upon what action each of them should undertake. CRIC's establishment

25 DRM Decree, article 5; and Decree No. 2006-892, of 12 December 2006, providing further details on CPGU's structure and organisation.

26 Interview with MRC representatives. Interview with representatives of the BNGRC. 26 Interview with MRC representatives. Interview with representatives of the BNGRC.

27 ORSEC is the acronym for its initials in French, Plan d'organisation des secours.

28 Meetings with CRS, FID, CPGU, and the CRM.

29 Meeting with OCHA.

30 The USD 1.2 million grant provided by the World Bank covered the period 2008-2012, with a view to providing support for DRR initiatives. Interview with the CPGU.

31 Meeting with OCHA.

32 Meeting with OCHA.

33 Interview with CRM representatives.

34 Meeting with UNDP.

35 CRIC is the acronym for its initials in French, Comité de Réflexion des Intervenants en Catastrophes.

36 Interview with MRC representatives.

preceded the United Nations Office for the Coordination of Humanitarian Assistance's (OCHA) representation in the country. OCHA was integrated into the existing system, bringing with it the UN 'cluster approach' for coordination within sectors and both structures collaborate side by side. However, interviewees reported that the recent political instability has weakened these coordination structures and that the OCHA has consequently played a greater role in DRM.³⁷

Beyond the legal framework on DRM, there is a much more detailed policy document, the 'National Strategy for Risk and Disaster Management', which was prepared in 2003, but never officially adopted.³⁸ According to stakeholders interviewed during the country mission, this strategy document was being reviewed by several organizations, especially the BNGRC and the CPGU, and updated to take account of the HFA. The overall idea was to adopt a revised and updated version of the strategy, although there was no apparent intention to give it the status of law.³⁹

As yet, there is no legal provision or effective policy that requires the allocation of a portion of the national budget for DRM activities, including those related to DRR, and lack of resources remains a challenge for the setting up and effective operation of such sub-national DRM structures. In terms of funding for DRM efforts, during the country mission, the consultant was informed that the Ministry of Finance was setting up a fund to deal with reconstruction post-natural disasters, called the 'National Contingency Fund'. The idea is to attract donations by different actors, including the World Bank, and to enhance transparency.⁴⁰ This proposal did not appear to include a specific element to fund DRR programming.

Today, the legacy of Madagascar's previous capacity in the field of DRM can be identified particularly in relation to immediate preparedness and disaster response. For example, regarding preparedness, it was reported that 24 hours before the predicted passage of Cyclone Giovanna a BNGRC team had already reached areas in Brickaville that were likely to be hit. The team cut old tree branches and took other similar measures in an effort to reduce potential risks that could harm people/property once the cyclone hit the town.⁴¹

Collaboration between operational partners also takes place principally in simulation exercises to prepare them to respond to natural hazards. Several stakeholders praised such efforts, which they consider improve stakeholders' capacity to handle real emergency situations. Also, sometimes participants from different neighbouring countries, such as the Comoros Islands, join the training and learn from the Madagascar experience. Such drills may be coordinated by different partners, such as the BNGRC, or OCHA.⁴² While an essential part of DRM, however, these preparedness efforts do not extend to more far-reaching aspects of DRR.

Sub-National Structures and Coordination

A general note regarding governmental institutions in the country, is that some stakeholders pointed to the priority given to decentralization. However, many felt that, in practice, this had

37 Interview with MRC representatives.

38 The French title of the document is *Stratégie Nationale de Gestion des Risques et des Catastrophes*. Interviews with UNDP, CPGU, OCHA.

39 Meetings with the BNGRC, CRM, UNDP. Further stakeholders include the UNDP (especially through a consultant commissioned with the task of conducting the Country Situation Analysis together with local partners, and thus contributing to the assessment and updating of the existing DM policy document).

40 Interview with CPGU.

41 Meeting with the NGO Saint Gabriel/Tamatave.

42 Meeting with UNDP.

resulted in a larger number of smaller government offices across the country that lacked capacity and resources for effective implementation, even while they employed more people. For example, water and forest management was previously covered by one single public entity, whereas now each of these is covered by a separate entity and has parallel but smaller offices with fewer resources. The view of many stakeholders was that this process had dissipated government efforts in DRR without gaining the intended benefits of responsiveness to local needs.

DRM Committees at sub-national level are in charge of coordinating the response by different partners, but they also in some cases collect donations for distribution (which some communities found problematic, as discussed below). Such DRM Committees organise regular meetings with all available humanitarian actors active in the area. Following a cyclone, for example, meetings are held every two days immediately after the passage of the cyclone (emergency phase), then every week for the month following the cyclone, then every month, and finally every three months only. This allows assisting actors to be better informed, to collaborate and to coordinate their actions. In the District of Brickaville it was reported that during the emergency phase more than thirty stakeholders operated in the district, and that therefore collaboration was crucial in order to avoid duplication of effort.

Despite local resource shortfalls, the collaboration of different partners on the ground was generally pointed to as being a very positive feature in the country, especially in terms of collection and sharing of information in relation to natural hazards. There are different structures which facilitate such collaboration, for example the DRM Committee structures at the lower levels of government administration, the CRIC, and NGO consortia or umbrella organisations. Examples of further structures facilitating the exchange of information, particularly amongst NGOs working on DRR, are the efforts by the Disaster Preparedness - European Community Humanitarian Office (DIPECHO) and a Joint Initiative for Advocacy in Disaster Risk Reduction in Madagascar (ICPM).⁴³

So far, coordination between different actors at regional and local level has been most effective in immediate preparedness, disaster response and recovery rather than DRR. Interviewees recounted that after the passage of Cyclone Giovanna many organisations worked in Brickaville, and they collaborated with each other. First of all, a joint initiative to assess the damage and impact of the cyclone was organised, and conducted by the MRC, which took the lead with the support of other actors. After that, for example, CARE collaborated with Catholic Relief Services (CRS) in the reconstruction of houses, while the World Food Programme (WFP) distributed high nutritional content biscuits for the affected community. In the same context, Intervention Fund for Development (FID⁴⁴) organised cash-for-work schemes.⁴⁵ Furthermore, many of these actors prepare in advance for the cyclone season. For example, in November each year the MRC mobilizes staff and teams of volunteers on the ground to prepare for a quick response in the event of a cyclone, organising them into Disaster Response Teams. Information is spread to communities to prepare themselves accordingly, especially through stocking key items (such as non-perishable food, candles, etc.) and also information on how to protect themselves, such as seeking refuge underneath tables during the passage of the cyclone.

Region of Atsinanana

The two national DRM laws are supplemented in the region of Atsinanana by Order (Arrêté) no.

43 Meeting with UNDP. ICPM is the acronym for its initials in French, Initiative Commune de Plaidoyer pour la Réduction des Risques des Catastrophes à Madagascar.

44 For the French: Fonds d'Intervention pour le Développement

45 Interview with FID.

007/REG/ATS/AG/GRC, of December 2012, which creates a DRM Committee in the Region of Atsinanana. However, the establishment of such DRM Committees at all the different levels of government remains a challenge, and, to date, there are only a small number of DRM Committees established at the sub-national levels. These also tend to operate mainly when confronted with actual or imminent natural disasters.⁴⁶

No other legislative or government initiative focusing on DRR was identified during interviews in the region of Atsinanana. Interviews also indicated that DRM practice was directed towards disaster response and early recovery. Currently there is no budget for DRR activities, and actions tend instead to concentrate on the response to disasters, though some partners have prevention measures in place such as storage of basic emergency items to prevent shortages in immediate basic needs following a cyclone.⁴⁷

The key actor at the regional level is the Directorate of General and Territorial Administration (DAGT⁴⁸), which organises and leads a regional collective body in charge of DRM – the Regional Committee for Disaster and Risk Management.⁴⁹ The region has a contingency plan, drafted with the assistance of the governmental authorities,⁵⁰ which covers different disaster phases -for example, before, during and after the passage of a cyclone- identifying and assigning tasks for actors working in different sectors, especially health, industry, security, and the police. The Atsinanana region has had a contingency plan since 2009, and this is renewed every year. The consultant was also informed that the region has a Relief Organisation Plan (plan ORSEC) covering health and other issues, which is applicable in all seven districts forming the region. The BNGRC provides general support for contingency plans, but the plans are put into operation through DRM committees set up at regional,⁵¹ district, municipal and local levels. However, the focus remains on immediate preparedness, response and recovery.

It was reported that, in November 2011, a simulation exercise took place for the contingency plan on cyclones in Atsinanana, and that this proved crucial a few months later, when Cyclone Giovanna hit the region. Such simulation exercises bring together different sectors organised in various commissions. Examples are the social commission, comprising the National Education Service, the National Office for Nutrition, and the MRC, the logistics commission, including a representative of the Ministry of Public Works, and the security commission, represented by the gendarmerie, the National Police, and the fire-fighters.

Simulation exercises also include the head of the regional government (chef de région), representatives of all decentralized services of the ministries in the region, donors and partners -

46 According to the DRM Decree, at the subnational level the following structures should be set up: (1) Provincial Committee on Risk and Disaster Management at the provincial level; (2) The Regional Committee and Risk Disaster Management at the regional level; (3) Committee on Risk and Disaster Management at the District level; (4) Communal Committee Risk and Disaster Management at the level of municipalities; and (5) Local rescue team at Fokontany (community level). See DRM Decree, article 10. However, in practice, the setting up and the running of subnational bodies is largely non-existent or defective. Be that as it may, in the area visited during the country mission, it was reported by different stakeholders that there are such bodies set up at least at the regional, district and communal levels. This clearly facilitates the management of disasters and the sharing of information.

47 For example, the NGO Saint Gabriel in Atsinanana, due to the support of UNICEF, is able to keep a stock relevant to WASH activities that could address the urgent needs of about 5000 families in the event of natural disasters. Interview with the NGO Saint Gabriel in Atsinanana.

48 DAGT is the acronym for its initials in French, Direction de l'Administration Générale et Territoriale.

49 Meeting with the representative of Health Services (Mobile Intervention Service – Atsinanana Region). Copy of the most recent contingency plan for the region (of December 2011) was handed over to the consultant.

50 For example, meeting with the NGO Saint Gabriel in Tamatave.

51 As already mentioned, in Atsinanana this is the Regional Committee for Disaster and Risk Management.

(including the WFP, CARE, CRS, the NGO Saint Gabriel, etc.). An exercise normally lasts for two days (one for preparation and one for the simulation exercise), and it was regarded as good practice.⁵² Partners indicated that such exercises enabled them to be ready to meet quickly and agree on future action in the event of the meteorology services announcing, for example, the imminent passage of a cyclone. However, as noted above, the focus of these activities is on response rather than prevention and DRR. It was further reported that the local population does not participate in the planning or conduct of these exercises, as the simulation exercises are rather designed to make sure different institutional actors know what are their roles in case of an emergency.

Similar exercises are organised by the MRC, such as the three-day training and simulation exercise that was taking place in the District of Mahanoro during the mission to Atsinanana. This initiative covered a multi-risk situation, namely cyclone, floods, political conflict and fire. The exercise was organised by the MRC in collaboration with different actors and institutions, such as local fire-fighters, police and hospital, and a local soap company, which donated basic hygiene items for the drill exercise. The training addressed MRC youth representatives of seven districts of the Atsinanana region, together with a group of 50 people from the local population (men, women and children). Topics covered in the activity included: providing for the basic food and water needs of the affected population, together with hygiene and sanitation measures, the prevention of violence against women and other types of violence, and the management of refugee and IDP camps. This exercise was similarly considered to be good practice in DRM, and reflects a high level of cooperation and expertise in preparedness and response.

The types of cooperation and expertise developed in the training and simulation exercises described above, while representing good practice fundamental to effective humanitarian response, have yet to be harnessed in the same ways to focus on risk reduction. There is clearly great potential for such cooperation on DRR amongst stakeholders in Madagascar, given the scope and depth of these simulations on disaster response.

District Level – Brickaville

According to interviews conducted during the visit to Brickaville District, the lack of resources for the DRM Committee established at district level severely hampers its activities, especially in terms of DRR.⁵³ It was noted that funds are centralized with the BNGRC in the capital, and there were no available resources for such sub-national DRM Committees.⁵⁴ It was equally noted that communication between different DRM institutions, such as the committees set up at different levels of government, is far from ideal, and that there is a need for a better flow of information.

Community Level

In all three communities visited there was no DRM committee set up at their local government level (local/community/Fokont any level), even though this is required under the national DRM

⁵² Meeting with DAGT/Atsinanana region.

⁵³ Meeting with the Head of District of Brickaville.

⁵⁴ Meeting with the Head of District of Brickaville.

⁵⁵ Also, in at least one community members had no idea about the existence of any DM committee at community level. Visit to the rural Community of Ambodiapaly.

Law and Decree.⁵⁵ In a visit to one community it was said that governmental authorities do not prepare the community for seasonal disasters,⁵⁶ but that some NGOs do so, starting as early as October for the rainy season.⁵⁷

Community members said that they feel disconnected from local government authorities and consequently from the whole state apparatus (hence the lack of knowledge of/interest in the laws in place). In this regard, it is remarkable that all communities mentioned their wish to be approached directly by humanitarian actors, especially NGOs, the MRC and international organizations, interested in setting up programs at the community level. Suggestions in this regard relate to training and education programmes and/or the construction of any physical improvement in the communities.

Another aspect reported was that local authorities rarely come to visit affected communities. By contrast, non-government actors come to support projects that include crucial DRR activities to which the communities would not otherwise have access. For example, in one community visited, CRS and the Development Body of the Diocese of Toamasina (ODDIT)⁵⁸ assisted with rebuilding stronger houses, which were built with local materials and designed to better resist the passage of cyclones, a key DRR measure against the major hazard they face. A similar example was that the Intervention Fund for Development (FID)⁵⁹ facilitated the construction of irrigation channels, and the NGO Saint Gabriel assisted the community in relation to potable drinking water, building a water pump. Similarly the MRC built water pumps in other communities. These projects reduced the risk of waterborne disease disasters and increased food security through access to irrigation for agriculture.⁶⁰ It was also mentioned that after providing a tangible item or improvement to the community, such non-government actors often organise training or sensitization sessions on particular subjects. For example, while building an irrigation channel in the community, FID conducted training sessions on wildfire and on family planning.⁶¹

The only legal framework that was pointed out as being of some value for communities in DRR was the customary rules drafted, adopted, applied and enforced by the community itself, known as 'dina'. These were considered of value because dina are drafted with the direct participation of community members (men and women), they deal with immediate concerns of the community, and aim to achieve the common good that will benefit the entire community.⁶² However, even these rules were reputedly observed with mixed levels of success by different communities and by different community members (some argued that close relatives of the heads of communities often evade compliance with the rules with no consequences, which therefore discourages other

56 Information confirmed in the Community of Ambodiapaly.

57 Visit to the Community of Namahoaka, mentioning activities undertaken by the NGO ODDIT.

58 ODDIT is the acronym for its initials in French, Organe de Développement du Diocèse de Toamasina.

59 FID stands for the name of the body in French, namely 'Fonds D'Intervention pour le Développement'.

60 Visit to the Community of Namahoaka.

61 Visit to the Community of Namahoaka.

62 Be that as it may, it is noteworthy that 'dinas' can be quite controversial when covering other subject areas, especially because they serve not only as quasi-laws but sometimes operate as quasi-judicial system. As example, in 2008 the UN Human Rights Committee indicated that Dinas as system of customary justice do not always produce fair trials. The Committee further regretted that summary executions have been carried out on the strength of Dinas and invited Madagascar to ensure that no similar further summary executions are carried out. Madagascar provided assurance to the Committee that Dinacan no longer intervene in anything other than minor offences, and under judicial supervision. See UN Human Rights Council, Universal Periodic Review: Compilation prepared by the Office of the High Commissioner for Human Rights, in accordance with paragraph 15 (b) of the annex to Human Rights Council resolution 5/1, 24 November 2009, A/HRC/WG.6/7/MDG/2, available at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G09/172/01/PDF/G0917201.pdf?OpenElement>[accessed 15 March 2013], pages 7-8.

community members from abiding by the same rules).⁶³ It was evident, however, that despite poverty and a lack of formal education, community members had many strategies and local knowledge that they used to prepare for disasters. All communities visited were well aware of the natural disasters they regularly face, and they have developed their own coping mechanisms to deal with them, though they amount to practical solutions directed towards meeting their immediate needs, and rarely relate to particular legislation in place in the country.

Key finding 1: DRR in Disaster Risk Management Law and Institutions

Madagascar has a DRM Law and Decree which focus more upon immediate preparedness, response and recovery than on DRR. The demonstrated high levels of cooperation between different stakeholders in response efforts at national and local levels indicate a capacity for similar efforts in DRR, given sufficient legal mandates and institutional resources. However, so far, there is no separate allocation of funds for DRM activities in general, including DRR, and many stakeholders reported that a lack of resources affects the system. For example, the law provides for the setting up of DRM committees at all levels of government, but at sub-national level this remains a challenge.

Two of the DRM institutions foreseen in the DRM legal framework are operational in practice. These are the BNGRC, and the CPGU. In practice, their roles have overlapped somewhat, and there remains room for greater clarity on their respective institutional mandates concerning DRR, which could be achieved through legislation or regulatory instruments.

Currently laws and public institutions do not play a substantial role in DRR initiatives in the communities visited, a role which has been taken on by the MRC, national and international NGOs and international organizations. Some communities have also developed their own customary laws ('dina') to regulate aspects of disaster risk, with some success.

63 Meeting with NGO ODDIT.

3.2. Responsibility, accountability and liability for natural disaster risk reduction

There is no specific legal instrument regarding government responsibility and liability linked to natural disasters, and the eventual rights of those affected by them, although there are references of a general character in different laws. The 2010 Constitution refers to some rights of relevance, for example, the right to life and the prohibition against discrimination.⁶⁴ Also general responsibility clauses are found in the Civil Code, mainly suggesting that a person shall be responsible for damage he or she has caused, but that civil liability will not arise if damage was caused by force majeure.⁶⁵ Thus, it is unclear to what extent natural disasters would be covered by such provisions, to include inaction by authorities with responsibility to prevent or limit the negative effects of natural hazards. Regarding criminal responsibility, the Penal Code makes it an offence to refuse or neglect to do work, service, or lend assistance in the case of exceptional situations, including flood, fire, swarms of locusts and other calamities (with penalties ranging from fines to imprisonment).⁶⁶ It was not possible within the scope of the present study to research case law on the application of these provisions in the event of natural disasters.

When asked about responsibility and accountability, the general consensus that emerged from stakeholder interviews was that they did not consider it possible to hold persons to account in relation to natural disasters. Information was also received that meteorological services broadcast the weather forecast and information on the likelihood of natural disasters hitting the country, but that in the event of the broadcast of a false or wrong alarm, no penalty would follow.⁶⁷ Stakeholders indicated that although the law assigns some tasks and responsibilities in the field of disaster risk reduction, no instances of authorities or private persons being held to account by legal means have been reported.

There is neither mandatory insurance nor the possibility of government compensation relating to natural disasters, even in cases of the loss of agricultural production or of house damage/destruction.⁶⁸ Even public institutions are not covered by mandatory insurance. Although private insurance companies may in principle cover damages arising from natural disasters, in practice the general public does not use their services.⁶⁹

Key finding 2: Responsibility, Accountability and Liability for Natural Disaster Risk Reduction

There is no specific law on responsibility and liability in natural disasters, although different laws contain provisions on responsibility, which could in principle apply in relation to DRR. In practice, however, individuals are not held legally accountable in these situations.

There is neither law nor practice providing for compulsory insurance and compensation in relation to natural disasters.

64 2010 Constitution, article 8 (right to life) and article 6 (non-discrimination clause).

65 Law No. 66-003, of 02 July 1966, on the general theory of obligations (part of the Civil Code), articles 229-230.

66 The Malagasy Penal Code (CHAPTER II: OFFENCES AND PENALTIES. SECTION II: SECOND CLASS), article 473(4).

67 Interview with the CRM.

68 Meeting with FID. Meeting with the CRM.

69 Meeting with the CRM (national office) and the IFRC (regional representation).

3.3. DRR and Law on Specific Hazards (Sectoral laws)

3.3.1. Cyclones

Regarding specific hazards, there is a recent legal instrument covering the construction of public buildings resistant to cyclones, which is considered in section 3.5 below.

3.3.2. Fire

There are some legal liability provisions covering fire, of both a civil and a criminal nature. According to the Civil Code: “He who holds in any capacity all or part of a building or movable property in which a fire started is liable vis-à-vis third parties for damages caused by the fire only if the fire is attributed to his fault or the fault of persons for which he is responsible.”⁷⁰ The Penal Code contains provisions on wilfully, negligently or recklessly setting fire to movable or immovable property of others, with stronger penalties if such a fire results in death⁷¹. Wilful setting fire to forests that do not belong to the actor is also a criminal offence, and more specific criminal provisions exist in relation to fire set in forests and other vegetation, which are discussed in section 3.6, below.⁷²

3.3.3. Floods

There is no legal instrument generally covering floods. Nevertheless, some legal regulation exists, mostly dealing with a particular situation or area. For example, reference was found to a law authorising the creation of flood protection bodies, though it was not possible to obtain a copy of the text.⁷³ However, from the Desk Survey, an example of legislation creating one such body was identified in relation to the city of Toliara.⁷⁴ The local emergency cell is assigned the task of protecting this particular city against flooding. It must take the necessary measures in both the prevention and the protection of the Dyke of Toliara and its related structures in case of disasters. Not only floods but other disasters are covered, namely hurricanes, tropical storms, fires of a large scale, earthquakes and similar situations. Prevention initiatives provided for by this law include education, information and public awareness, which are to be ensured by the emergency cell according to its capabilities (although there is no legal provision for financing the cell).

A further specific legal instrument identified during the Desk Survey deals with floods in the Antananarivo Plain area, which provides for, among other things, the financing of activities to mitigate the effects of floods.⁷⁵ It sets a system for collecting participation fees, start-up and annual fees, from those whose lands benefit from dykes and similar works aimed at protecting the area against floods.

70 Law no. 66-003, of 02 July 1966, on the general theory of obligations (part of the Civil Code), article 216 (emphasis added).

71 Penal Code Article 434; and Article 473 (17) together with Art. 320bis (part of the Book III, Title II, Chapter I, Section III, covering homicide among other crimes).

72 Penal Code, article 434.

73 Law No. 95-034, of 30 October 1995.

74 Order No. 7539/99, of 02 August 1999, establishing the local emergency cell to protect the city of Toliara against floods. Document jointly adopted by the Ministries of Interior, Planning and the City, Agriculture, Environment, Water and Forests, and Public Works, articles 1-2.

75 Order No. 33594/2010, of 15 September 2010, on the reorientation of the Authority for the Protection against flooding of the Antananarivo Plain. Jointly adopted by the Ministries of Water and of Finance and Budget, articles 1-3.

3.3.4. Insect Infestations

Regarding insect infestations, two references in early laws were identified, which are apparently still valid, though no copies were available (also, because the service in charge of this matter is based in the south-west of the country, located in the region where this particular type of natural disaster normally takes place).⁷⁶ The relevant laws are: (1) Order (Arrêté) No. 557/71 of 12 February 1971, establishing an advisory committee to monitor the studies and work undertaken in the research project on the Malagasy Migratory Locust; (2) Circular of 2nd December 1925, relating to measures to be undertaken for the destruction of locusts.

3.3.5. Drought

Similarly, no specific law was found on the subject of drought. Only two specific legal documents relating to combating desertification were identified, and no copies could be obtained during the country visit. They are: (1) Decree no. 2003-199, of 11 March 2003, adopting the National Program to Combat Desertification; and (2) Order(Arrêté) no. 6162-2003, of the Ministry of the Environment, of 16 April 2003, setting up the body for national coordination of the UN Convention to Combat Desertification.

3.3.6. Tsunami

No specific laws were identified relating to tsunami risk, but as one of the risks faced in Madagascar it is part of the early warning systems, as described in 3.4 below

3.3.7. Practice at Local Level

Although no legal instruments were mentioned regarding specific risks, some stakeholders pointed out relevant practices in relation to particular types of natural disaster that occur in the district visited (Brickaville), namely cyclones, floods and fire. Common measures the MRC and NGOs teach the communities include: putting sandbags on rooftops, strengthening roof structures, and firmly closing windows to avoid houses being damaged with the passage of a cyclone. The population is encouraged to stock and ration non-perishable food, water, batteries and candles, to cut tree branches likely to fall during a cyclone and to be ready to seek shelter in large buildings such as schools and churches during its passage.⁷⁷ It was also mentioned that communities are more than happy to receive training on DRR against natural disasters, especially cyclones, because they know these regularly hit the region. However it was observed that, in every community, some people refuse to engage in DRR activities, either because they do not want to engage or because they are not convinced it is possible to reduce disaster risk. Unfortunately a lack of resources has recently reduced the training activities of the MRC in Brickaville, especially since its office was destroyed during Cyclone Giovanna. Since then, it has had very limited facilities with which to operate, including basic tents, and has so far been unable to replace its canoe (pirogue) - to be able to provide aid during flooding, when all streets become flooded and otherwise inaccessible - or to obtain sufficient first aid material, including cervical neck collars, to assist those people who are regularly run over near major roads.

In relation to natural disasters, the practice of the MRC in Brickaville is to collect information and data to get a clear picture after the passage of the cyclone about the number of dead and injured, and the damage caused. For this, they involve 312 MRC members in the District of Brickaville (distributed across its 17 municipalities), comprising both volunteers and paying contributors.

⁷⁶ The service is called Centre National Anti-Acridienne (Anti-Locust National Centre).

⁷⁷ Meeting with the CRM (Brickaville). Preventive measures were confirmed as practice adopted in the Community of Ambodiapaly.

In relation to fires, the consultant was informed that every year in the District of Brickaville about 17 lightweight houses are hit by fire.⁷⁸ Moreover, there is no fire fighting service in the district, and therefore in case of fire the population does its best to cope without assistance. The practice adopted by the local MRC is to ring church bells in case of fire, which is a sign for the population to come and help fight the fire.

In the visit to the rural Community of Namahoaka it was reported that floods occur approximately three times each year.⁷⁹ Community preparation for floods includes food storage and leaving a canoe on standby ready to be used. Community members said that, when there is a flood, the narrow unpaved road to the village is covered with water and that the nearby river over flows and its water becomes dirty. Various damage follows, particularly the destruction of crops, especially rice and corn. However, in relation to livestock, they take precautions by moving large animals such as zebu to higher and safer locations in advance. Normally floods do not cause loss of life, but it was reported that they bring diseases, such as diarrhoea and headaches.

Key finding 3: DRR and Law on Specific Hazards

There are examples in Madagascar of legislation covering specific hazards, though little reference is made to DRR as such. Cyclones are covered under specific construction laws. Fire in general is covered by civil and penal legislation, but there are specific laws covering wildfire. No general law was found in relation to floods, although there are instruments applicable to particular sub-national areas. Two early laws cover insect infestations, a phenomenon restricted to the Southwest area of the country. No law was found in relation to drought as such, but there is some regulation of desertification.

Meetings with stakeholders, including communities, suggest lack of knowledge in relation to the existing legal framework covering these matters, though there is evidence of a command of various relevant practices to tackle specific hazards.

3.4. Early Warning Systems (EWS) & Risk Mapping

3.4.1. Early Warning

Early warning, as such, is not specifically governed by legislation. There are some general provisions related to the subject, but they do not cover mandates or responsibilities in any detail. For example, the DRM Decree provides that, in addition to the general prevention and mitigation measures contained in intervention plans, at least four alert phases are to be observed in case of disaster, namely: (1) warning phase, announcing to the public the possibility of hazards and disasters; (2) threat phase, telling people about the actual risks and hazards; (3) imminent danger phase, notifying the public of the likely occurrence of hazards and threats in the short term; and (4) termination phase, informing the public of the safe termination of the threat.⁸⁰

Regarding the role of telecommunications in early warning, there is a legal provision imposing restrictions on telecommunications. It states that:

78 Meeting with the CRM (Brickaville).

79 Visit to the Community of Namahoaka

80 DRM Decree, article 32.

“The State or its representative in a certain territorial jurisdiction may, in exceptional situations, such as the declaration of a state of war, state of siege or a natural disaster affecting an area, a sector or a group of people, order the temporary requisition either of facilities of an operator or of frequencies that have been allocated.”⁸¹

During the interviews conducted, there were no accounts of experience concerning temporary requisition of telecommunications facilities or frequencies by state authorities in cases of natural disaster. Nevertheless, during community visits, members indicated that usually information on the imminent approach of a cyclone is broadcast in the mass media, especially radio and television, shortly before it hits the country. One interviewee also reported that some fishermen in the Brickaville area chose not to heed the information broadcast via radio about the approaching Cyclone Giovanna in 2012, and took the risk of carrying on with their normal tasks.⁸²

In interviews with stakeholders some indicated that there is no official national early warning system in place in Madagascar,⁸³ but there seem to be different understandings of what is meant by ‘official EWS’, as others provided additional information of EWS measures during the report verification process. For even in the absence of specific legislative mandates, there is significant involvement by government agencies in EWS.⁸⁴ For example, the BNGRC has been working in partnership with the Directorate General of Meteorology since 2009 to use mobile telephone messaging to regions at risk. This system has been working well, although the technology being used by the Directorate now needs updating. There are also three tsunami warning stations established, including two seismic monitoring stations - at Ihosy and Sambava - as well as a tidal gauge station at Tamatave. Many eastern coastal communities have also been issued with megaphones, radios and generators as part of tsunami early warning. In relation to early warning on drought, Madagascar also uses the Système d’Alerte Précoce or EWS system established by the European Union in 2005 to monitor food security in the south of the country.⁸⁵

The BNGRC has also begun to set up a national, multi-hazard EWS, starting with basic measures such as the use of a red or white flags in key locations to signal meteorological predictions, but this has yet to be implemented. One of the difficulties in developing an effective EWS is that simple solutions are not always successful. This is especially so in relation to floods. There were, for example, initiatives to measure the water level of rivers with the help of a wooden rod with a centimetre scale, intended to enable people to react before the situation got out of control. However, in reality floods tend to occur very quickly, immediately following a cyclone or a tropical storm, so that in a matter of only a few hours a whole region can be under water.⁸⁶ As a consequence, the preferred method tends to be a general recommendation for the population to be on alert, following a warning that is issued by the meteorological services, and conveyed by mass media, especially television and radio.

The MRC also has a system of early warning which applies to components of the Red Cross Red Crescent Movement – the MRC, the IFRC, the International Committee of the Red Cross (ICRC) and any other National Red Cross or Red Crescent Societies present in the country at the relevant time.

81 Law No. 2005-023, of 17 October 2005, on the institutional reform of the telecommunications sector, article 18 (emphasis added).

82 Meeting with CARE (Brickaville).

83 For example, interview with the MRC and the IFRC representation in the country.

84 Information from UNICEF in Madagascar.

85 Information from UNICEF in Madagascar. See also: <http://www.gripweb.org/gripweb/?q=countries-risk-information/databases-information-systems/early-warning-system-sap-southern>

86 Meeting with OCHA.

Interviewees also spoke about Relief Organisation Plans (ORSEC Plans⁸⁷) developed by governmental bodies. They were not aware of a national level ORSEC Plan, but described a regional level plan in Analamanga that comprises the capital city area of Antananarivo only. This reportedly contains the assignment of tasks to fire-fighters and civil corps, although no copy was available during the mission.⁸⁸ In terms of international efforts in the DRM sector, the SADC and the Indian Ocean Commission (IOC)⁸⁹ work together with the Platform for Disaster Response in the Indian Ocean (PIROI⁹⁰) and National Red Cross and Red Crescent Societies (such as the MRC) to agree upon a joint plan of action addressing natural disasters. Their plans take into account early warning systems in place in the different countries of the region.⁹¹

As already mentioned, during community visits it was indicated that communities normally learn about the approaching hazard (especially a cyclone), via the national radio station, often on the day that it is expected to hit the country.⁹² In one rural community visited, the procedure adopted is that once the information of an impending cyclone is received, a red flag is put on a pole in the centre of the village, and all community members know that this means the announcement of a new cyclone.⁹³ But villagers also indicated that when a cyclone is expected to hit they sense that something is not right, that nature gives some signs (the different behaviour of birds and other animals, or the difference in the wind that normally blows in the village, etc.). The urban community visited indicated that they receive information of upcoming cyclones not only via radio, but also via television, and that additionally an official from the District of Brickaville is charged with going around the district on a motorcycle to spread the message to the population using a megaphone. However, during visits to two rural communities it was pointed out that there was no electricity in the village, and it was therefore impossible to recharge mobile phones (which then cannot be used to spread the message of imminent natural disaster).⁹⁴

3.4.2. Risk Mapping and Underlying Risk Information

In relation to risk identification, assessment and monitoring, the DRM Law does not refer to risk mapping as such, but only briefly to different plans regarding DRM. They are: (1) general Plan for risk and disaster management; (2) support plans for specific risks; (3) plans for organizing relief, called ORSEC Plans; and (4) emergency plans.⁹⁵

The DRM Decree contains further instructions on the collection and distribution of information on hazards and risks, indicating that the BNGRC shall centralize all information relating to disasters and needs for urgent intervention arising from decentralized structures.⁹⁶ Furthermore, the Decree defining the role of the BNGRC and activities sets among the tasks of its Directorate of Operation, Information and Communication to: (a) to set up a database and an information management system;

88 Meeting with the MRC.

89 This body is also known as COI, which is the acronym for its initials in French, Commission de l'Océan Indien.

90 PIROI is the acronym for its initials in French, Plat-forme d'Intervention Régionale de l'Océan Indien.

91 Meeting with the MRC.

92 This information was provided by all three communities visited.

93 Meeting with the Namahoaka community, municipality of Vohitravivony.

94 Meeting with the Community of Vohiboazo. A similar situation was reported in relation to the Community of Namahoaka, from which community members normally have to go to Brickaville to recharge their mobile phones.

95 DRM Law, articles 9-18.

96 DRM Decree, article 20.

(b) to share information with transparency; and (c) to set up a mechanism for ensuring the speediness, reliability and effectiveness of information.⁹⁷

Parallel to this, the decree specifying the role and tasks of the CPGU⁹⁸ contains a provision indicating that the tasks of CPGU's two Deputy Executive Secretaries include analysing information relating to risks and threats that can provoke crisis.⁹⁹

Regarding the collection and publication of seismological, meteorological and climatic data relevant to natural disasters, only an indirect reference was found, in the legal instrument on the construction of cyclone-resistant buildings. It says that:

“anti-cyclone construction rules are mandatory in all regions of Madagascar divided into four zones determined by the risks incurred during the hurricane season identified by the Department in charge of meteorology in Madagascar.”¹⁰⁰

In practice there is not yet comprehensive risk mapping in the country. However, the CPGU had started a mapping exercise covering four of the twenty-two regions of the country, which was still under way at the time of the country mission.¹⁰¹

Key finding 4: Early Warning Systems and Risk Mapping

There is no specific law on EWS, although some general legal provisions relate to the subject. One such example is the requisition of telecommunications channels for the broadcasting of urgent natural disaster related information. Practice suggests the relevant legal framework is not well known amongst stakeholders. However, in practice there are effective EWS in place for cyclones, floods, and tsunamis that cover a number of areas at risk, although there are gaps. Mass media and/or mobile telephone messages are used effectively in EWS to broadcast urgent information on approaching hazards to communities, although some rural communities without electricity cannot always receive such warnings, and supplementary signals such as flags and vehicles with megaphones are sometimes used. Madagascar also uses the EU early warning system for drought and food security in the south of the country.

There is a legal basis requiring government institutions to gather and distribute risk information, although so far this has not been done systematically in practice. There are current initiatives moving towards the goal of comprehensive risk mapping of the entire country, but this is in its early stages.

97 Decree 2006-904, of 19 Dec 2006, on the BNGRC, article 10.

98 As noted, CPGU stands for the French Cellule de Prévention et de Gestion des Urgences.

99 Decree No. 2006-892, of 12 Dec 2006, on the CPGU, article 9.

100 Decree No. 2010-243, on the construction of cyclone-resistant buildings, article 6 (emphasis added).

101 Meetings with the CPGU and the MRC. Regions covered are regions considered more vulnerable to cyclones. The pilot region was Sofia, which is considered vulnerable to different types of natural disasters (cyclone, floods and droughts). Other regions chosen are located in the north, the south and the east of the country, which are vulnerable to cyclone, floods and/or drought.

3.5. Regulation of the Built Environment

3.5.1. Building Codes

In relation to building codes, the main national legal standard is the Urbanisation and Habitation Code.¹⁰² Several entities have mandates to implement aspects of the Code. The Ministry of Public Works is in charge of policy issues, and its Architecture, Urbanisation and Habitat Department is in charge of the practical execution of the code. There are also two collegiate bodies with a consultative and advisory character. They are the National Committee on Urbanisation and Habitat, and the Prefectural Urbanisation Committee, established at the national and prefectural level, respectively.¹⁰³ Most of the Code is mandatory and binding, and anyone wishing to build in a town of over 2,000 inhabitants must first obtain a building permit.¹⁰⁴ The Code also contains provisions on building inspections, which are the responsibility of local authorities in relation to new buildings.¹⁰⁵ However, as developed below, in reality, there is much room for improvement in terms of observance of the Code.

A new important standard was recently adopted, namely Decree 2010-243, of 20 April 2010, on the Construction of Cyclone-Resistant Buildings. All its provisions are mandatory for public and parastatal buildings, and some of them may also apply to private buildings, depending on the urbanisation plan of each municipality.

A relevant feature of both of these legal standards regards sanctions applicable for their enforcement. In relation to the Urbanisation and Habitation Code, the law provides for fines, interruption of the construction work (with the aim of rectifying construction according to the building permit), and demolition. The mayor may order such measures, and can request police support for their enforcement.¹⁰⁶

In practice, according to government interviewees, the great majority of buildings in the country are still not built according to the statutory rules, most constructions do not have a building permit, and local authorities have the capacity to monitor compliance only in the case of large corporate buildings.¹⁰⁷

The new decree on the construction of cyclone-resistant buildings adopts more comprehensive measures, namely civil and penal liability, together with recognizing victims' rights. Accordingly, contractors may be liable for damage caused by defects identified in the construction when it is not in compliance with the requirements of the decree. Tortious, or civil, liability of the contractor may be incurred if the damage resulted from a breach of the rules contained in the decree. The contractor may also be criminally liable for any injury directly related to deficiencies identified, and further provisions of the Penal Code may also apply (in case of loss of life, for example). Victims may pursue civil claims for damage against the constructor, and also against the office in charge of evaluating

¹⁰² Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, together with Decree No. 2010-234, of 20 April 2010, which modifies some provisions of the Urbanism and Habitation Code.

¹⁰³ Decree No. 63-192, of 27 March 1963, articles 6 and 8.

¹⁰⁴ Examples of areas in which the Ministry of Public Works may decide upon exceptions to the observance of general rules contained in the code are rural areas and temporary constructions aimed to meet urgent needs. Decree No. 63-192, of 27 March 1963, article 178 (a) and articles 176 and 178 (d), respectively.

¹⁰⁵ Decree No. 63-192, of 27 March 1963, article 104.

¹⁰⁶ Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, articles 185-186, in conjunction with Decree No. 2010-234, of 20 April 2010, which modifies some provisions of the Urbanism and Habitation Code.

¹⁰⁷ Government meeting, Atsinanana region.

the design and inspecting the building works.¹⁰⁸ This decree undoubtedly amounts to a considerable development in DRR related to new buildings. So far, however, there appear to be no positive incentives or sanctions in the regulatory framework to make existing buildings safe.

In practice, there are many makeshift and light weight constructions, especially in informal settlements on the outskirts of towns, or in towns and villages outside the capital. Many informal settlements are located in dangerous zones, such as immediately next to busy roads with a steady traffic of heavily-laden trucks. A number of examples of this were observed by the consultant during the country mission on the road from Antananarivo to Tamatave. The reason given by stakeholders for such constructions is that there is more activity (commercial and access to transport) near busy roads when compared to more rural/inaccessible locations. Moreover, during the visit to the town of Brickaville the consultant was informed by interviewees that there is no available or affordable space for construction in the town, and that people who want to live in town to pursue their livelihoods have no choice but to build makeshift houses very close to others.¹⁰⁹ Houses in villages, on the contrary, are built with much more free space around them.¹¹⁰ In meeting with governmental authorities it was said that most of Madagascar lacks an urbanisation plan, and that there are ongoing efforts to design such a plan for the District of Brickaville. Meanwhile, it was pointed out that persons who wish to build immediately beside a road (including main roads for heavy vehicles) have to apply to competent authorities for a provisional authorisation before doing so, and must pay accordingly.¹¹¹

Another matter of concern pointed out during interviews with stakeholders is that often houses are built in unsuitable settings, for example on top of water and/or sewage pipes, compromising not only the health of those living in such houses, but also the common good of having basic services in place.¹¹² Interviewees also pointed out that there is neither mandatory insurance of houses, nor a scheme in place for compensation for loss of houses due to natural disasters.¹¹³

In relation to anti-cyclone constructions, they cost much more than normal installations, which leads to the need for external partners to sponsor and/or carry out the building works. It was pointed out that to build an average family house costs about 280,000 Ariarys (about USD 130) and that to build a similar but cyclone-resistant house costs about 420,000 Ariarys (about USD 195).¹¹⁴ After the passage of Cyclone Giovanna, various stakeholders set up projects to rebuild houses in the severely hit District of Brickaville, but this time more resistant to cyclone damage than before. As a general rule, local materials were used in the construction of such new houses, and villagers received food payments for their work on building these houses for themselves.¹¹⁵

In a similar context, UNICEF initiated the construction of a number of anti-cyclone schools in areas hit by Cyclone Giovanna, working in partnership with the Ministry of Education through its regional offices, funded by the African Development Bank.¹¹⁶ UNICEF also developed a model for building anti-cyclone schools, in which not only DRR aspects are taken into account, but also other features

108 Decree 2010-243, of 20 April 2010, on the construction of cyclone-resistant buildings, articles 8-11.

109 Similar information was gathered during the visit to the Community of Ambodiapaly. It was also reported that even when community members live in areas prone to flooding, there is no available space to move to, and so they rebuild their houses on the same spot.

111 Meeting with the MRC (Brickaville).

112 Interview with representatives of CRS; and with NGO ODDIT.

113 Interview with representatives of FID.

114 Meeting with the NGO ODDIT.

115 One such example is the project conducted in the District of Brickaville, by CRS and the NGO ODDIT.

116 Interview with UNICEF.

such as eco-friendly construction. It is important to note that a cyclone-resistant building such as a school serves also as safe shelter for the community during the passage of cyclones and other natural hazards.¹¹⁷ During the visits to rural communities, it was possible to visit such a school being built, adjacent to a local school which had been completely destroyed by Cyclone Giovanna. Until the completion of the project pupils were attending classes under a large tent. The school is located in the remote Ampasibe rural community, in the Municipality of Vohitranivona, part of the District of Brickaville.

In visits to communities, none of them knew about the laws relating to the construction of houses. However, one group indicated that they had basic knowledge on building anti-cyclone houses, which included information on suitable places where houses are to be built, and the quality of wood to be used.¹¹⁸ Another issue arising from one community visit is that community members had organised themselves to rebuild a school destroyed by Cyclone Giovanna in 2012. After the community's unsuccessful demands to governmental authorities to rebuild the school, and due to the fact that children were having classes in tents, the community agreed on a plan of action. It adopted a rule (dina) in which its members had to work on rebuilding the school and further related activities for the benefit of the community, including a fine of 12,500 Ariary (about USD 6) in case of violation. Each family had a record booklet and the head of the community ensured that three people from each family participated in the reconstruction of the school.¹¹⁹ In a visit to another community it was reported that the local school had no chairs for the pupils, and that community members had decided to act jointly to buy material to redress the situation and make the chairs.¹²⁰ The same community aimed to cooperate similarly in order to build a well near the school. However, these efforts were focused on reconstruction and it appears that these unfulfilled and immediate needs had not permitted a significant focus on DRR due to limited resources.

3.5.2. Land Use Planning Laws

It seems there is some overlap in mandates amongst different bodies whose competencies cover land use and planning, especially between the newly established Deputy Prime Ministry in charge of Development and Spatial Planning set up by the High Transitional Authority¹²¹ and the Ministry of Public Works.

No separate law on land use planning could be identified during the study, but relevant rules are included in the Urbanisation and Habitation Code,¹²² which applies throughout the country. This provides that the Urbanisation Plans must contain rules relating to land use according to the character of the area, general or local needs, and the needs of civil protection or public services. Urbanisation plans must also contain proposed plans of projects on water supply and sanitation,¹²³ as well as reserved land for main roads to be kept, modified or created, together with an indication of their width and characteristics.¹²⁴

117 Interview with UNICEF.

118 Meeting with the Community of Namahoaka.

119 Visit to the Namahoaka community.

120 Visit to the Community of Ambodiapaly.

121 In French, the Vice-Primature en charge du Développement et de l'Aménagement du Territoire, set up by the 'Haute Autorité de Transition' (HAT).

122 Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code.

123 The relevant original legal provision reads: "(...) le plan d'urbanisme directeur comporte: (...) - les avant-projets directeurs d'alimentation en eau et d'assainissement." Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, article 11.

124 Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, article 11.

In a positive example of local regulation, an example of a localised order was also identified, relating to urban planning regulations in flood zones in the delta of Fiherenana. Jointly adopted by the Ministry of Planning and the city, this delimits areas identified as flood plains, and prohibits their use for anything other than agriculture activities.¹²⁵

In practice, according to interviews during the country mission, it seems there is no strict or effective organisation across the country in terms of delimitation of areas suitable for human use. In rural areas, the state apparatus is thinly spread, and therefore has little capacity to control which land is occupied by individuals. In one visit to a rural community, it was reported that there are many houses built in areas that are subject to regular flooding.¹²⁶ In urban areas, the challenge is even greater, as there are large numbers of people living in informal settlements that are in high risk areas unsuitable for settlement. It seems very difficult if not impossible for authorities to enforce urban planning rules in these areas. In relation to the City of Tamatave, visited during the country mission, it is understood that an urbanisation plan has been approved, but that its implementation cannot yet be effected due to lack of resources.¹²⁷

According to information received from interviewees, a draft decree was about to be submitted for the approval of the prime minister at the time of the country mission, to deal with the impact of floods after the passage of cyclones, especially in relation to roads and the cultivation of rice.¹²⁸ However, a copy of the draft was not available to the consultant during the project time frame. An illustration of the issues it could address was provided by some of those interviewed at the regional level. They said it was very difficult to reach affected communities to distribute humanitarian aid to them after the passage of Cyclone Giovanna, as parts of the main road from Tamatave to Brickaville were severely damaged or blocked due to the break-down of heavily loaded trucks.¹²⁹ This hampered the delivery of basic items to the affected population. During the reconstruction period after the passage of Cyclone Giovanna other projects were designed to resurface roads, using cash-for-work schemes,¹³⁰ and an example of such a newly resurfaced road was seen during one community visit.¹³¹ In addition, or perhaps as alternative to road improvement in the context of natural disasters, was a stakeholder suggestion for drafting a law enhancing the power of police forces to deal with protective measures in cases of natural disaster. The suggestion was that after the official declaration of a state of alert by competent authorities (normally the prime minister) police forces should be able to stop public transport (buses and taxis) from travelling back and forth between villages that are likely to face cyclones, so as to reduce the likelihood of people being trapped in such locations.

125 Order No. 6986/1999 Min.ATV/SG/DVEHL.3/99, on urban planning regulations in flood zones in the delta of Fiherenana. Jointly adopted by the Minister of Planning and of the City, articles 2-3.

126 Visit to the Community of Vohiboazo.

127 Meeting with the Ministry of Organisation of the Territory / Atsinanana region.

128 Interview with the CPGU.

129 Interview with the NGO Saint Gabriel/Tamatave.

130 Meeting with NGO ODDIT, indicating that it conducted such a project as operational partner for UNDP, recovering about 20 km of road affected by Cyclone Giovanna.

131 Visit to the Vohiboazo community, in the District of Mahatsara. CARE led the project and it resurfaced the road from the main national road until reaching the village.

3.5.3. Land Tenure

In Madagascar, the national system of land title registration is established by Law No. 2005-019, of 17 October 2005, laying down the principles governing the legal status of land. Land tenure rights are recognized to titled land (with a standardised land title),¹³² but there is also a procedure for recognition of occupation of non-titled land, with apparently similar legal status.¹³³ This procedure includes the establishment of a ‘commission for local recognition’, in which, among others, local community representatives take part.¹³⁴ Recognition of occupation of non-titled land can be requested either individually or collectively (through a commune or a registered association of land users).¹³⁵ The recognition of an individual right to property over non-titled land requires, among other things, that the applicant has Malagasy nationality. Similarly, in relation to the request for recognition of a collective right to property over non-titled land, reference is made to ‘a group of occupants of Malagasy nationality’.¹³⁶

Beyond recognition of continuous occupation of land, nationality plays an important role in relation to land tenure in general, and reference to foreigners’ access to land can be found in the very first article of the 2010 Constitution, which provides that ‘the terms and conditions for the sale and leasehold of land for the benefit of foreigners are determined by law.’¹³⁷ This reflects the controversy of recent years when ‘land-grabbing’ by foreign companies was a highly contentious issue in the country. This became of acute concern when the then government entered a 99-year leasehold contract for a million hectares of land to a foreign corporation - an agreement subsequently retracted by the then transitional government.¹³⁸ However, it seems the ‘land-grabbing’ issue remains on the public agenda.¹³⁹

Finally, acquisition of land or property through ‘adverse possession’, ‘squatters’ rights’ and ‘requisition by public authorities’ are all reflected in the law. In relation to adverse possession, it is possible to claim title to otherwise-vacant land after a continuous period of ten years’ occupancy. In such cases, the state will be curator of the land in question for up to a further two years, and after that, in the absence of opposition by third parties, it may be transferred to the occupant who initiated the procedure.¹⁴⁰ Regarding squatters’ rights, title to a registered building can be acquired by continuous occupation, care and maintenance of the building after either twenty years’ occupation, for Malagasy nationals, or thirty years’ occupation by foreigners.¹⁴¹ Finally, the possibility of public

132 Law No. 2005-019, of 17 October 2005, laying down the principles governing the status of land, articles 23-28.

133 It seems that in general the result of both process have similar legal value, namely the certificate of recognition of the right to property (for the recognition of customary land tenure), and the title of property (for registered freehold title). See the preamble of Law No. 2006-031, of 24 November 2006, setting the legal framework for private and non-titled land property.

134 The procedure is laid down in Law No. 2006-031, of 24 November 2006, setting the legal framework for private and non-titled land property, article 11(b).

135 Law No. 2005-019, of 17 October 2005, laying down the principles governing the status of land, articles 23-28.

136 It seems that in general the result of both process have similar legal value, namely the certificate of recognition of the right to property (for the recognition of customary land tenure), and the title of property (for registered freehold title). See the preamble of Law No. 2006-031, of 24 November 2006, setting the legal framework for private and non-titled land property.

137 The procedure is laid down in Law No. 2006-031, of 24 November 2006, setting the legal framework for private and non-titled land property, article 11(b).

138 The South Korean Daewoo Logistics company. See <http://www.guardian.co.uk/environment/2008/nov/22/food-biofuels-land-grab>, accessed 25 January 2013. See also <http://news.bbc.co.uk/2/hi/africa/7952628.stm>, accessed 25 January 2013.

139 See for example, the recent protest against low prices paid for land and the trapping of Rio Tinto employees in January 2013 <http://www.telegraph.co.uk/finance/newsbysector/industry/mining/9797182/Rio-Tinto-threatens-to-exit-Madagascar-after-CEO-is-trapped-by-protesters.html>, visited 03 February 2013.

140 Decree No. 2007-1109, on the application of the Law No. 2006-031 of 24 November 2006, articles 39-41.

141 See Ordinance No. 60-146 of 3 October 1960, on the land tenure system and registration (JORM No. 129 of 22/10/60, p.2205) – which is part of the Civil Code, article 82.

expropriation is foreseen in the 2010 Constitution, which provides that: “[t]he State guarantees the right to private property. No one may be deprived thereof except by expropriation in the public interest and with just compensation in advance.”¹⁴²

Regarding remedial mechanisms concerning land title, there are specific legal provisions governing claims opposing the recognition of the right to property of non-titled land (for the recognition of customary land tenure/occupation). The opposing claim has to be filed with the competent land service where the disputed land is located. Such services are meant to be available throughout the country, covering especially rural areas. Decisions taken can be appealed within 20 days before the Civil Tribunal.¹⁴³

During the country mission, information was received that land tenure remains an issue of dispute in the country, and that many people do not have title to the land on which they live and from which they earn their living through agriculture. Moreover, the issue remains contentious for a number of reasons, including the partition of land over several generations of descendants. The lack of land title by many community members poses difficulties when disputes arise. Additionally, it seems that people are very much attached to the land of their ancestors, and therefore land disputes can assume cultural overtones, which go beyond the mere dimensions of the land itself.¹⁴⁴ A related problem with the attachment to the land of ancestors is that in some cases these locations are regularly subject to natural disasters (for example, floods). Often in such cases, community members refuse to move far, but sometimes agree to building new houses in higher places, or build stilt houses.¹⁴⁵

It was reported in one community visited that land rights issues do not pose a great problem for them, as they have all lived together for many generations and every community member is aware of the limits of different family properties within the community. Additionally, it was noted that, from time to time, governmental authorities in charge of land issues come to the community and give them a document and map about their land, and that they have also to pay for such a simplified land recognition procedure.¹⁴⁶

On a positive note, the consultant was informed of the activity of an NGO called Efforts for Rural Development (EFA)¹⁴⁷ which has projects to facilitate peoples’ access to land title. It uses satellite images to identify the land boundaries, and the process has been acknowledged and facilitated by the authorities.¹⁴⁸

142 See 2010 Constitution, article 34.

143 Law No. 2006-031, of 24 November 2006, setting the legal framework for private and non-titled land property, articles 12, 24-25.

144 Meeting with FAO.

145 Visit to the Vohiboazo community.

146 Visit to the Vohiboazo community.

147 EFA stands for the name in Malagasy, namely Ezaka ho Fampandrosoana any Ambanivohitra.

148 For more on the NGO see http://www.ong-efa.org/?page_id=267&lang=en, visited 07 February 2012. Meeting with the Ministry of the Organisation of the Territory/Atsinanana.

3.5.4. Informal and Precarious Settlements

The vulnerability of the populations living in informal and precarious settlements is considerable, and incidents of fire spreading to neighbours' makeshift houses - which are set very close to each other - were reported as common. These cause material losses and burn injuries, especially to children, though cases of death are apparently rare.¹⁴⁹ It was reported that fires often start while women are cooking over charcoal fires, either outside or inside the houses.¹⁵⁰

No particular regulation was identified on informal and precarious settlements. It seems the matter would fall under the Urbanisation and Habitation Code,¹⁵¹ already discussed above. As already stated, most of the code is mandatory and binding, and anyone wishing to build in a town of over 2,000 inhabitants must first obtain a building permit.¹⁵² The Code provides for sanctions in cases of non-compliance, including the possibility of demolition and the request for police force.¹⁵³

It seems, however, that, in practice, the Urbanisation and Habitation Code is not implemented in the extensive informal settlements that proliferate in towns, including in high risk areas, such as those adjacent to heavy-traffic roads.¹⁵⁴ It appears that the government does not presently have the capacity to deal systematically with irregular constructions. Government interviewees reported that the government has taken initiatives to relocate some communities living in precarious situations in the past, including the provision of livestock for rearing. However, they reported that, in many cases, people abandoned their new rural homes and moved back to the city, once again living in precarious conditions.¹⁵⁵

3.5.5. Urban Water and Flood Management

The key national law on the subject of water management is the Water Code, Law No. 98-029 of 20 January 1999, which applies to urban and rural areas.¹⁵⁶ Although there is a Ministry of Water in Madagascar, the Water Code assigns the general management of water throughout the country to the National Authority for Water and Sanitation (ANDEA for its initial in French),¹⁵⁷ which is charged with developing the water and sanitation sectors.¹⁵⁸ The same law also establishes a Regulatory

149 Meeting with CRS; meeting with the MRC of Brickaville.

150 Visit to the urban Community of Ambodiapaly.

151 Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, together with Decree No. 2010-234, of 20 April 2010, which modifies some provisions of the Urbanism and Habitation Code.

152 Examples of areas in which the Ministry of Public Works may decide upon exceptions to the observance of general rules contained in the code are rural areas and temporary constructions aimed to meet urgent needs. Decree No. 63-192, of 27 March 1963, article 178 (a) and articles 176 and 178 (d), respectively.

153 Decree No. 63-192, of 27 March 1963, establishing the Urbanism and Habitation Code, articles 185-186, in conjunction with Decree No. 2010-234, of 20 April 2010, which modifies some provisions of the Urbanism and Habitation Code.

154 Information confirmed during the visit to the Community of Ambodiapaly. They reported that they neither have authorization to construct nor land title in the areas where they live.

155 Meeting with the Ministry of Organisation of the Territory / Atsinanana region.

156 In French: Code de l'Eau. Law No. 98-029 of 20 January 1999, on the Water Code, Explanatory Notes (Exposé des motifs).

157 Autorité Nationale de l'Eau et de l'Assainissement.

158 Law No. 98-029 of 20 January 1999, on the Water Code, articles 10; 75-78.

Body of a technical, advisory and executive character specialized in the field of water supply, sanitation and collective domestic wastewater. Its tasks include the monitoring of standards for the quality of service and the identification and implementation of the price of water and sewage.¹⁵⁹ Finally the Water Code refers to existing organs and structures set up by previous legal frameworks, which include the state-owned National Water and Electricity Company (JIRAMA for its initial in French),¹⁶⁰ created in 1975, which is in charge of water supply to households and industries. The Water Code requires JIRAMA to enter into a concession contract in order to continue its activities.¹⁶¹ In an interview at the regional level it was reported that representative offices of the Ministry of Water and related bodies at state level do not have the capacity to control water quality for human consumption, and that instead JIRAMA currently collects samples of water and sends them for examination at the Institute Pasteur in Antananarivo.¹⁶²

It was further reported that the municipality ('commune') is in charge of flood mitigation constructions and water management against urban flooding. The Ministry of Water, meanwhile, is in charge of water reserves that aim to tackle the risk of drought.

In relation to risk reduction and preparedness, the Water Code refers to the importance of forest cover in terms of preservation of water, and thus the need to avoid erosion, siltation and sand encroachment of the water storage components of the hydroelectric infrastructure. It also highlights that combined action is needed to identify specific measures to maintain standards of water quality, to regulate hydrological regimes and to prevent serious flooding.¹⁶³ There is no reference to flood mitigation construction or other water management against urban flooding, though the law indicates that ANDEA is in charge of executing plans to prevent and combat floods and the effects of drought.¹⁶⁴ Finally, it is important to note that, in the Water Code, there are several provisions requiring that the construction of facilities, structures or works executed by public or private sector entities shall be preceded by a public inquiry and an environmental impact assessment when, because of their nature, they are likely to affect the environment and the aquatic ecosystem.¹⁶⁵

The Water Code protects water by adopting a quantitative and qualitative framework. In terms of the quantitative protection of water, for the extraction of both surface water and groundwater, an authorisation by ANDEA is required. However, there is no need for such authorisation in cases where water is extracted strictly for personal consumption, as long as it does not exceed a limit set by decree.¹⁶⁶ In relation to groundwater extraction, a further requirement is that the water extraction has to pose no risk of pollution of the resource.¹⁶⁷ Regarding qualitative aspects of water protection, the general principle adopted is that the polluter pays.¹⁶⁸

159 Law No. 98-029 of 20 January 1999, on the Water Code, articles 47-48.

160 JIRAMA stands for the name in Malagasy 'Jiro sy rano malagasy'. 'JI' is an allusion to 'jiro' (which means electricity in Malagasy), 'RA' is an allusion to 'rano' (which means water in Malagasy), and 'MA' is an allusion to Malagasy.

161 Law No. 98-029 of 20 January 1999, on the Water Code, articles 79-80.

162 Interview with the regional representation of the Ministry of Water in the region of Atsinanana.

163 Law No. 98-029 of 20 January 1999, on the Water Code, articles 25-27.

164 Law No. 98-029 of 20 January 1999, on the Water Code, article 76.

165 Law No. 98-029 of 20 January 1999, on the Water Code, articles 23; 31-32 and 36.

166 Law No. 98-029 of 20 January 1999, on the Water Code, article 10.

167 Law No. 98-029 of 20 January 1999, on the Water Code, article 11.

168 Law No. 98-029 of 20 January 1999, on the Water Code, article 66.

From the country mission it became apparent that most initiatives in the sector do not focus on DRR but rather on response. During interviews at the regional level it was pointed out that, although in normal times JIRAMA is in charge of water distribution, in times of natural disasters the Ministry of Water works within the UN-coordinated Water, Sanitation and Hygiene (WASH) cluster organized by the BNGRC. Different partners take part in the same cluster, including the NGO Saint Gabriel (specialized in water and sanitation) and the MRC. The cluster acts to respond to urgent needs after natural disasters, especially through water treatment units. Motor pumps are used to draw surface water and treat remaining water until it become potable. WASH kits, which include jerry cans and soap, are distributed and sensitization activities on hygiene are organised, together with the construction of temporary latrines and hosting sites.¹⁶⁹

As good practice, it was pointed out that the Ministry of Water conducts sensitization activities about the Water Code for municipal services and NGOs working in the water and sanitation sectors. Additionally the coordination among different actors in times of natural disaster was perceived as a positive factor, for all partners already know what their responsibilities are within the WASH cluster. It was also reported that, at the district level in Brickaville, there is a WASH committee which discharges roles relating to potable water and hygiene in the framework of the DRM committee at district level.¹⁷⁰ The lack of financial resources was identified as the main challenge affecting delivery of safe water services.

In one meeting with a rural community, it was pointed out that members do not have any means to store water in preparation for natural disasters. However, the same community indicated that contamination of water during flooding is reduced because they have by agreement adopted the consistent use of latrines rather than tolerating defecation in the open environment. After the Cyclone Giovanna disaster, this village received water and sanitation (WATSAN) sensitization by a number of NGOs and, through this program, families were persuaded to build and start using latrines.¹⁷¹ Another community visited reported that not all community members have or use latrines. Some people use latrines of relatives or neighbours, whereas there are people who relieve themselves in nearby forests at known sites.¹⁷² However, local sanitation initiatives have seen progress in DRR concerning access to safe water during flooding as well as reduced environmental water contamination in normal times.

Key finding 5: Regulation of the Built Environment

The Urbanisation and Habitation Code is the national legal standard in terms of Building Code, containing mandatory provisions, including inspection by public authorities. Particularly relevant to DRR is Decree 2010-243, on the Construction of Cyclone-Resistant Buildings. This Code contains some rules on land use planning, while a further specific order deals with flood zones located in a particular sub-national area. However, practice indicates that more needs to be done to promote effective implementation of these legal frameworks across the country regarding delimitation of areas suitable for human habitation.

169 Interview with the regional representation of the Ministry of Water in the region of Atsinanana.

170 Interview with the regional representation of the Ministry of Water in the region of Atsinanana.

171 Visit to the Community of Namahoaka. The NGOs were CRS, ODDIT and Saint Gabriel. Similar information was reported in the visit to the Community of Vohiboazo.

172 Meeting with the Community of Ambodiapaly.

In relation to Land Tenure, Law No. 2005-019 sets out principles governing the legal status of land. Land Tenure legislation covers not only titled land but also occupation of non-titled land. Nationality plays an important role in relation to land tenure, including the policy objective of halting land-grabs by foreign entities. In relation to acquisition of land or property, there are legal provisions on 'adverse possession', 'squatters' rights' and 'requisition by public authorities'. Practice suggests that land tenure is often an issue of dispute, especially due to the fact that many people do not have title over their land. Such insecurity of tenancy is likely to reduce investment in land care and DRR.

There is no specific legislation on informal and/or precarious settlements, and thus the matter falls within the provisions of the Urbanisation and Habitation Code, which includes sanctions for non-compliance – such as demolition of irregular constructions. In practice precarious housing is a challenging issue, which renders large sectors of the population particularly vulnerable to hazards such as fire and floods. DRR in such settlements is not currently supported by a legal framework adapted to these challenges.

Regarding urban water and flood management, Law No. 98-029 of 1999 (Water Code) is the key national law on the subject, applicable to both urban and rural areas. Among its provisions are rules relevant to DRR, such as on the importance of forest cover for the preservation of water and prevention of contamination. The practice suggests that initiatives on water and floods tend to focus on response rather than DRR.

3.6 Regulation of the Natural & Rural Environment

3.6.1. Human Risks in Environmental Change

Madagascar has a number of laws and policies on environmental management, including a law known as the Environmental Charter, which contains an annex detailing national policy on the subject.¹⁷³ The Ministry of the Environment (sometimes referred to as Ministry of the Environment, Water and Forests) is the lead agency concerned with environmental issues.

The country also has comprehensive legislation in relation to environmental impact assessments (EIAs), notably article 10 of the Environmental Charter, and also Decree No. 99-954 of 15 December 1999, on the compatibility of investments with the environment. EIAs are mandatory for projects of either a public or private nature that are likely to harm the environment, due to their technical nature, their scale, or the vulnerability of the area of the planned project.¹⁷⁴ In addition to EIAs, the Decree No. 99-954 of 15 December 1999 contains another mechanism in place called Environmental Commitment Program (PREE for its initials in French).¹⁷⁵ Through this program, the project proponent commits to take certain measures to mitigate the impact of the project's activities on the environment.¹⁷⁶

¹⁷³ Environmental Charter (Code de L'Environnement et ses Modificatifs: Law No. 90-033 of 21 December 1990, modified by Law 97-012 of 06 June 1997 and Law No. 2004-015 of 19 August 2004).

¹⁷⁴ See Environmental Charter, article 10. See also Decree No. 99-954 of 15 December 1999, On the compatibility of investments with the environment.

¹⁷⁵ PREE is the acronym for its initials in French, Programme d'Engagement Environnemental.

¹⁷⁶ Decree No. 99-954 of 15 December 1999, articles 3 and 5, for EIAs and PREE, respectively.

Although human risk factors from changes to the environment are not identified as such in the above legislation, the EIAs include, among other requirements, evaluation of the social costs of the intended business development, including its potential impact on the environment.¹⁷⁷ The legislation also lists types of businesses mandated to produce an EIA for any new development, and this includes 'any proposed chemical spraying likely, by its scale, to affect the environment and human health'.¹⁷⁸

However, there is also currently something of a mining boom occurring in Madagascar, encouraged by the government's desire to advance economic development through foreign trade. Interviewees reported that the application of EIAs to mining endeavours is variable. They said that the larger multinational corporations face greater pressure to comply with the law on EIAs due to their size and visibility, but that smaller and/or national mining enterprises operating in the sector are often not subject to the same pressure of compliance. In particular, a number of interviewees stated that in some national parks - in addition to the illegal exploitation of wood by local people for producing charcoal and building houses - there is an increasing number of private individuals or small companies extracting minerals contrary to law.

3.6.2. Forest Management and Exploitation

In relation to forest management, there are several laws that are of relevance to DRR. The main law on the subject refers to general powers of the ministry in charge of forests,¹⁷⁹ especially in assessing whether areas are to be considered forests according to the law.¹⁸⁰ This is currently the Ministry of the Environment and Forests,¹⁸¹ although, in the recent past forests were under the authority of the Ministry of Water and Forests. The same law also refers to the 'Forestry Public Service',¹⁸² which is the operational arm administering forests, and which is to be regulated in a later decree.¹⁸³

In relation to particular aspects of forest management relevant to DRR, there is an ordinance regulating land clearing and wildfire, namely ordinance n ° 60-127 of 3 October 1960. The issue of deforestation and erosion relevant to the prevention of landslides and floods is covered less specifically, through the general legislation on the protection of forests. For example, the legal definition of (protected) forests includes areas occupied by trees and bushes on the banks of rivers and lakes and on eroded lands.¹⁸⁴ For the purposes of the same law, other areas at risk are to be treated similarly to 'forests', such as: (1) non-forested land suitable for forestry, particularly for conservation and restoration of soils, biodiversity conservation, regulation of water systems or enhancing forest production; (2) land that has been cleared within the last five years despite lacking authorization for clearing.

Customary laws and practices relevant to the use and management of forests and resources are recognized, to the extent that they do not conflict with legislation on the subject.¹⁸⁵ For example, the practice of 'tavy' - burning off land in preparation for agriculture or to renew pasture - is widespread

177 Decree No. 99-954 of 15 December 1999, article 7.

178 Decree No. 99-954 of 15 December 1999, Annex I.

179 Decree No. 99-954 of 15 December 1999, Annex I.

180 In French: Ministère chargé des Forêts

181 Law No. 97-017, of 8 August 1997, on the revised forestry legislation, article 41.

182 In French: Ministère de l'Environnement et des Forêts. See <http://www.meeft.gov.mg>, accessed 13 February 2013.

183 In French: Service publique forestier.

184 Law No. 97-017, of 8 August 1997, on the revised forestry legislation, article 44.

185 Law No. 97-017, of 8 August 1997, on the revised forestry legislation, articles 1 and 2.

in Madagascar. The locals practice ‘tavy’ because they have found that clearing land by burning means agricultural activities can take place more quickly than if it is cleared by hand, and that the vegetation that grows after land is burned is very good for feeding the cattle.¹⁸⁶ The practice of ‘tavy’ is nevertheless strictly regulated in legislation due to the fact that it exposes the land to erosion, and it is prohibited in high risk areas, such as in hilly zones or in areas susceptible to the formation of dangerous ravines, and within 20 metres of riverbanks. A specific ordinance sets the conditions regulating this practice. Penalties in cases of non-compliance include imprisonment and fines.¹⁸⁷ However, in reality, laws on the matter are not strictly enforced, and villagers recurrently set fire to land in breach of this law, in order to prepare it for rice cultivation.¹⁸⁸ Some stakeholders indicated that the practice is to some degree tolerated because small farmers and their families are hungry, and in the absence of other knowledge they use their traditional knowledge to cultivate the land and thereby feed themselves.¹⁸⁹ In fact, ‘tavy’ as such is not prohibited though it is strictly regulated. However, the problem is that the farmers often do not take the necessary precautions to control the fire set in non-forest land on which they intend to practice ‘tavy’. The result is that fire may spread to nearby land, including forests, causing wild fires -an act punishable under the Penal Code.

As a response to this problem, some rural communities have adopted their own customary laws (‘dina’) prohibiting wildfires and punishing those found responsible for causing them. Normally punishment will be the payment of a fine (for example 50,000-100,000 Ariarys, approximately USD 25-50) to a community association in charge of protecting forests (explained below). However, as already mentioned, ‘dinas’ are not always effective, since some community members close to the community leaders were said to be spared from their application.

In relation to the legal regulation of community use, conservation and management of forests the law strives to enable the effective participation of rural populations in the sustainable conservation of renewable natural resources. Therefore, community members are allowed to exercise their rights of traditional use individually or collectively in the forests of the state, as well as in forests exploited by other entities such as decentralized territorial authorities, public institutions and private individuals.¹⁹⁰ However, government officials pointed out that as a general rule it remains a challenge for communities to take responsibility for the conservation of forests. It was suggested that for some this would require a significant change of attitude about the use of forest resources, combined with community educational activities such as training of the trainers on forest conservation.¹⁹¹ However, it was also pointed out that in some places community members successfully organize themselves into associations with the goal of managing forests close to where they live, and do so with the support of government authorities. Although such initiatives exist only in small numbers, they were identified as constituting good practice.

Most stakeholders pointed out that although there are laws to combat deforestation and wildfire, they are not well enforced.¹⁹² This is due in part to the fact that it is often difficult to identify the

186 Meeting with the CRM (Brickaville).

187 Ordinance No. 60-127, of 1960, establishing the regime of clearing and vegetation fires, article 3.

188 Meeting with the representative of the Ministry of Justice in the capital, Antananarivo.

189 Meeting with the regional representation of the Ministry of the Environment and Forests in the region of Tamatave.

190 Law No. 97-017, of 8 August 1997, on the revised forestry legislation, article 41. More specific texts on the subject are Law 96-025, of 30 September 1996, relating to local community management of renewable natural resources and Decree 2000-027, of 13 January 2000, on the same subject, regulating this law.

191 Meeting with the regional representation of the Ministry of the Environment and Forests in the region of Tamatave.

192 Interview with UNICEF. However, in meeting with the Public Prosecutor of Tamatave, he mentioned that in the past (around 1980-2000) the Gendarmerie investigated cases of wildfire, and that those individuals found responsible were sent to prison, especially in relation to destruction of native forest. He suggested that due to sensitization activities undertaken by environmental NGOs over the years the number of cases of wildfire of native forest decreased.

instigator of a wildfire, and that the police cannot prosecute an entire Community of villagers in the absence of a clearly identified suspect.¹⁹³ Another causal factor in deforestation is that the vast majority of the population - an estimated 95% of households - cooks with charcoal produced from the burning of wood. Cooking gas is unaffordable for the great majority whereas one large charcoal bag serves a family for about four days and costs 2,000 Ariary (less than 1 USD). Interviewees suggested there is an urgent need for a national framework to manage forest resources, which it appears, would need to find alternatives for the energy needs of households.¹⁹⁴

During the mission and discussion with official environmental services operating in the Atsinanana region, it was noted that traditionally the state had the exclusive responsibility for implementing protection of forests. However, from 1995 onwards the state began transferring implementation of this protective role increasingly to NGOs, communities and private persons, and assumed the role of offering technical support, together with surveillance and monitoring of the protection of forests. For example, Law 96-025, of 30 September 1996, relates to local community management of renewable natural resources. Although this has the potential to empower communities, and there are some good examples of NGO training with communities on forest protection and programs on reforestation,¹⁹⁵ there were also examples cited of certain NGOs receiving international funding for such activities without acting to protect the forests. In such situations, the state is in a difficult position in trying to protect forests. Another issue raised by interviewees was that, quite often, the Ministry of the Environment does not contact its regional offices before such contracting out of forest management to NGOs or third parties, so they do not necessarily have the relevant information. It was also reported that sometimes NGOs organize training sessions with communities on the issue of forest preservation without informing the regional environmental administration about it. This suggests not only problems in the decentralization of power, but also that there is a lack of effective communication between different levels of the state apparatus and, at times, between the government authorities and the NGOs assuming responsibility for forest protection. Hence, while the government is increasingly stepping back from implementing forest protection directly, and in some cases this empowers communities, there are instances in which forests are managed by third parties without sufficient government supervision to ensure their effectiveness.

At the community level, none of the three communities visited indicated awareness of legal rules on the protection of the environment. However, in relation to charcoal, one community visited indicated that they have limited the production of charcoal and that they also engage in reforestation, cutting trees only after five years' growth. The community members indicated that they cook with dried wood, which is readily available to them, instead of charcoal, and that only 2% of the community cooks with charcoal.¹⁹⁶ However, it was suggested that for those living in towns it is easier to cook with charcoal, and therefore many communities produce charcoal to serve this market.¹⁹⁷ The community also said they do not start wildfires, and that currently investigations into wildfire incidents are conducted by district authorities, who then send those found responsible to the Gendarmerie. Community members indicated that the majority of wildfire incidents occur during charcoal production, when burners fail to leave a five metre safety margin between protected forestland and the land which is to be burnt. They said that, following a wildfire, those responsible usually try to evade responsibility by leaving the area.

193 Meeting with the representative of the Ministry of Justice in the capital, Antananarivo.

194 Interview with UNICEF.

195 It was stated that FID was one organization that conducted reforestation programs at the community level.

196 Information gathered from visit to the Community of Namahoaka. Similar information was reported by the Community of Ambodiapaly.

197 Visit to the Community of Namahoaka. Similar information about the production of charcoal by rural communities in order to sell in towns was reported by the Community of Vohiboazo.

3.6.3. Rivers and Watercourses in Rural Areas

The key national law on the subject of rivers and watercourses in rural areas is the Water Code, which is Law No. 98-029 of 20 January 1999.¹⁹⁸ Issues of relevance here have already been addressed above in the discussion of urban water and flood management. No specific reference was found concerning whether the law recognizes customary laws and practice relevant to the use and management of rivers. However, according to the Decree of 2000 regulating local community management of renewable natural resources, it can be said that, as a general rule, customary laws on natural resource management will be recognized as long as they do not conflict with legislation, and are not against the general interest and public order.¹⁹⁹

Some communities visited pointed out that it is strictly prohibited to throw things into rivers/watercourses that have the potential to harm people's health.²⁰⁰ One such example is throwing dead animals into rivers, which is proscribed under customary rules in many rural communities.²⁰¹ Similar information arose from a meeting with local women during a community visit, in which it was said that there is a customary law or 'dina' made by the entire community that prohibits throwing rubbish into the nearby river, including any dead animals or human excrement. According to them the responsible person has to clean the river of the rubbish thrown into it, and a further fine of 5,000 Ariarys (about USD 2.5) may be incurred in cases of violation, a fine which is paid to the community (Fokontany).²⁰³ This rule and compliance with it were perceived as a positive development. Another community visited also reported a similar problem with people throwing dirty items into the river nearby, but they indicated that despite attempts to draw up and enforce customary laws prohibiting the practice, so far they had not been able to enforce the rule very effectively.²⁰⁴

In relation to the use of water resources by communities, the laws relating to local community management of renewable natural resources (96-025, of 30 September 1996, article 2 and Decree 2000-027, of 13 January 2000) allow for the authorisation of communities to manage rivers as one type of renewable natural resource covered by the law. However, at least one community visited neither had any information about laws on conservation of natural resources by communities, nor took any particular measures to protect the river beyond adopting a dina on the issue of rubbish. Nevertheless, it was reported that some people from nearby communities throw dead animals in the river, and that from time to time community members organise themselves to clean the river and adjacent areas.²⁰⁵

198 In French: Code de l'Eau.

199 Decree 2000-027, of 13 January 2000, regulating the law relating to local community management of renewable natural resources, article 18.

200 Information reported in the visit to the communities of Namahoaka and Ambodiapaly.

201 Interview with the representative of the Official Environmental Service in Atsinanana.

202 Visit to the Namahoaka community, meeting with women.

203 Information gathered during visit to the Community of Namahoaka. Similar information was reported during the visit to the Community of Ambodiapaly, but there was no information on the effectiveness of the customary law.

204 Visit to the Community of Vohiboazo.

205 Visit to the Community of Ambodiapaly.

Based on the visits to rural communities, it can be generally said that the water of a nearby river is used for cooking, to wash oneself and to wash clothes, and that many people drink river water without sterilisation. Two communities visited had no water pump.²⁰⁶ Although one NGO recently built a water pump in one community, there was a need to build another in order to meet the needs of the community, and also because the place where the current pump is located is relatively low-lying and therefore subject to flooding.²⁰⁷ However, such risk reduction against disease epidemics is not consistent, and lack of access to clean water for drinking and household use remains a health risk.

3.6.4. Drought and Food Security

According to stakeholders interviewed, there is no legislation, as such, on food security or drought, but some good practices are in place.²⁰⁸ The matter has to a certain extent already been addressed in this report, in section 3.3.

During interviews with stakeholders, it was also pointed out that families are severely affected due to agricultural losses linked to natural disasters,²⁰⁹ but that there is no insurance to cover such losses.²¹⁰

Concerning the risk of disaster from famine and food insecurity, an example of a good practice initiative is occurring in the southern region of Madagascar, a less economically developed area often subject to drought. A joint initiative of the WFP, Food and Agriculture Organization (FAO) and International Fund for Agricultural Development (IFAD), it starts with a preliminary evaluation of the situation on the ground called a 'Crop and Food Security Assessment Mission'. The goal is to gather information about the previous crops and harvests of the region and the food security situation. Once the new agricultural season starts, IFAD supports families in accessing credit from banks, FAO provides seeds to the most vulnerable families and WFP provides food items to the same families, so as to protect seeds donated by FAO (which will not need to be eaten, since they also have the food items). During the cropping season WFP organises food-for-work or food-for-assets schemes with the local community, such as building irrigation canals, dams, and systems to preserve rural roads for the future transport of the agricultural output. The projects include training about the environment, offered together with partner NGOs, as well as technical support after harvest, including training on crop storage techniques. WFP also provides support through contracts with farmers to sell produce to them. These agricultural products are then used by WFP in further projects in the same communities. Although carried out outside any legislative framework, it indicates a potential model for rural food security programmes in Madagascar and elsewhere.

In a meeting with FAO, the consultant was informed that they adopt in Madagascar the food security/disaster risk reduction (FS/DRR) approach, in which a package of agricultural techniques are taught in order to increase the resilience and reduce the vulnerability of beneficiaries. This includes improving agricultural practices, especially through the cropping calendar, the diversification of crop varieties (some of them more resistant to floods and cyclones) and the storage of production. In 2010 FAO collaborated closely with international NGOs in projects in the east, northeast and southeast of the country, and it is now working more closely with local NGOs.²¹¹ Such projects are currently

206 They are: the rural Community of Vohiboazo and the urban Community of Ambodiapaly.

207 Meeting with the Community of Namahoaka. The NGO referred to is Saint Gabriel.

208 Interview with FAO.

209 Meeting with FAO.

210 Interview with FID.

211 Similar information was confirmed in a meeting with the NGO ODDIT.

in the consolidation phase and local NGOs are being trained to take over, while international NGOs continue developing the approach in their intervention areas affected by natural disasters in the country. It was noted that beneficiaries' resilience has somewhat improved and they are increasingly able to produce their own seeds, thus having a positive impact in enhancing food security.

In a meeting with an NGO in Brickaville, it was reported that, in relation to food security communities need more training on how to cope with natural disasters, and how to integrate DRR into their agricultural activities. Improved practices in production and storage of seeds - for example, in plastic bags resistant to the passage of cyclones - are needed in to improve community resilience.²¹² It was also noted that programmes aimed at rebuilding houses after the passage of a cyclone were necessary from a food security perspective as well. The reason given was that if community members have no place to live they have limited capacity to go back to their fields and cultivate the land.

Key finding 6: Regulation of the Natural and Rural Environment

In relation to human risks in environmental change, there are laws on environmental issues, particularly Law 90-033 of 1990 (the Environmental Charter). This law sets, among others, rules on environmental impact assessments (EIAs), which are mandatory for projects likely to harm the environment. Practice suggested challenges in the effective implementation of the relevant legislation, particularly the issues of compliance by the growing mining industry in the country.

There are many laws regarding forest management and exploitation, with the objective of the protection of forests which, in turn, help protect water catchments and reduce the human impacts of wild fires. One example is Law 97-017, of 1997, on the revised forestry legislation, which broadly covers deforestation and erosion. Another example is Law 96-025, of 1996, regulating the use, conservation and management of natural resources by communities. In general these laws try to accommodate customary practices, such as 'tavy' (the burning of land in preparation for agriculture or to renew pasture), while setting strict limits on the location of such practices. Some communities have developed their own customary laws ('dina') in an effort to combat wildfires. However, the practice suggests there is a need for better observance of the applicable legislation, and that communities may need to take more responsibility for forest conservation if the regulatory framework is to be effective.

Concerning rivers and water courses in rural areas, the main legal standard is the Water Code (Law No. 98-029, of 1999). Customary rules on water are accepted, as long as they do not conflict with legislation and do not go against the general interest and public order. Some communities have adopted their own customary laws - 'dina' - to deal with the issue of throwing dirt or rubbish into rivers, and during the country visit such initiatives were reported as having a mixed level of success.

There is no specific legislation on drought and food security, though successful practices on the matter were identified during the country mission. These include initiatives by different stakeholders, especially international organisations, which jointly conduct projects aiming to enhance farmers' access to seeds for agriculture, food for subsistence, and credit to facilitate starting up their own economic activities.

212 Meeting with CARE (Brickaville).

3.7 DRR education & awareness

No specific laws were identified concerning DRR education or awareness-raising. Certain relevant matters, for example the collection and publication of data relevant to natural disasters and the role of actors in the disaster risk management sector, have been addressed above under the sections covering DRR in disaster risk management law and institutions, and early warning systems and risk mapping.

Although not required by law, in the recent past, educational initiatives have been undertaken at the primary and secondary school levels in some public schools. The BNGRC produced a user-friendly booklet for primary school pupils, with the support of UNDP and the Institute and Geophysical Observatory of Antananarivo.²¹³ This manual was distributed in some public schools and there were some teaching sessions which enabled pupils to engage with the subject covered in the booklets.²¹⁴ A similar manual was produced and distributed to teachers, adapted to their training needs. According to information received during the country mission, the initial national project came to an end, but currently a manual for secondary school students and teachers is being developed.²¹⁵ UNDP, the CPGU, and the Ministry of Education are involved in the current initiative in this area.²¹⁶

There are further initiatives engaging, educating, and offering opportunities for the local youth, which appear to have good potential for success in increasing awareness of DRR issues. The MRC in particular seems to actively seek to organise activities in which young members of communities across the country participate in DRR and other DRM activities. For example, during the country mission, the MRC was holding a week-long training for youth from various regions of the country on DRM related issues. This initiative draws on the capacity of young people, who are keen to learn more and to have opportunities for themselves - such as future employment, networking skills, general education - but especially for helping their own communities, and sometimes giving a hand to other communities in need.

Of additional interest is that recently the University of Antananarivo set up a Master's Degree in Disaster Risk Management.²¹⁷ This is an 18-month course in which students study, inter alia, health risks, climate change and the prevention of technological risks, means of communication and psychological crisis, game theory, data and statistics, Malagasy law and national strategy management on hazards and disasters, together with international humanitarian law. The course was established with the support of UNDP and the Institute and Geophysical Observatory of Antananarivo (IOGA), among others.²¹⁸ The first cohort of students graduated in 2011.

214 Meeting with IOGA.

215 Interview with representatives of the BNGRC.

216 Meeting with UNDP.

217 See <http://www.afriquinfos.com/articles/2011/12/9/tribune-192561.asp>, accessed 03 February 2013. The course is hosted by the Faculty of Law and Economics based in Antananarivo.

218 See IOGA's website at <http://www.refer.mg/edu/minesup/antanana/ioga/ioga.htm>, accessed 02 February 2013. Interview with UNDP.


Key finding 7: DRR Education and Awareness

There are no specific laws on DRR education in Madagascar. However, during the country mission it was possible to identify official government initiatives aiming to address DRR, for example educational activities in primary and secondary public schools. In addition, the MRC conducts training aimed especially at youth representatives coming from different areas of the country. Finally, a Master's Degree in Disaster and Risk Management is offered by the University of Antananarivo, with UNDP support.



4. Conclusions and observations

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4. Conclusions and observations

Madagascar has a range of laws that support DRR in different ways. However, DRR is not given priority in DRM laws and institutions, which rather focus on immediate preparedness, response and recovery, nor is the concept specifically part of other laws related to safety and environmental management. So, although there are a number of positive legal developments, overall there is a gap in the legal framework as it does not make DRR a specific priority, which may be necessary to facilitate its mainstreaming across official policies and programmes. Also, while there are a number of initiatives on foot, it appears that government capacity for effective implementation at local and community level is currently rather limited due to lack of resources.

The following sections note some specific examples of both good practices and gaps in the legal framework, and draw attention to the effectiveness of community-level implementation.

4.1. Good Examples of Law and Practice

Positive examples of legislation and practices include:

Legal Framework

- a. Legal framework on disaster risk management together with related institutions. Madagascar has a national law and a decree specifically covering DRM, together with further laws establishing particular DRM institutions. This provides a legislative basis for DRM activities in the country, albeit currently focused on immediate preparedness, response and recovery. An important feature of the DRM framework is that it provides for the setting up of DRM committees at all levels of government which, if effectively implemented, could enhance DRR activities across the country, with broader community participation. The high level of cooperation between different stakeholders in regional and district simulation exercises for disaster response, also indicates a depth of capacity in Madagascar that can potentially be tapped to implement stronger DRR initiatives.
- b. The national building code and adoption of specific regulation on cyclone-resistant buildings: Madagascar has a detailed and mandatory national legal standard relevant to construction, namely the Urbanisation and Habitation Code (Decree No. 63-192, of 27 March 1963, together with Decree No. 2010-234, of 20 April 2010, which modifies some of its provisions), which provides for building inspections by the competent authorities. Of particular relevance to DRR is Decree 2010-243, on the Construction of Cyclone-Resistant Buildings. Its provisions are mandatory for public and para-statal buildings, and some may also apply to private buildings. The adoption of the Decree is a welcome development in terms of how legislation can support DRR.
- c. Land tenure laws that may facilitate DRR efforts: Law No. 2005-019 is the key instrument on land tenure, and it sets out principles governing the legal status of land. The land tenure legislation covers not only titled land but also occupation of non-titled land. Nationality also plays an important role in this context, including with the view of halting land-grabbing by foreign entities. In relation to acquisition of land or property, there are legal provisions on 'adverse possession',

‘squatters’ rights’ and ‘requisition by public authorities’. The protection contained in these different legal texts may facilitate DRR efforts, taking into account that it confers rights on individuals and groups who could otherwise be in a position of vulnerability due to lack of tenure to housing and land. Although implementation is still a challenge, the existing legal framework can be regarded as good practice in that clarity of tenure provides an incentive towards land care and mitigation of risks to the land, protects against land grabbing, and places occupiers in a better position to obtain insurance or compensation for disaster losses, once these systems are developed in Madagascar.

- d. Urban water and flood management legislation that strengthens the legal basis for DRR: Law No. 98-029 of 1999 (Water Code) is the key national law on the subject, applicable to both urban and rural areas. Among its provisions are rules relevant to DRR, such as on the importance of forest cover in water catchments. This legislation supports DRR, to the extent that, if effectively enforced, it will contribute to avoiding erosion, thus reducing the risk of natural hazards such as landslides.
- e. Mandatory procedures to evaluate likely environmental impact of projects and initiatives: Madagascar has several laws on environmental issues, particularly Law 90-033 of 1990, the Environmental Charter. This law sets, among other things, rules on environmental impact assessments (EIAs), which are mandatory for projects likely to harm the environment. This can be regarded as a further contribution that law makes to strengthening DRR efforts, as long as EIAs include risk assessments and provide options to deal with identified problems. This may reduce disaster risks through efforts to reduce exposure to hazards, reduce vulnerability of people and property, and improve preparedness for adverse events.
- f. Legislation on forest management and exploitation and on rivers and watercourses in rural areas: This legislation acknowledges customary practices and laws while seeking to preserve the environment. There are several texts on the issue, notably Law 96-025, of 1996, which regulates the use, conservation and management of natural resources by communities. In general laws try to accommodate customary practices, such as ‘tavy’ (the burning of land in preparation for agriculture or to renew pasture), though strictly setting limits for such practices. Thus, the law facilitates community participation and management of natural resources in a sustainable way.

Practice

- a. Early Warning Systems: Practice on early warning indicates mass media is used effectively to broadcast urgent warnings on approaching hazards in many areas, and there are other specific warning systems in place for threats such as storms, cyclones and tsunamis, as well as drought and food insecurity. However, few stakeholders felt these various initiatives had yet attained sufficient coverage to be described as a national EWS.
- b. Non-government and partner project models: As noted below, implementation of local and community DRR measures by government remains a significant challenge in Madagascar at the present time. However, information obtained during the country visit indicated that, in practice, there are some good models for such implementation in the many different projects relevant to DRR that are being conducted by NGOs, the MRC and IOs, including those on cyclone-resistant buildings and agricultural projects to improve food security.

4.2. Gaps in the Legal Framework and Implementation for DRR

Legal Frameworks

- a. The focus of DRM legislation and practice remains primarily on immediate preparedness, response and recovery rather than DRR. There is no specific provision clearly addressing risk reduction in the DRM law or in other relevant laws. Nevertheless, it was reported that there are ongoing efforts to take into account DRR and the HFA priorities at a policy level.
- b. Few sub-national DRM committees have been established, despite the legislative mandate: This difficulty is linked to the absence of specific legislation on allocation of funds for DRM activities, combined with the lack of resources affecting the system.
- c. There is a need for more clarity on the mandates of key DRM institutions. There is a need to better define the respective roles of the BNGRC and the CPGU, so as to enhance collaboration between different governmental bodies in charge of DRM. Feedback on this report in draft suggested considerable progress has already been made in this area.
- d. Legal responsibility for natural disaster risk reduction. Currently different laws contain provisions on legal liability and responsibility, which could in principle apply to DRR. However, no practice has developed to hold individuals accountable for failing to reducing risk or for creating new risks, and there is no specific regulation of institutional responsibility for DRR.
- e. Legal framework for early warning systems and risk mapping. No specific law covers either EWS, or risk mapping. Although some general legal provisions relate to both subjects, there appears to be little awareness of this legal framework. While practice indicates successes in the use of mass media and other specific warning systems in place, stakeholders identified many gaps and most did not describe this as a national EWS. Comprehensive risk mapping was still in the planning stage at the time of the country mission in December 2012. Hence, clear legislative mandates to relevant agencies have the potential to enhance the coordination and implementation of EWS and risk mapping.

Practice

- f. Reduced government capacity: Both international actors and national stakeholders reported that the climate of political instability that prevailed from 2008 made it difficult for them to implement long-term DRR strategies in Madagascar. The crisis has affected the population in general, but especially the most vulnerable groups, and has affected disaster relief and reconstruction as well as support for DRR.²¹⁹ Different stakeholders also pointed to a growth in poverty in recent years, and argued that there are few governmental projects aimed at reinforcing social resilience or strengthening the poorest sections of the population. A number of interviewees suggested that the crisis has also reduced communication and cooperation between different levels of government administration, which has undermined decentralization. It was also reported that currently

²¹⁹ For example, meeting with UNICEF.

public authorities are tending to focus on attracting economic resources (through loans and private investment) to address the economic situation, and that non-government actors such as the MRC, NGOs and IOs are strained in their attempts to fill the gaps in social services.

- g. Support for a strong legislative framework for DRR. Despite facing difficulties in terms of implementation and enforcement of laws in general, many government and non-government actors involved in disaster response, reconstruction and DRR against a range of hazards see the adoption of DRR priority in law as a means to strengthen risk reduction in Madagascar. Different stakeholders urged a stronger legislative base for DRR, to include specific DRR institutional mandates, goals and priorities in the DRM laws and official policies and programmes, and to ensure resource allocation to support improved implementation of existing laws and policies.

Effectiveness of Community Level Implementation

4.2.1. Good Practices at Community Level

- a. Self-regulation through traditional laws known as *dinas*: In the absence of effective safety and DRR regulation by some local governments at community level, some communities have returned to traditional or customary methods of law-making to tackle issues directly affecting them. In the communities visited, these rules were known as '*dinas*'. For example, many communities have adopted their own rules on water and sanitation, such as prohibiting throwing rubbish into local rivers and sanctioning community members who do so. This is a positive development where the broader community participates in the drafting of such rules. Such community self-regulation is also recognised in official laws and rules, to the extent that the *dinas* do not violate legislation and broader societal interests. Such '*dinas*' were reported as largely successful, although sometimes difficult to enforce.
- b. Effective command of structural DRR measures to tackle specific hazards: It was observed that communities possess command of various relevant practices to tackle specific hazards, for example on selecting material and building more resistant houses in relation to hazards such as cyclones. This is also due to the fact that many organisations, including the MRC, NGOs, and IOs, have engaged with communities to strengthen their capacities in this regard and to conduct awareness-raising and education activities. However, these projects could be enhanced by local government involvement and specific attention to the DRM regulatory framework relevant to DRR.

4.2.2. Gaps in Implementation at Community Level

- a. A lack of DRM institutions at local level: Despite legislative requirements to set up DRM bodies at local/community level (*Fokontany*), namely 'Local Rescue Teams', as indicated in the DRM Decree, article 10, to date this has not occurred in most areas. The existence of such bodies could facilitate dissemination of knowledge on DRM, including DRR, and also implementation of exist-

ing regulation that supports DRR at community level.

- b. Reduced local government capacity: As noted regarding national institutions above, it was reported by interviewees that local government currently has little capacity to implement a range of national regulation relevant to DRR. They appear to be hampered by a lack of specific resource allocation for DRM generally, as well as the adverse effects of the political stalemate in recent years. For the most part, the community focus groups indicated that they felt an absence of effective government presence at community level in terms of recovery from the seasonal cyclones affecting them, as well as specific issues such as rebuilding local schools, and basic water and sanitation to prevent water-borne diseases in normal times as well as during floods. They indicated that, at present, their principal access to DRR education and awareness and practice comes through their community experience and the activities of the MRC, NGOs and IOs in community projects, rather than from government administration of the existing regulatory frameworks that could support DRR.
- c. Little knowledge of relevant laws and regulations at community level. Meetings with communities suggested they lack knowledge of laws in general, including those of relevance to hazards that affect them. This is the case for example in relation to sectoral laws covering specific hazards, and of regulations on the built environment, including the Urbanisation and Habitation Code and the Decree on the Construction of Cyclone-Resistant Buildings. It is suggested that an increased knowledge of such safety regulation would enhance communities' ability to comply, thus reducing their risks from recurrent and known hazards, such as cyclones.



Annex A: List of persons and groups consulted



Annex A: List of persons and groups consulted

A: National capital - Antananarivo:

National governmental authorities:

BNGRC - Bureau National de Gestion des Risques et des Catastrophes

- RAKOTONIRAINY Louis de Gonzague, Civil Administrator, Head of the BNGRC, Executive
- Secretary RAZAFIARISON Jean Jugus, Civil Administrator, Deputy Head CERVO/BNGRC

CPGU - Cellule de Prévention et de Gestion des Urgences

- Mamy RAZAKANAIVO, Executive Secretariat
- ANDRIANAIVO Ravoavy Jaona, Deputy Executive Secretariat

Ministry of Foreign Affairs

- TIANAMAHEFA Onipatsa Helinoro, Director (UN and IOs)
- RAMANDIMBISON Johan Andric, Political Affairs Service and Secretariat

Ministry of Justice

- Lucien Rakotoniaina, Director of the Office for Human Rights and International Relations

Red Cross

International Federation of the Red Cross and Red Crescent Societies (IFRC)

- Boko Jean COFFI, National Societies Development Delegate, Indian Ocean Region
- IDRISSE Yacouba Traore, Operations Manager
- RIDA Rakotomizao, Logistic Officer, Indian Ocean Region
- HANITRA Farasoa, Regional Finance Officer, Indian Ocean Region

Croix Rouge Malagasy (National Society representation in the capital – CRM/MRC)

- FANJA Ratsimbazafy, Secretary General
- Dr. Jocelyn Razafindrakoto (Dr. Joss), Head of Programming
- RIANA Ravoala, Public Relations
- ALY Boural Hanssen, Regional Disaster Response Team

United Nations system organizations/Antananarivo

B: Region of Atsinanana – capital Tamatave/Toamasina

Government

Head of Region (Atsinanana)/Chef de Région

- Alain Mahavimbina

DAGT - Directorate of General and Territorial Administration (Direction de l'Administration Générale et Territoriale – Atsinanana Region)

- Talata Michel, Civil Administrator, Director of the General and Territorial Administration of the Atsinanana Region

Health Service in Atsinanana

- Dr. José Randridanrivololona, Regional Director of the Mobile Intervention Service – Atsinanana Region

Ministry of Water and Forests/Atsinanana region

- Ratsimbazafy Lala A., Head Demarcation of Forests Toamasina II/Chef Cantonnement des Forêts Toamasina II

Ministry of Decentralization/ Atsinanana region

- Ramaroson François Xavier, Head of the Regional Service of the Decentralization (Tamasina)/Chef de Service Régiona de la Décentralisation de Toamasina

Ministry of Organisation of the Territory / Atsninanana region

(Ministère de l'Aménagement du territoire / Atsninanana)

- Rakotomalala Nirina, Surveyor in the Topographic Service / Toamasina
- RAMAROLAHY Samuel, Engineer of Public Works and Buildings / Toamasina

Ministry of Water / Regional Direction of Atsinanana

- BARAKA Dominique, in charge of Socio-Organizational activities

Public Prosecutor (Procureur de la Republique)/Tamatave

- Randrianjaka Sosthene

Red Cross

Croix Rouge Malagasy - Representation in the Atsinanana Region (capital: Tamatave)

- Dinh Van Seraphin, Head of the MRC - Atsinanana Region
- Haja, Coordinator of Atsinanana
- RAKOTONANDRASANA Hajarison Fortune

NGOs

Saint Gabriel/Tamatave

- Fr. Edwin Joseph fsg
- MINDROZELINA Elie Rose, Programme Coordinator
- Raveloson Charles Albert, Responsible Officer for Cluster WASH/Urgence, Regions of Analanjirofo and Atsinanana

C: District visited: Brickaville

Government

CRM/MRC (Brickaville)

- Jerole Ferdinand Bruno, President
- Tsilaosana Marie, Vice-President
- Dr. Rivolala, Responsible Officer for Health
- Isabelle, Treasurer

Chef of District of Brickaville

- Ravelomahay

NGOs

ODDIT - Development Body of the Diocese of Toamasina /Organe de Developpement du Diocese de Toamasina

- Santoné
- Lina

CARE International (Brickaville)

- Andry Tahina RAKOTOIAO, Field Officer
- Mamy Rakotomanantsoa Guy, Head of Project

D: Commune of Brickaville

Mairie (Brickaville)

- Jean Claude Gerard Michel, Maire

Community of Namahoaka/Vohitranivony

- VELONTSARA Nahita André, Head of Fokontany
- MARORAZANA Célestin, Counsellor Namahoaka/Vohitranivony
- Norrina and other women living in the community

Community of Vohiboazo/Mahatsara

- Florentine SAMPIVONY, President MRC of Vohiboazo
- HERYALISON, Vice-President Vohiboazo Fokontane
- Visy Juliette, President MRC of Valavahatra (Neighbour Fokontane)

Community of Ambodiapaly/Brickaville

- Jaqueline, Community representative
- Ravao, Community representative
- Therese, Community representative



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Annex B: Bibliography

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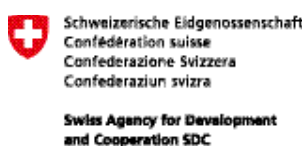
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