

# ROADMAP FOR INTEGRATED CLIMATE RISK MANAGEMENT

*Flood Risk and Micro,  
Small and Medium  
Enterprises in Morocco*

May 2019

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## EXECUTIVE SUMMARY

Natural disasters and their associated damages severely impact people around the world every year. Increases in exposure and vulnerability at a global level, linked to the multiple concurrent trends such as climate change, population growth and globalisation of supply chains are making it imperative to find strategies to manage disasters more holistically.

*Integrated Climate Risk Management (ICRM)* is an approach to dealing with the risk and manifestation of climate-related disasters. It is characterised by a holistic perspective with regards to the various components of risk management. ICRM differs from previous concepts in the disaster management paradigm that focused almost exclusively on response, and didn't pay significant attention to opportunities to reduce the incidence or potential impact of climate disasters.

This roadmap is developed from work undertaken on ICRM through the "Advancing Climate Risk Insurance plus" (ACRI+) implemented by the Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH and the Munich Climate Insurance Initiative (MCII). In Morocco, ACRI+ is working with Micro, Small and Medium Enterprises (MSMEs) in the Ait-Melloul industrial zone to support the development of financial and strategic capacities for managing climate risks, particularly from flooding, with a focus on the potential role of risk transfer.

This roadmap aligns with the various ongoing efforts at national and regional level to facilitate greater climate resilience and sustainability of industrial areas. The focus is on the potential role that insurance can play in risk management for MSMEs, recognising not only its function in smoothing the impacts of shocks on businesses but also its contribution to a more mature business model. Risk transfer instruments, such as insurance, are increasingly being used by governments, business and households to reduce the immediate and long-term losses associated with extreme weather events.

Currently, there are significant barriers to establishing risk transferring mechanisms such as climate insurance in the MSME market in Morocco. The roadmap identifies some of the major such barriers, which include lack of detailed information about MSME needs, insurance market hesitation to enter the MSME market and financial issues including lack of awareness, high insurance price points and government engagement. The roadmap suggests actions and recommendations that could be followed to address these barriers in a manner that considers and integrates risk management principles. Such recommendations include the development of a census of MSME needs, the creation of a climate risk exposure index and the establishment of awareness campaigns and financial literacy courses to improve MSME financial literacy. The recommendations are intended as first steps that could be taken to scale up risk transfer through insurance within an integrated climate risk management framework.

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## LIST OF ABBREVIATIONS

<b>ACAPS</b>	Autorité de Contrôle des Assurances et de la Prévoyance Sociale
<b>ACRI+</b>	Advancing Climate Risk Insurance plus
<b>ANPME</b>	Agence Nationale pour la Promotion des PME
<b>CVC</b>	Centre for Monitoring and Coordination, Government of Morocco
<b>CENFRI</b>	Centre for Financial Regulation & Inclusion
<b>CCG</b>	Central Guarantee Fund (Caisse Central de Garantie)
<b>CGEM</b>	Confédération Générale Des Entreprises Du Maroc
<b>GIZ</b>	Deutsche Gesellschaft für International Zusammenarbeit
<b>DMN</b>	Direction de la Météorologie Nationale
<b>ICRM</b>	Integrated Climate Risk Management
<b>ICRM project</b>	“Promoting Integrated Mechanisms for Climate Risk Management and Transfer” project
<b>INDC</b>	Intended Nationally Determined Contribution
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>MCII</b>	Munich Climate Insurance Initiative
<b>(M)SMEs</b>	(Micro) Small and Medium Enterprises
<b>NAP</b>	National Adaptation Plan
<b>NDC</b>	Nationally Determined Contribution
<b>OPM</b>	Oxford Policy Management
<b>PSACC</b>	Private Sector Adaptation to Climate Change
<b>SEDD</b>	State Secretariat for Sustainable Development
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>USD</b>	United States Dollar

# Introduction

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## 1.1 PURPOSE

This document provides guidance and technical support to policymakers involved in the identification, management and reduction of climate risks, and the impact of flooding in particular, in Morocco's Micro, Small, and Medium Enterprises (MSME) sector.

The roadmap discusses specific practical interventions and policy ideas that could be applied as part of a broader national or sectoral strategy for MSME disaster risk financing. The focus is primarily upon the experiences and lessons learned from the "Promoting Integrated Mechanisms for Climate Risk Management and Transfer" project ("ICRM project") and the Advancing Climate Risk Insurance plus (ACRI+), funded by the Government of Germany and implemented by the Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH.

It is also relevant to Morocco's climate change and disaster risk management policy objectives and commitments, at the national level and with respect to key international agreements such as Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) and the Sendai Agreement on Disaster Risk Reduction.

The primary audience for the roadmap is policymakers working on in this thematic area, particularly within the Ministère de l'Economie et des Finances (Ministry of Economy and Finance), and the Ministère de l'Industrie, du Commerce, de l'Investissement et de l'Economie Numérique (Ministry of Industry and Commerce).

Representatives of the primary audience, as well as representatives from other government ministries and institutions, have been involved in the drafting process of the roadmap. They have provided strategic and technical inputs to inform the content of the document through a formal peer review process, a workshop in Rabat and other meetings and coordination channels.

A potential secondary audience is the wider set of stakeholders working on climate risk management within and outside of Morocco, particularly disaster risk financing and insurance in the MSME sector, and/or those interested in learning about the application of an ICRM approach.

## 1.2 ROADMAP APPROACH

This roadmap was commissioned as a means of a) synthesising experiences and lessons learned from the ACRI+ project for a policy audience, and b) situating the results of the project within the broader policy and risk management context in Morocco.

**The roadmap draws from three main sources of evidence:**

1. Data and reports generated through the implementation of ACRI+ in Morocco, along with other related GIZ projects.
2. Academic literature and 'grey' literature<sup>1</sup> selected for the specific purpose of corroborating or adding to information from other sources. A list of references is provided at the end of this document.
3. Focus group discussions with key project stakeholders. The main venue for this was a workshop held in Rabat in October 2018 (→ see Annex 1).

## 1.3 INTEGRATED CLIMATE RISK MANAGEMENT

Integrated Climate Risk Management (ICRM) is an approach to dealing with the risk and manifestation of climate-related disasters. It is characterised by a holistic perspective with regards to the various components of risk management, which are depicted in the outer layer of Figure 1.

The key emphasis of integrated approaches is upon treating these aspects as integrated and overlapping. The middle circle provides more detail on the types of activities that should be implemented at each stage. Resilience, in the centre of Figure 1, represents the system's capacity to absorb and recover from hazardous events, and is the variable that is enhanced by successful integrated disaster and climate risk management (Gonsalves et al., 2011). In disaster risk management, the system can include social, economic, physical, natural and human capital.

<sup>1</sup> Academic literature includes peer-reviewed journal articles and publications. 'Grey' literature refers to a range of other types of publication that are not independently peer-reviewed but are assumed to meet certain quality standards e.g.: reports published by research institutions and think tanks, project reports and documentation published by donor organisations, publications of multilateral or bilateral institutions.

FIGURE 1: Integrated and climate risk management cycle



ICRM differs from previous concepts in the disaster management paradigm that focused almost exclusively on response, and didn't pay significant attention to opportunities to reduce the incidence or potential impact of climate disasters. The imperative to broaden this perspective comes from increases in exposure and vulnerability at a global level, linked to the multiple concurrent trends such as climate change, population growth and globalisation of supply chains (MCII 2017).

A further advantage of the ICRM approach is that it enables alignment of the DRM agenda, as exemplified in the Sendai Framework on Disaster Risk Reduction, with the climate change and sustainable development agendas, codified at a global level by the Paris Agreement and Sustainable Development Goals respectively.

# Flood Risk and MSMEs in Morocco

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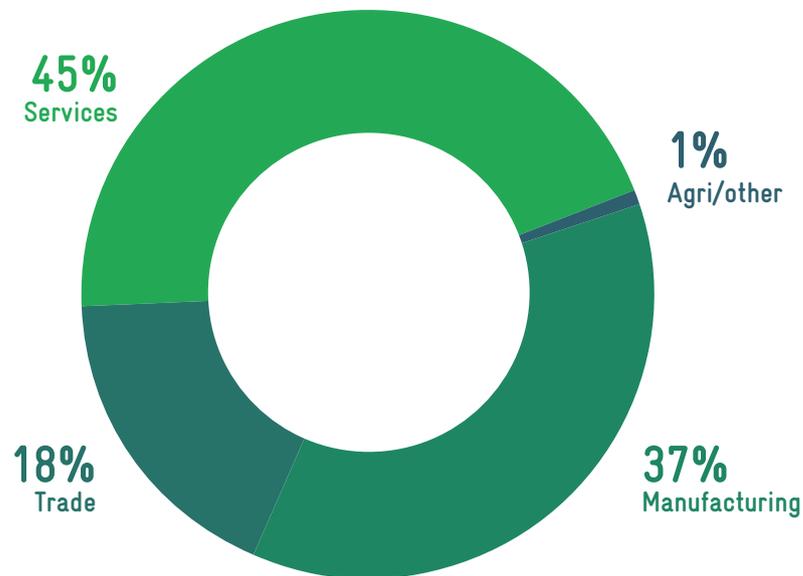
This section provides background and context to the roadmap.

## 2.1 ECONOMIC CONTEXT

In Morocco, MSMEs represent 93% of the national economic fabric but only contribute 40% of the GDP. They generate 46% of jobs in the country (Aziz, 2013). MSMEs are present in many economic sectors, including agriculture, industry,

craft-making, construction, shops, tourism, communications, transport and financial services. Figure 1 shows the sectoral breakdown of MSMEs in 2013.

FIGURE 2: Sector Distribution of MSMEs in Morocco (Aziz, 2013)



However, their contribution to national GDP, at around 40%, is comparatively low, and MSMEs are considered to be a low growth sector (Hassan and Mohamed, 2015; Mouhallab and Wei, 2016). Some of the barriers limiting the expansion of MSMEs include:

- Low productivity and cultural barriers to improving competitiveness;
- Lack of banking and difficulties of access to financing. SMEs receive 20% of credits allocated, although they represent more than 93% of the economic fabric;
- Thin capitalization, 90% of SMEs are undercapitalized;
- Lack of transparency in their accounts;
- Family make-up of firms with traditional management style;
- Lack of international openness;

There is a strong case for strengthening the enabling environment for MSMEs. Given their important role in employment, a stronger MSME sector could bring down high unemployment rates in Morocco. Unemployment rates are particularly high among young adults and women, which is linked to the expansion of the informal economic sector. As such, MSMEs are considered a potential means of reducing poverty and inequality, and encouraging economic entrepreneurship among women (Mouhallab and Wei, 2016).

Appropriate policies and incentives for MSME expansion could also help to reduce regional economic disparities. Currently, MSMEs are mostly located in economically powerful, urbanised areas, such as Casablanca, concentrating job creation and wealth. Encouragement of regional and rural MSMEs could help to distribute wealth across the country (Mouhallab and Wei, 2016).

## 2.2 POLICY AND INSTITUTIONAL CONTEXT

### MSMEs

The Government of Morocco has acknowledged the important role of MSMEs in contributing to national economic growth and development. For example, Morocco's Industrial Acceleration Plan (2014–2020)<sup>2</sup> anticipates a role for MSMEs in promoting industrial sector growth and enhancing competitiveness.

Various initiatives have sought to promote and encourage MSME sector growth. The Central Guarantee Fund (Caisse Central de Garantie) (CCG) is a national public institution which guarantees bank loans to MSMEs. Between 2009 and 2012, the CGC introduced products directed at MSMEs, including investment loans, working capital, restructuring and private equity. This and other steps contributed to the strengthening of the national credit guarantee mechanism, which was previously considered as too complex and fragmented (World Bank, 2012). The CCG also developed specific products for micro enterprises in 2011, known as the 'Damane Express', which includes simplified taxation systems, adapted social charges, more social security coverage and specific banking products (Aziz, 2013).

The 'Finance Law' of 2011 introduced major incentives for MSMEs, including a reduction of the tax on corporate profits, introducing tax incentives for businesses that integrate into the formal sector, and further incentives for sole proprietorships opting to transform into corporations (Aziz, 2013). Law 110-14, adopted in 2016, established „a regime of coverage against the consequences of catastrophic events“ in Morocco. The law has put in place a mixed compensation scheme for victims of catastrophic events, combining both an insurance system for those who have taken out insurance (personal injury and insured property) and a beneficiary system provided by the Solidarity Fund against Catastrophic Events (FSEC) for the benefit of 'natural persons' who do not have any cover (cover for bodily injury and loss of principal residence). Another key instrument is the "Agence Nationale pour la Promotion des PME" (ANPME)<sup>3</sup>, set up in 2002, a public agency dedicated to the development of MSMEs, which manages financial support programs, provides business development services and supports efforts to build an enabling environment for MSMEs across the country (Aziz, 2013). ANPME plays an important role in representing the interests of MSMEs in the national context and public policy debates.

<sup>2</sup> For acceleration plan see: <http://www.mcinet.gov.ma/en/content/industrial-acceleration-plan-2014-2020>

<sup>3</sup> For more information see: <http://candidature.marocpme.ma/>

More recently, a public industrial investment fund has been established, and the government has been facilitating linkages between the banking sector and large companies on the one hand and MSMEs on the other (*Mouhallab and Wei, 2016*).

However, despite progress, access to capital by MSMEs remains low, as they lack the collateral, equity, and formalisation needed to access capital, as well as usually suffering from information asymmetry, despite the existence of government support and guarantee schemes (*EBRD, 2012*).

## Climate change and disaster risk management

### Institutional framework

Morocco's climate change policy and institutional framework is relatively well defined and developed. The equivalent arrangements for Disaster Risk Management (DRM) are considerably less so.

Climate change policy is the responsibility of the Ministry of Energy, Mining, Water, Environment and Sustainable Development. The National Committee for Climate Change was established in 2007 and oversees all climate-related activities. The committee is chaired by the Secretariat in charge of Sustainable Development, which is also the national focal point for the United Nations Framework Convention on Climate Change (UNFCCC).

There is no comparable cross-governmental platform for DRM, although the 'MnhPRA' and 'Desinventar' tools do exist, but require updating. This a finding of an assessment of disaster management by the National Court of Auditors that was carried out to evaluate the efficiency of organisations in risk management. Specifically, this assessment highlighted a key problem as the lack of an operational national platform that would drive progress on DRM across government, including coordinating the activities of various stakeholders involved risk management (*Royaume du Maroc Cour de Comptes, 2016*). This assessment

stated that Morocco's progress up to 2016 in relation to the Hyogo Framework for Action had been limited by the lack of an operational national platform that prevents it from providing guidance on DRM and coordinating the activities of various stakeholders in risk management.

The existing institutional arrangement for DRM involves two organisations within the Ministry of Interior, namely, the Centre for Monitoring and Coordination (CVC) and the Department of Civil Protection. The CVC manages disasters through the whole disaster cycle, and manages all types of risk, with a particular focus on crises. It covers emergency situations including actions on: preventing risks and threats, resource planning, coordinating interventions, and post-crisis recovery. Local authorities are responsible for coordinating actions on the ground. The Department of Civil Protection mandate addresses issues relating to risk management, protecting and safeguarding the population. Its operational capacity has been increased in the last few years in anticipation of further natural disasters, with capacity to deploy more rescue centres, and more emergency supplies for affected populations. However, it is noted by the National Court of Auditors assessment that its national presence is insufficient and uneven throughout the territory (*Royaume du Maroc Cour de Comptes, 2016*).

### Policy framework

The Moroccan Climate Change Policy was adopted in 2014 and provides the primary articulation of the country's vision and objectives relating to climate change mitigation and adaptation. The Policy contains various "pillars", which include: reinforcing legal and institutional frameworks, knowledge and territorial approaches, preventing and reducing risks, promoting research, innovation and technological transfer, and financing climate change. DRM is not mentioned expressly, but a section on risk and vulnerability notes Morocco's commitment to adaptation in multiple sectors, including in protection against floods.

Morocco submitted its first Intended Nationally Determined Contribution (INDC) and the subsequent Nationally Determined Contribution (NDC) in 2016. The NDC establishes an emissions reduction target of 42% by 2030 compared to “business as usual” projected emissions<sup>4,5</sup>. Morocco aims to achieve these reductions through action in energy, agriculture, transportation, water, waste, forestry, industry, housing and infrastructure. The State Secretariat for Sustainable Development (SEDD) has prepared a report on the implementation of NDCs in 2018.

The country has commenced preparation of its National Adaptation Plan (NAP), publishing a roadmap developed by the SEDD in 2017 and seeking financial support for NAP readiness from the Green Climate Fund (UNDP, 2017). Morocco has also established the Morocco Competence Climate Change Centre (4C Maroc), which aims to promote engagement in the issue from multiple stakeholders.

There is no single authoritative policy and strategy for DRM, and in general DRM is not well mainstreamed. As of 2016, departments involved in the management of natural disasters did not clearly identify natural hazards in their budgetary and financial plans (*Royaume du Maroc Cour de Comptes, 2016*).

There are, however, a number of plans addressing specific types and aspects of hazards. Various sectoral plans also touch upon DRM issues<sup>6</sup>. An example of the former type of plan is the National Plan against Floods<sup>7</sup>.

This plan, established in 2006, is based on an integrated vision towards flood mitigation, including setting priorities for the country, and is particularly focused on flood hazard detection and early warning systems<sup>8</sup>. However, according to the National Court of Auditors, there is a lack of financial means and human resources to adequately deal with floods, and the implementation of the plan is limited. Furthermore, they note that while there are multiple public actors involved in flood risk management, there is no clear national strategy dedicated to flood protection (*Royaume du Maroc Cour de Comptes, 2016*).

Despite the lack of authoritative policy or institution, there are several funds dedicated to specific sectoral risks. These include the Fund to fight against the effects of natural disasters, “Fonds de lutte contre les effets des catastrophes naturelles (FLCN)”, which finances expenditure related to the effects of disasters, emergency relief, assistance to affected population, restoration and reconstruction of damaged facilities, the construction of preventive facilities and the improvement of intervention means used by specialized organisations (*Royaume du Maroc Cour de Comptes, 2016*). Other funds are the Natural Disasters Fund, the Special Fund for the promotion and support of civil protection, and the National Forestry Fund. In terms of participation in international platforms on DRM issues, Morocco was a signatory to the Hyogo Framework for Action and submitted three periodic reports on its DRM progress. Morocco is party to the Euro-Mediterranean Agreement „EUR-OPA Major Hazards“.

4 Morocco's INDC: <https://www4.unfccc.int/sites/submissions/indc/Submission%20Pages/submissions.aspx>

5 Morocco's NDC: <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx>

6 A number of sectoral plans also touch upon the subject of DRM, including the National Strategy for Environmental Protection and Sustainable Development, the National Action Plan for the Environment, the National Household Waste Management Plan and the National Sewerage and Wastewater Treatment Plan.

7 Others include the National Plan against Agricultural Risk, the National Plan against Locust Invasions, the Master Plan for the Prevention and Fight against Forest Fires, the General Plan for the Organization of Relief (ORSEC), and the National strategy for Managing Medical Emergencies and Health Risks Associated with Disasters.

8 Royaume du Maroc - Secrétariat d'État Chargé de l'Eau, 2016.

In terms of early warning systems, these exist in some areas of Morocco (e.g. Ourika, Bouskoura), and involve multiple stakeholders but coverage is not complete. MSMEs are thus only covered by early warning systems if and when they happen to be in a region with a functional alert mechanism<sup>9</sup>. The only agency in Morocco with a national forecasting role is the Meteorological Department, (Direction de la Météorologie Nationale) (DMN). This agency collects meteorological observation data with a national network of gauges.

Morocco has received significant support from development partners in relation to disaster and climate risk management. A particularly

significant programme is the 5-year \$200m commitment from the World Bank's Integrated Disaster Risk Management and Resilience Program, in place since 2016<sup>10</sup>. The objective of this programme is to 'improve the institutional framework to finance disaster risk reduction activities and strengthen financial resilience to natural disasters for targeted populations'. According to the World Bank, 'Morocco has started to develop an integrated DRM reform programme, which combines elements of institutional reform with risk reduction investments and risk insurance to ensure that residual risks that cannot be cost-effectively mitigated are efficiently financed' (World Bank, 2018).

## 2.3 FLOOD RISK IN MOROCCO

Floods are a major hazard in Morocco; indeed, they represented nine of the top ten natural disasters in Morocco between 2002 and 2012 in terms of average economic loss (*The World Bank Group, 2018*). The National Assessment of Disaster Management (Catastrophe Royaume du Maroc) carried out in 2016 identified floods as one of four priorities, along with, forest fires, earthquakes and locusts. Between 1995 and 2005 floods were responsible for more than 1,165 deaths, more than 232,896 affected population, and more than US\$ 295 million in damages.

Floods are not a new phenomenon, and have historically been recognised for their positive role in agricultural cycles by irrigating croplands and mediating hydrological flow. However, flash floods are capable of transforming the dry beds of „oueds“ into violent and destructive torrents, often causing loss of life and significant material damages. The heavy rainfall that causes flash floods tends to be highly localised, and therefore relatively difficult to predict and take early preventative action (*The World Bank Group, 2018*).

Several factors have contributed to exacerbating flood exposure, and hence risk, in recent years. An important contributor is rapid urban and economic development in flood prone areas (Werren et al., 2016). Climate change and variability are having a significant impact (→ see section below).

9 Outcome from 2018 Workshop in Rabat with national stakeholders (see Annex 1)

10 For more information on WB project see: <http://projects.worldbank.org/P144539?lang=en>

## 2.4 CLIMATE CHANGE PROJECTIONS

Morocco is highly susceptible to climate change. According to the IPCC's 5th Assessment Report, the region should expect a warming increase of between 1.5 °C and 6 °C by the end of the 21st century, compared to the reference period 1986–2005. It should also expect a reduction of between 20% and 40% in annual rainfall totals by the end of the same century (IPCC, 2014).

Despite an overall reduction in rainfall, a greater frequency and intensity of extreme weather events are predicted. Generally, Mediterranean climate scenarios are tending towards increased aridity and higher inter- and intra-annual rainfall variability (IPCC, 2014). In recent years, there has been an increase in heavy rainfall events in Morocco, resulting in unprecedented floods.

## 2.5 VULNERABILITY OF THE MSME SECTOR TO CLIMATE RISKS

Morocco's key economic sectors are highly vulnerable to climate change impacts, particularly water, agriculture, land/forests, coastlines, fishing and tourism. All of these sectors include large number of MSMEs.

The table below lists the main threats posed to businesses by climate change, according to Morocco's Business Climate Initiative.

### BOX 1: Risks form climate change to business (Stour, 2017)

#### RISKS

- Water Scarcity, which stops operations and limits the use of products
- Damage of physical assets (machines, buildings...)
- Disruption of supply chains (e.g. late delivery, late fee-paying)
- Increasing costs of insurance
- Interruptions to logistical chains
- Irregularities in supply chain due to shortage of raw materials
- Unhealthy workforces
- Unstable communities
- Stricter climate regulations
- Weakened consumer markets
- Damaged reputations
- Displaced populations

In relation to flood events specifically, impacts include damage to premises and transport routes, rising prices for energy and water, or more frequent gaps in the supply of these services. Significant indirect impacts result from the vulnerability of suppliers and customers.

A large number of industrial zones are located in vulnerable areas which poses long-term risks to their economic activity. In the Souss Massa region, agribusinesses are seeing their production costs increase with problems related to water scarcity and increasing energy prices. They incur material costs following the flooding of buildings, stores or warehouses, and suffer revenue losses due to irregularities and breakdowns in the supply chain or logistics (GIZ, 2016).

MSMEs have several specific vulnerabilities to climate change and extreme events. They tend to have a low awareness of climate-related risks, low adaptive capacity and receive little support in the way of planning or resourcing risk management. They typically have limited resources that could provide financial cushioning in case of a shock.

While the Business Climate Initiative recognises that businesses might also stand to gain from climate change (→ see Box 2), the current situation of the MSME sector coupled with the nature of climate risks means that very few MSMEs would be in a position to take advantage of these opportunities.

#### BOX 2: Opportunities from Climate Change for businesses (Stour, 2017)

##### OPPORTUNITIES

- Development of new product lines and services to meet new demands created by climate change
- Decrease in operations costs due to the more efficient use of resources
- Growth of markets for products and services
- Development of new skills
- Creation of new trades
- Anticipation of new regulation

# Piloting an Integrated Climate Risk Management Approach

3



### 3.1 INTRODUCING THE PILOT PROJECT

The Advancing Climate Risk Insurance plus (ACRI+) project is funded by the Government of Germany and implemented by GIZ and MCII. In Morocco, ACRI+ is working with MSMEs in the Ait-Melloul industrial zone to support the development of financial and strategic capacities for managing climate risks, with a focus on the potential role of risk transfer. The project aligns with the various ongoing efforts at national and regional level to facilitate greater climate resilience and sustainability of industrial areas.

ACRI+ builds upon work begun by the previous "Private Sector Adaptation to Climate Change" (PSACC) project, also implemented by GIZ. PSACC worked with businesses (particularly MSMEs) in industrial zones, including Ait-Melloul, to develop tools and instruments to support climate change adaptation. One output was a guide which provides information, practical tools and recommendations to support industrial zone managers in conducting a climate risk analysis and developing an adaptation strategy.

However, one finding from PSACC was that MSMEs' are constrained in their ability to adopt adaptation actions by a lack of financial capacity and financial tools. ACRI+ seeks to fill this gap. ACRI+ focuses particularly on the potential role that insurance can play in risk management, recognising not only its function in smoothing the impacts of shocks on businesses but also its contribution to a more mature business model.

#### 3.1.1 Presentation and selection criteria for study areas

The Souss-Massa region is located in south-west Morocco. The region is an important driver of national economic growth and development. It is considered to be one of the most dynamic and wealthy regions. According to the 2014 census, the regional population is 2.56 million, 55% of whom live in rural areas (Choukr-Allah et al., 2017). The population has an annual growth rate of 1.4% (Choukr-Allah et al., 2017).

With a year-round growing season, irrigated agriculture in the river basin produces more than half of Morocco's exported citrus and 85% of exported vegetables (Choukr-Allah et al., 2017). The industrial area of Ait Melloul is one of the key production areas and regional export hub for these agro-business goods. It contains around 300 MSMEs, the majority of which are engaged in processing vegetables, fruits and fish sourced from elsewhere in the country and region (Choukr-Allah et al., 2017).

The Souss-Massa region suffers from severe water deficit, with high competition over limited resources. Extreme weather events such as floods, intensive rainfall, heatwaves and droughts have become more frequent and severe.

The agri-businesses in the zone depend upon functioning supply chains; they are highly vulnerable to natural disasters experienced not just in the zone itself but at any location in their supply chain. Equally, they are vulnerable to disruptions in the supply of key services, including water and electricity.

The Plan d'Adaptation Prioritaire (Priority Adaptation Plan) for the region of Souss Massa emphasises the importance of promoting climate adaptation in the MSME sector in Ait Melloul. It sets out a plan for transitioning the industrial zone into a 'resilient and sustainable' area. This is in line with other efforts by the government to revitalize industrial areas by mainstreaming environmental sustainability and climate resilience. The ACRI+ project seeks to contribute to the realisation of the plan and its vision. The plan has five objectives, as follows:

- Souss Massa local players are mobilized to operationalize climate change adaptation and the Priority Adaptation Plan

- To improve and strengthen weather forecasting, monitoring and early warning systems in the region. The goal is to have a vision of the region's climate risk
- Integrate climate change adaptation into local planning For climate risk to be factored into all sectoral strategies
- Reduce the climate vulnerability of the main sectors and regions

As can be noted, the local council governing Ait Melloul has already integrated climate adaptation approaches in their strategies, but there is a need for funding sources to carry out those efforts and operationalise climate adaptation<sup>11</sup>.

### 3.1.2 Hazard selection

The growing severity of flood risk in Morocco was described in Chapter 2 above. Floods are a significant recurring problem to the industrial zone in Ait-Melloul. Floods in 2009, 2010 and 2012 caused extensive damage, including leaving thousands homeless; and further floods in 2014 revealed strong infrastructure vulnerabilities. Floods are a serious risk to those living and working in the area. Thereby, the Souss River basin Agency, L'Agence du bassin hydraulique de Souss-Massa-Drâa (ABHSMD), is now calling for better disaster preparedness and mitigation programs to avert the adverse effects of floods.

### 3.1.3 Activities

Since April 2017, the ACRI+ project has carried out several workshops in Morocco with key stakeholder groups to assess demand, validate and build ownership of potential solutions. From these workshops, further activities emerged that have included:

- 1. Hazard modelling and asset valuation:** to provide decision makers with information about climate-related risks to the economy, and the provision of cost-effective adaptation actions.
- 2. Value chain analysis:** this analysis has evaluated the impacts from climate change on the value chains of SMEs in Ait Melloul. It has taken into account the MSME's activities through the supply chain.
- 3. Gap analysis:** this gap analysis has outlined possible direct and indirect climate risks and offered solutions to strengthening ICRM in Morocco. This analysis is the basis of Chapter 3 of this roadmap.

<sup>11</sup> Outcome from 2018 Workshop in Rabat with national stakeholders (see Annex 1)

## 3.2 INTEGRATED CLIMATE RISK MANAGEMENT FOR MSMEs: ANALYSIS OF GAPS AND ACTIONS

This section demonstrates the application of an ICRM framework to support the identification of gaps and corresponding activities to better manage risk for Moroccan MSMEs. The tables listed below are the output of the gap analysis carried out by the ACRI+ project, and proceed through each stage of the ICRM cycle, highlighting some of the main gaps and activities that have been identified through project activities and outputs.

Each table is focused on one of the five ICRM stages (prevent, residual risk, prepare, respond and recover) and they are organized as followed:

1. **Area:** gives the specific topic area within the ICRM cycle that the gap is within
2. **Topic/programme:** shows particular policies/programmes/activities that are most relevant to the area.
3. **Baseline:** the current status of the topic/programme listed in the same row, highlighting what has been done through it and its strengths and weaknesses.
4. **Gap:** describes the gaps related to the area (i.e.: the ICRM stage). The gaps are general to the whole area and do not directly correspond to the topic/programme and baseline.
5. **Action:** provides actions that relate to the area (i.e.: the ICRM stage). The actions are general to the whole area and do not directly correspond to the topic/programme and baseline.

The tables below are derived from a set of references noted in the footnote<sup>12</sup>.

12 Royaume du Maroc, 2016; GIZ, 2017 ; Ezzine et al., 2016; Frei-Oldenburg et al., 2015; CGEM, 2017; Saaf & Van Dijk, 2016; Zurich Insurance Company Ltd., 2015; Bank Al-Maghrib, 2016 ; Choukr-Allah et al., 2017; Hoff et al., 2003; MUAT - Ministère de l'Urbanisme et de l'Aménagement du Territoire, n.d.; Royaume du Maroc - Secrétariat d'État Chargé de l'Eau, 2016 ; Benjelloun, 2003 ; GIZ, 2016; Royaume du Maroc, 2013 ; Centre National de Documentation / Haut-Commissariat au Plan, n.d.; Loubna, n.d. ; ACRI+, 2017; ONDH - Observatoire National du Développement Humain, 2018; Secrétariat d'État auprès du Ministre de l'Énergie, des Mines et du Développement Durable, chargé du Développement Durable, 2015 ; Ministère délégué auprès du Ministre de l'Énergie, des Mines, de l'Eau et de l'Environnement, chargé de l'Environnement, 2014; UNFCCC, 2016 ; Secrétariat d'État auprès du Ministre de l'Énergie, des Mines et du Développement Durable, chargé du Développement Durable, 2015; Tangermann & Chazalnoel, 2016; Ministère de l'Énergie des Mines, de l'Eau et de l'Environnement Département de l'Environnement, n.d.; UNDP, 2018; UNDP, 2018; Ministère de l'Agriculture et de la Pêche Maritime Agence pour le Développement Agricole, 2011; Ministère de l'Économie et des Finances - Direction des Assurances et la Prévoyance Sociale, n.d.; Baeumler & Mahul, 2016. See the reference list for full citations.



## PREVENT

Area	Topic/programme	Baseline	Gap	Action
RISK ASSESSMENT	<ul style="list-style-type: none"> <li>La loi relative à l'urbanisme</li> <li>Law 28-00 on waste management</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient maintenance of waterways and hydraulic installations: household refuse, demolition materials, and vegetation are present on the banks of rivers, leading to problems with drainage and overflowing</li> </ul>	<ul style="list-style-type: none"> <li>Focus remains on emergency management rather than pre-disaster risk management (ie: infrastructure is usually only upgraded post-disaster)</li> <li>Urban planning laws are general in nature and do not stress the risk component, especially for flood zones</li> </ul>	<ul style="list-style-type: none"> <li>Increased data quality would allow for the production of more precise maps of flood-prone zones, which could be used as decision making tools to help increase preparation and prevention</li> </ul>
	<ul style="list-style-type: none"> <li>Creation of maps for each province and prefecture of certain risks, particularly floods</li> </ul>	<ul style="list-style-type: none"> <li>Land coverage map of Aït Melloul has been produced by ABHSM</li> <li>After each flood, a hot spot map is produced of all of the inundated areas during the flood</li> </ul>	<ul style="list-style-type: none"> <li>Non-application of penalties when risk reduction policies are not followed (i.e.: building codes and zoning)</li> </ul>	<ul style="list-style-type: none"> <li>Risk maps can help insurance companies in premium calculations and the assessment of loss potential for certain areas</li> </ul>
	<ul style="list-style-type: none"> <li>La loi sur l'eau</li> </ul>	<ul style="list-style-type: none"> <li>As of 2016, the loi sur l'eau had not yet been adopted</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation studies for flood prevention infrastructure and control were not followed by the implementation of sufficient equipment to protect vulnerable areas</li> </ul>	<ul style="list-style-type: none"> <li>Risk assessment helps to estimate potential loss and damage, and allows DRM decision making to be adjusted accordingly</li> </ul>
	<ul style="list-style-type: none"> <li>Ministère de la Santé study on the vulnerability of health services buildings, including hospitals and existing resource inventories</li> </ul>		<ul style="list-style-type: none"> <li>Le Plan National de Protection Contre les Inondations focusses on parcels of land and not specifically on vulnerable areas</li> </ul>	<ul style="list-style-type: none"> <li>Risk assessment enhances risk awareness for decision makers and civil society</li> </ul>
	<ul style="list-style-type: none"> <li>Le programme de restructuration des quartiers menaçant ruine et le programme de résorption des bidonvilles</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient legal framework to stipulate the responsibilities of each actor</li> <li>Legal, financial, and institutional frameworks which favour post-event action rather than preventative action</li> </ul>	<ul style="list-style-type: none"> <li>Vulnerability assessment: there are no validated questionnaires which assess community risk perceptions and sociodemographic factors</li> </ul>	<ul style="list-style-type: none"> <li>Data collected from risk assessment can help increase the quality and precision of insurance program design</li> </ul>
	<ul style="list-style-type: none"> <li>Le Plan National de Protection Contre les Inondations</li> </ul>	<ul style="list-style-type: none"> <li>Currently being implemented</li> </ul>	<ul style="list-style-type: none"> <li>Hydraulic model calibration can be extremely time consuming</li> </ul>	<ul style="list-style-type: none"> <li>Governments can use the historic and risk-analysis data collected by insurance companies to perform assessments more rapidly and to reduce costs</li> </ul>
	<ul style="list-style-type: none"> <li>MnhPRA - Morocco national hazard Probabilistic Risk Assessment</li> </ul>		<ul style="list-style-type: none"> <li>Risk assessment comes with a level of high uncertainty due to climate predictions and long-term forecasting</li> </ul>	
	<ul style="list-style-type: none"> <li>Scheme of Floods Prevention (ABHSM)</li> </ul>			

Area	Topic/programme	Baseline	Gap	Action						
IMPACT ANALYSIS	<ul style="list-style-type: none"> <li>MnhPRA - Morocco national hazard Probabilistic Risk Assessment, part of the Stratégie de Gestion Intégrée des Risques (GIR)</li> </ul>	<ul style="list-style-type: none"> <li>Large diffusion of MnhPRA, especially across training session organizers</li> </ul>	<ul style="list-style-type: none"> <li>DRM strategies have been created in the absence of a GIS system that encompasses all risks</li> <li>MnhPRA tool is not being used by the majority of organizations visited by la commission de la Cour des comptes</li> </ul>	<ul style="list-style-type: none"> <li>A coordinated use of GIS allows for the identification of at-risk zones and the application of emergency response scenarios</li> <li>Governments can use the insurer's loss and damage data to identify needs and take appropriate action</li> <li>The data resulting from the impact analysis can be used for designing risk financing and insurance products</li> <li>A cost-benefit analysis can be performed: a quantification of financial impacts of hazard events and the costs for relief and reconstruction can be compared to potential insurance premium costs</li> </ul>						
	<ul style="list-style-type: none"> <li>ACCN - Adaptation au Changement Climatiques et Valorisation de la Biodiversité - Mise en œuvre du protocole de Nagoya</li> </ul>				DRM PERFORMANCE ANALYSIS	<ul style="list-style-type: none"> <li>National DRR periodical evaluation reports</li> </ul>	<ul style="list-style-type: none"> <li>Reports published for 2007-2008, 2009-2010, 2011-2013, 2016</li> </ul>	<ul style="list-style-type: none"> <li>Lack of integrated plan; plurality of sectorial plans and initiatives</li> <li>Lack of delimitation of the hydraulic domain; buildings are built and agricultural activities are being carried out illegally on the riverbed</li> <li>ABH lacks current data on parts of the hydraulic domain that are illegally occupied / in use</li> <li>Lack of coordination between different ministerial departments and public institutions; their actions remain focused on disaster management rather than prevention</li> <li>Contradictions between the demands of the line ministries (under the Ministère de l'Intérieur) and the service provision ministries</li> </ul>	<ul style="list-style-type: none"> <li>A dedicated, open, and impartial body for examining data on past flood and disaster events (picture, videos, reports from the event) could lead to conclusions that could be used to improve the overall disaster management system</li> <li>Consideration for rare events with long return periods</li> <li>DRM analysis can help with the calculations of the economic benefits of insurance products and other implemented DRM mechanisms</li> <li>DRM analysis can help to identify gaps within the current DRM strategy, and thus show where insurance solutions may be beneficial</li> </ul>	<ul style="list-style-type: none"> <li>GIR - Stratégie de gestion intégrée des risques</li> </ul>
DRM PERFORMANCE ANALYSIS	<ul style="list-style-type: none"> <li>National DRR periodical evaluation reports</li> </ul>	<ul style="list-style-type: none"> <li>Reports published for 2007-2008, 2009-2010, 2011-2013, 2016</li> </ul>	<ul style="list-style-type: none"> <li>Lack of integrated plan; plurality of sectorial plans and initiatives</li> <li>Lack of delimitation of the hydraulic domain; buildings are built and agricultural activities are being carried out illegally on the riverbed</li> <li>ABH lacks current data on parts of the hydraulic domain that are illegally occupied / in use</li> <li>Lack of coordination between different ministerial departments and public institutions; their actions remain focused on disaster management rather than prevention</li> <li>Contradictions between the demands of the line ministries (under the Ministère de l'Intérieur) and the service provision ministries</li> </ul>	<ul style="list-style-type: none"> <li>A dedicated, open, and impartial body for examining data on past flood and disaster events (picture, videos, reports from the event) could lead to conclusions that could be used to improve the overall disaster management system</li> <li>Consideration for rare events with long return periods</li> <li>DRM analysis can help with the calculations of the economic benefits of insurance products and other implemented DRM mechanisms</li> <li>DRM analysis can help to identify gaps within the current DRM strategy, and thus show where insurance solutions may be beneficial</li> </ul>						
	<ul style="list-style-type: none"> <li>GIR - Stratégie de gestion intégrée des risques</li> </ul>	<ul style="list-style-type: none"> <li>Delayed. Still in development; GIR has not yet been fully implemented.</li> </ul>								
	<ul style="list-style-type: none"> <li>Plan national de lutte contre les inondations</li> </ul>									

Area	Topic/programme	Baseline	Gap	Action
INTEGRATING PREVENTATIVE MEASURES INTO POLICIES	<ul style="list-style-type: none"> <li>• CNEDD - Charte Nationale de l'Environnement et du Développement Durable (Stratégie Nationale de Protection du Développement Durable)</li> </ul>	<ul style="list-style-type: none"> <li>• A multitude of legal texts for natural disaster management exist, but they are sector specific</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of a coherent strategy and legal framework for risk prevention and risk management</li> <li>• Participation and preventative measures taken by communal councils are not sufficient enough to prevent the risk</li> </ul>	<ul style="list-style-type: none"> <li>• Increased evaluation of realized projects within the frame of Le Plan National des Inondations</li> <li>• Consider flood risk in the elaboration of urban planning documents</li> <li>• Increased construction regulations</li> <li>• Prioritize risk management actions according to the level of flood risk vulnerability</li> <li>• Pro-active disaster risk minimization measures are more likely to be implemented through awareness raising and through financial incentives</li> <li>• Insurance for preventative measure could have a positive effect on basis risk</li> <li>• Policies and frameworks which promote insurance can increase the acceptance of insurance products</li> <li>• The implementation of preventative measures could potentially lower indemnity insurance premiums</li> </ul>
	<ul style="list-style-type: none"> <li>• Stratégie de gestion des ressources en eau</li> </ul>		<ul style="list-style-type: none"> <li>• Cooperation amongst stakeholders remains an institutional challenge</li> </ul>	
	<ul style="list-style-type: none"> <li>• PANE- Le plan d'action national pour l'environnement</li> </ul>	<ul style="list-style-type: none"> <li>• A multitude of legal texts for natural disaster management exist, but they are sector specific</li> <li>• Four practical guides on risk assessment, prevention policies, crisis management preparedness, and post-disaster recovery and reconstruction were developed as part of the OECD Support Project for risk management in Morocco</li> </ul>	<ul style="list-style-type: none"> <li>• Many of the current legal texts are out of date</li> <li>• Public awareness programs are in place but are ineffective</li> </ul>	
	<ul style="list-style-type: none"> <li>• Post January 2010 flood prevention plan: Implementation of 4 dams upstream from Agadir, constructing a dike at the right bank of Oued Souss, a protection channel for the stadium and neighbourhoods east of the city, as well as several drains and rain ditches</li> </ul>			
	<ul style="list-style-type: none"> <li>• PCCM - La Politique du Changement Climatique du Maroc: A coordinated approach and operational framework</li> </ul>			
	<ul style="list-style-type: none"> <li>• INDC - Intended Nationally Determined Contribution has been submitted. It is committed to restoring ecosystems and strengthening their resilience to fight erosion and prevent flooding</li> </ul>			

Area	Topic/programme	Baseline	Gap	Action
INTEGRATING PREVENTATIVE MEASURES INTO POLICIES	<ul style="list-style-type: none"> <li>Plan d'Investissement Vert</li> </ul>			
	<ul style="list-style-type: none"> <li>PNRC - Le Plan National de Lutte Contre le Réchauffement Climatique</li> </ul>	<ul style="list-style-type: none"> <li>Details Morocco's strategic approach for mitigation and adaptation, with a special focus on agriculture, coastal zones, and water scarcity</li> </ul>		
	<ul style="list-style-type: none"> <li>UNDP Community-Based Adaptation Program</li> </ul>			
	<ul style="list-style-type: none"> <li>UNDP Africa Adaptation Programme</li> </ul>	<ul style="list-style-type: none"> <li>Project has concluded. Project was aimed at increasing adaptive capacity</li> </ul>		
	<ul style="list-style-type: none"> <li>PICCPMV - Le Programme d'Intégration du Changement Climatique dans la Mise en Œuvre du Plan Maroc Vert</li> </ul>			
	<ul style="list-style-type: none"> <li>FVC - Le Fonds Vert pour le Climat</li> </ul>	<ul style="list-style-type: none"> <li>Operational</li> </ul>		
	<ul style="list-style-type: none"> <li>Regional Master Plan for Sustainable Development in Souss-Massa</li> </ul>			



## RESIDUAL RISK

Area	Topic/programme	Baseline	Gap	Action
PRE-DISASTER RISK FINANCING	<ul style="list-style-type: none"> <li>Le fonds des Calamités Naturelles</li> </ul>	<ul style="list-style-type: none"> <li>Le Fonds des Calamités Naturelles is used to finance the state's contribution to climate risk insurance policies taken out by farmers; covers expenses of the insurance system put in place by le Ministre de l'Agriculture</li> <li>17 insurance companies and 2 reinsurance company are licensed in Morocco</li> <li>Insurance licenses are only granted to a) companies governed by Moroccan law and whose registered office is located in Morocco and b) foreign companies recognized by Morocco according to a free trade agreement</li> <li>MHPV supplies data concerning houses that are partially or totally destroyed by disasters</li> <li>Since 2011, the insurance sector has offered „multi-risk climate insurance“ to protect investments into the inputs relating to the main cereal crops.</li> </ul>	<ul style="list-style-type: none"> <li>Insurance funded by Le Fonds des Calamités Naturelles does not cover floods and flood damage, locust attacks, nor drought</li> <li>The category of „climatic risks“ has not yet been integrated into the operation of the banking sector</li> </ul>	<ul style="list-style-type: none"> <li>The insurance sector could develop an increased number of insurance solutions and greater coverage for climatic risks</li> <li>Insurance helps to avoid ad-hoc funding (which is not budgeted for) and the reallocation of public resources post-disaster</li> <li>Risk financing for extreme weather events can be transferred to the insurance market via a multi-layer approach</li> </ul>

Area	Topic/ programme	Baseline	Gap	Action
RISK TRANSFER	<ul style="list-style-type: none"> <li>• Système Assurantiel des Catastrophes Naturelles</li> </ul>	<ul style="list-style-type: none"> <li>• The State has adopted an insurance system to finance actions carried out post-disaster in the agricultural sector</li> <li>• Insurance penetration rate is 3.1% of GDP, compared with 8% in developed countries</li> </ul>	<ul style="list-style-type: none"> <li>• Insurance sector usually calculates risk based on historic losses, instead of focusing on modelling and predictions of future risk</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-disaster risk funding allows the government authorities to quickly access funds in order to help people who have been affected</li> <li>• Bill 34-08 Solidarity Fund would compensate victims of natural disasters and promotes a culture of insurance in Morocco</li> <li>• Insurance products can help speed up the recovery process</li> <li>• Private sector insurance can contribute to risk mapping and help to estimate probable losses; this helps to estimate the resources that governments would need if a disaster were to occur</li> <li>• The risk of financial consequences can be transferred from households, private businesses, and governments to insurance companies in order to minimize the impacts of extreme weather events</li> </ul>
	<ul style="list-style-type: none"> <li>• Bill No. 34-08: instituting a coverage scheme for the consequences of catastrophic events</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of nation-wide compensation and insurance plan to help households suffering loss and damage from flooding</li> </ul>		



## PREPARE

Area	Topic/programme	Baseline	Gap	Action
RISK ANALYSIS AND MONITORING	<ul style="list-style-type: none"> <li>Natural phenomena (meteorological, seismological, flood) monitoring and information networks and organizations</li> </ul>	<ul style="list-style-type: none"> <li>Networks are operational</li> </ul>	<ul style="list-style-type: none"> <li>The data/information is insufficient to ensure a greater level of anticipation and risk management</li> <li>Meteorological observation stations are not always set up according to WMO (World Meteorological Organization) standards</li> </ul>	<ul style="list-style-type: none"> <li>People who are more well-informed show an increased perception of risk and therefore implement greater preventative measures</li> <li>The most effective method of reducing the risk of both economic and human loss is through the operation of a flood warning and response system</li> </ul>
	<ul style="list-style-type: none"> <li>PPII - Le Plan Particulier d'Intervention de la gestion des risques d'inondation de la Ville d'Agadir</li> </ul>	<ul style="list-style-type: none"> <li>PPII gathers technical information needed to intervene effectively in times of heavy rainfall</li> <li>In 2012, the World Bank and La Direction Générale des Collectivités Locales designed risk management courses for field officers in all Moroccan provinces, however, these courses have still not taken place</li> </ul>	<ul style="list-style-type: none"> <li>Deficit of information available to the public on flood risk; institutional communication is considered to be very deficient</li> <li>Flash floods are difficult to monitor with conventional gauging stations</li> <li>Existing hydrological gauges are manual; they do not use telemetry for data transfer</li> <li>DMN's national radar network is of poor quality and needs to be upgraded</li> <li>Inadequate EWS and inequitable geographical efforts to strengthen them</li> <li>EWSs and protocols were poorly adapted to local needs during 2014 flooding</li> <li>Data quality and precision of meteorological information produced by the DMN are lacking</li> <li>Observation and data networks are unequally distributed</li> </ul>	<ul style="list-style-type: none"> <li>Installing cameras at several strategic/critical locations could be used as part of an early warning system to give an overview of the situation</li> <li>The role of universities and research institutes can be important; they can develop new models, new forecasting and observation techniques, and can play a crucial role in increasing training and education</li> <li>Simulation modelling for flood EWS is necessary in order to increase lead times for evacuations and for responders</li> <li>Mobile applications can be developed to warn of pending floods and provide information of where to go and what to do</li> <li>The production of high quality data would allow for an increase in alert system reliability</li> </ul>
	<ul style="list-style-type: none"> <li>Meteorological Alert Bulletins (BMS)</li> </ul>	<ul style="list-style-type: none"> <li>Morocco currently lacks a national flood forecasting and warning system</li> <li>Alerts such as weather bulletins published on the DMN website are transmitted to the Moroccan press agency and to national television networks</li> </ul>	<ul style="list-style-type: none"> <li>DMN's national radar network is of poor quality and needs to be upgraded</li> <li>Inadequate EWS and inequitable geographical efforts to strengthen them</li> <li>EWSs and protocols were poorly adapted to local needs during 2014 flooding</li> <li>Data quality and precision of meteorological information produced by the DMN are lacking</li> <li>Observation and data networks are unequally distributed</li> </ul>	<ul style="list-style-type: none"> <li>Simulation modelling for flood EWS is necessary in order to increase lead times for evacuations and for responders</li> <li>Mobile applications can be developed to warn of pending floods and provide information of where to go and what to do</li> <li>The production of high quality data would allow for an increase in alert system reliability</li> </ul>

Area	Topic/programme	Baseline	Gap	Action
MINIMUM PREPAREDNESS ACTION (MPA)	<ul style="list-style-type: none"> <li>• ORSEC - Organisation de la Réponse de Sécurité Civile: plan général d'organisation des secours</li> </ul>	<ul style="list-style-type: none"> <li>• Plan is generic and in place for when local means of emergency response to disasters are not efficient</li> <li>• 6 Ministerial depots and 60 provincial depots to store shelter and rescue equipment are in place</li> </ul>	<ul style="list-style-type: none"> <li>• Many sectorial plans / absence of a clearly defined national DRR strategy</li> <li>• Unequal national geographical distribution of rescue centres, especially lacking in rural communities</li> <li>• The number of specially trained doctors for national emergency interventions (besides those in university hospital centres) is not sufficient to respond to the demands of a major catastrophic event</li> <li>• Weak capacity to realise plans and projects on a local level</li> <li>• Fragmented / sectorial approaches and plans to DRM</li> <li>• Civil protection service was weak during 2014 flood events, as there was no prior scenario to anticipate the need for such great resource mobilization / resource pooling with nearby municipalities</li> </ul>	<ul style="list-style-type: none"> <li>• A dialogue about sustainable living in the Souss-Massa-Drâa river basin that involves multiple stakeholders could aid with climate change adaptation through increasing awareness of flood risks, raising awareness about the need for coordination and the importance of development and land use planning, as well as ways to reuse flood waters and manage realized flood situations</li> <li>• Training civil society with simulations could increase preparedness and reduce the impacts of flooding in the future</li> <li>• Coordination with insurers can help increase the efficacy of post-disaster payouts</li> <li>• Insurers can help supplement government capacities</li> </ul>
	<ul style="list-style-type: none"> <li>• La stratégie nationale de gestion des urgences médicales et des risques sanitaires liés aux catastrophes</li> </ul>	<ul style="list-style-type: none"> <li>• In operation since 2005</li> <li>• 2 Advanced medical stations have been acquired</li> <li>• 18 specially trained doctors for national emergency interventions (in 2012)</li> <li>• Hospital disaster simulation activities have not yet been implemented</li> <li>• Hospital information management strategy for disaster situations has not yet been implemented</li> </ul>		
	<ul style="list-style-type: none"> <li>• Ministère de la Santé intersectoral coordination mechanism</li> </ul>	<ul style="list-style-type: none"> <li>• Ministère de la Santé public awareness program, stockpiling of medicines for disasters, the creation of a public-health specific disaster fund, and the adoption of financial and administrative disaster-specific procedures have not yet been implemented</li> </ul>		

Area	Topic/programme	Baseline	Gap	Action
ADVANCED PREPAREDNESS ACTION (APA) AND CONTINGENCY PLANNING				<ul style="list-style-type: none"> <li>• Stockpiling can help populations re-start their lives and reduce suffering in the case that index insurance pay-outs are not triggered<sup>18</sup></li> <li>• Post-disaster response can be quickened when relief facilities and supplies are insured<sup>18</sup></li> <li>• Macro-level insurance contingency plans can aid vulnerable populations<sup>18</sup></li> </ul>



## RESPOND

Area	Topic/programme	Baseline	Gap	Action
PROVISION OF EMERGENCY SERVICES AND POST-DISASTER PUBLIC ASSISTANCE	• FCN – Le fonds des Calamités Naturelles	• The fund concerns events related to droughts, floods, and locust attacks	<ul style="list-style-type: none"> <li>• Destruction of communication infrastructure has led to problems with post-disaster aid distribution in the past</li> <li>• Lacking coherent logistical system for the distribution of aid</li> <li>• NGOs are not specialized in risk management</li> </ul>	<ul style="list-style-type: none"> <li>• The use of mobile apps can be used to communicate flood information, maps, as well as data for insurance claims and pay-outs.</li> <li>• First aid response programs for local populations, such as disaster and flood trainings in schools, could sensitize locals to immediate risks and could increase immediate response and reduce the level of risks on an individual and household scale</li> <li>• Insurance can help to anticipate potential losses</li> <li>• Insurance can help to ensure the immediate start of response efforts</li> <li>• Insurance can allow for business activity to quickly re-start</li> <li>• Insurance can help to rapidly replace damaged products and infrastructure</li> </ul>
	• FSPSPC – Le fonds spécial pour la promotion et le soutien de la protection civile			
	• La stratégie nationale de gestion des urgences médicales et des risques sanitaires liés aux catastrophes			
	• Humanitarian aid and provision of supplies	<ul style="list-style-type: none"> <li>• CVC manages emergency situations on the ground, assuring the allocation of material and financial resources, as well as the coordination of stakeholders</li> <li>• NGOs working with civil society have worked to repair transportation routes</li> </ul>		
	• CAS-FLCN – Le fonds de lutte contre les effets des catastrophes naturelles	• Only La Ministère de l'Intérieur can decide on the measures to be taken on the basis of alerts; these decisions are only taken once a state of crisis has been declared		
POST-DISASTER NEEDS ANALYSIS	• Technical report prepared by the technical services section of the Ministère de l'Agriculture	• MHPV supplies data concerning houses that are partially or totally destroyed by disasters	<ul style="list-style-type: none"> <li>• Roadways remained open during 2014 flooding, allowing for the population to use their vehicles and be swept away</li> </ul>	<ul style="list-style-type: none"> <li>• Insurance can complement other post-disaster financing mechanisms</li> <li>• Insurance can help to reduce ad-hoc budget restructuring</li> </ul>
	• FCN – Le fonds des Calamités Naturelles	• The fund concerns events related to droughts, floods, and locust attacks		



## RECOVER

Area	Topic/programme	Baseline	Gap	Action
POST-DISASTER RESTORATION AND IMPROVEMENT OF PRE-DISASTER CONDITIONS TO REDUCE DISASTER RISK	<ul style="list-style-type: none"> <li>CAS-FLCN - Le fonds de lutte contre les effets des catastrophes naturelles</li> </ul>		<ul style="list-style-type: none"> <li>The elaboration of development plans is slow (4-14 years), leading to the proliferation of non-regulatory housing, especially in at-risk zones</li> </ul>	<ul style="list-style-type: none"> <li>Participatory initiatives can achieve effective and organized actions that result in behaviour changes and promote a culture of risk awareness, especially in areas that are highly at-risk</li> </ul>
	<ul style="list-style-type: none"> <li>Plan d'Investissement Vert</li> </ul>		<ul style="list-style-type: none"> <li>Funding given to partner organizations are used without carrying out actions which are not always reported to the authorizing ministry; the ministry has no legal basis of monitoring or collecting data on the status of these actions</li> </ul>	<ul style="list-style-type: none"> <li>Climate change mitigation and adaptation actions integrated into development plans could benefit from climate finance, such as climate risk insurance</li> </ul>
	<ul style="list-style-type: none"> <li>Capacity Building</li> </ul>		<ul style="list-style-type: none"> <li>Funding is sometimes given without selection criteria and with a lack of global strategy to reduce disasters</li> </ul>	<ul style="list-style-type: none"> <li>Business opportunities may exist, as businesses and individuals innovate and produce new products (ex: seed varieties) which are resistant to extreme climatic conditions</li> </ul>
	<ul style="list-style-type: none"> <li>Reconstruction, 'Build Back Better', and long-term development projects</li> </ul>	<ul style="list-style-type: none"> <li>World Bank provides technical and financial support for action on floods</li> <li>23 resilient infrastructure improvement projects have been completed so far</li> </ul>	<ul style="list-style-type: none"> <li>Some institutions will only offer loans for development projects that exceed a high value (ie: 5-60 million Euros)</li> </ul>	<ul style="list-style-type: none"> <li>Production costs may decrease as businesses adopt eco-efficient water and energy technologies</li> </ul>
	<ul style="list-style-type: none"> <li>Disaster Risk Management and Resilience Program-for-Results</li> </ul>			<ul style="list-style-type: none"> <li>Working with schools to develop curricula focusing on awareness raising for sustainability and for flood response actions will better prepare communities and contribute to a culture of risk reduction</li> </ul>
	<ul style="list-style-type: none"> <li>UNDP Africa Adaptation Programme</li> </ul>	<ul style="list-style-type: none"> <li>Project has concluded. Project was aimed at increasing adaptive capacity</li> </ul>		<ul style="list-style-type: none"> <li>Build back better may help to reduce insurance premiums</li> <li>Insurance can help lessen financial volatility and allow for further investments and planning, therefore leading to new opportunities and strengthened resilience</li> </ul>



# Residual Risk

4



*Risk transfer instruments, such as insurance, are increasingly being used by governments, business and households to reduce the immediate and long-term losses associated with extreme weather events. They not only offer funds for post-disaster relief and reconstruction, but can also contribute to supporting ex-ante risk mitigation measures. Thus, throughout the international climate change negotiations following the Bali Action Plan, risk management and insurance have been increasingly featured as a means to advance climate change adaptation and manage risks of extreme weather events. The Bali Action Plan is “a comprehensive process to enable the full, effective and sustained implementation of the United Nations Framework Convention on Climate Change through long-term cooperative action”<sup>13</sup>.*

## 4.1 EXPLANATION OF RESIDUAL RISK

Residual risk is the risk that remains after prevention and mitigation activities have been undertaken. There are different ways of managing residual risk. Where the risk-bearer chooses to retain their risk, they may pursue a risk financing strategy. This could include ‘ex ante’ measures, in which finance is raised prior to a disaster actually occurring (i.e. precautionary savings and reserves, or arrangements for contingent credit facilities) or ‘ex post’ measures (i.e. reallocations of normal spending to cover post-disaster needs, borrowing and loans).

Risk transfer is an alternative to risk retention whereby the risk, or a portion of it, is passed onto a third party. That third party would be responsible for assuming some or all of the costs should a disaster occur. Therefore, risk transfer reduces the financial exposure of the risk-bearing entity, whether that is an individual, a business or a government. Risk transfer can either be direct or indirect.

- Direct risk transfer is where the at-risk entity (individual, household, business) enters directly into an agreement with a risk-bearing entity (such as an insurance or reinsurance company).
- Indirect risk transfer involves an intermediary institution in between the entity whose risk is being transferred and the entity bearing that risk.

ACRI+ in Morocco is mainly engaged in direct risk transfer options for MSMEs, in the context of an integrated approach to risk management.

<sup>13</sup> For more information see: <https://unfccc.int/process/conferences/the-big-picture/milestones/bali-road-map>

## 4.2 DIRECT RISK TRANSFER

### Overview of the insurance sector

The Moroccan insurance sector had a turnover of 3,000 million dollars in 2015, growing faster than its GDP from 2010. The insurance penetration rate evolved from 2.3% in 2010 to just over 3% in 2015 (GIZ, 2017). Morocco shows the highest insurance penetration rate in Africa, although the majority of insurance products relate to healthcare and car insurance. There are now 17 insurance companies licensed in Morocco and one reinsurance company, which has a monopoly of climate risk insurance to the agricultural sector (GIZ, 2017).

On 20 March 2014, a major reform occurred with the setting up of the "Autorité de Contrôle des Assurances et de la Prévoyance Sociale" or ACAPS, a new independent regulatory body. The ACAPS has authority to supervise (i) insurance and reinsurance activities. A license may only be granted to (i) companies governed by Moroccan law and whose registered office is located in Morocco and (ii) foreign companies recognized by Morocco pursuant to a free trade agreement.

The legal framework for insurance in Morocco is made up of several laws, including Law 17-99, which has been in application since 2002 and that stresses the form of policies, general conditions, mandatory insurances (automobile civil liability, hunting civil liability), surveillance of insurance companies, and surveillance of brokers. This law remains general and addresses mainly damage and life insurance. As mentioned in Chapter 2, this law has now been upgraded with Law 110-14, passed in 2016, which establishes "a regime to cover the consequences of catastrophic events" in Morocco.

Particularly for climate risks, there is insurance for three types of events (GIZ, 2018): drought, wind, and hail. The total turnover of the climate insurance products in Morocco in 2015 was 41 million US dollars, divided between three types of insurance:

- Crop insurance: which makes up 97% of the insurance products and currently covers 1 million hectares of land.
- Hail insurance, which covers 2.9% of the products
- Livestock mortality insurance, which makes up 0.1% of the climate insurance products.

Crop insurance premiums are subsidized by the government since 2011. The government has increased their subsidy percentage from 57% up to 90%, and aims for all agricultural land in Morocco (approximately 9 million hectares) to be covered by crop insurance. Agriculture represents 13%–15% of the GDP in Morocco and employs 40% of the workforce (GIZ, 2018).

It is important to note that there are no personalized insurance products designed to meet SME-specific needs in Morocco, and there are also no specific insurance policies for floods<sup>14</sup>. However, according to national stakeholders, an MSME insurance fund could be plausible in Morocco, but its financing sources remain unclear. The Moroccan Government's Ministry of Finance is currently working with the GIZ to raise awareness of insurance products and their benefits through the TAM III and SAGA initiatives. This includes working on an „inclusive insurance“ study to better understand the needs and challenges facing MSMEs' access to insurance. The ministry is also aware of the particularity of climate change effects and agrees that climate change adaptation must be an integral part in the approach to MSME insurance<sup>15</sup>.

<sup>14</sup> Outcome from 2018 Workshop in Rabat with national stakeholders (see Annex 1)

<sup>15</sup> Outcome from 2018 Workshop in Rabat with national stakeholders (see Annex 1)

As an alternative to climate risk insurance, MSMEs in Morocco can currently access (i) loans (with individual guarantees), or (ii) micro-loans given to a portfolio of self-entrepreneurs or micro companies. The portfolio is held by the microcredit company, with the state partially guaranteeing these portfolios.

### Insurance for MSMEs: opportunities, stocktake, challenges

According to the Centre for Financial Regulation & Inclusion (CENFRI) (2017), there are four main potential methods to insure business development: risk transfer, access to finance, productive risk taking, and capital intermediation/indirect investment. CENFRI provides an overview of insurance products that can address MSME risks.

Table 1 shows those risks related to natural hazards:

TABLE 1: Insurance products that could address MSME natural hazard risks

Type of Risk	Potential Insurance Product	Description
Fire and other property damage	Fire insurance	Insures premises and assets against the risk of fire. This is particularly important for small businesses operating in crowded markets with high fire risks.
	Multi-risk property insurance	Protects valuable assets such as buildings, machinery, stock, equipment and other insurable property in the event of accidental physical loss or damage resulting from fire, natural disasters, water, theft/robbery, malicious damage, etc.
Windstorm and other natural perils	Weather insurance	Protects premises, assets or crops against pre-defined adverse weather risks (such as drought, heavy rainfall or windstorms). This can be offered on an indemnity basis or according to a weather index.

CENFRI (2017) notes that “the primary role of insurance for MSMEs is to improve their ability to deal with the financial effect of shocks. This increases their ability to survive over time by making them less vulnerable. However, insurance also plays many important indirect roles to facilitate MSME development, including: contributing to access to finance, enabling productive risk management strategies and facilitating capital market development, which in turn positively affects infrastructure investments and capital available for lending”.

Particularly in emerging markets, MSME insurance penetration is low, and there is a lack of supply. According to CENFRI (2017), one of the major reasons is a severe lack of information

on MSMEs as an insurance target market: “how many there are, what their needs are, how risks differ between the different segments in MSMEs and whether insurance is the appropriate tool in the face of certain shocks”. This is certainly the case in Morocco, and the lack of data about MSMEs was raised as one of the main challenges to penetrating the MSME market and developing appropriate products during a national stakeholder’s workshop in Rabat in October 2018. A second reason noted by CENFRI is that “the heterogeneity of MSMEs makes them a poor value proposition as a target market for insurers. The relatively small number of non-survivalist MSMEs, combined with differing needs, means that there is little opportunity for providers to achieve scale in serving MSMEs as a single category. Yet the

individual enterprises are typically too small to warrant tailored product design and provision” (CENFRI, 2017). Lastly, a salient point raised by national stakeholders in Morocco was that an additional challenge facing the uptake of insurance in MSMEs is the low frequency of natural catastrophes, which makes MSMEs question the benefit of investing in expensive adaptation and prevention measures<sup>16</sup>. As such, awareness raising on climate risks, on top of more research into the MSME market, seem to be two key elements in developing appropriate climate insurance products for MSMEs.

An outcome of the national stakeholders’ workshop in Rabat in 2018 was a potential approach to adequately pricing insurance for MSMEs, which was found to be another challenge by the participants. This could include either: (i) setting a price cap by law while subsidizing the residual value (e.g. subsidies, incentives to insurers, etc.), or (ii) gathering a clientele base large enough to bring down insurance prices through a larger pool.

### An integrated approach to managing MSME risks

However, to ensure an integrated approach to managing MSME risks, insurance would be best as part of a comprehensive climate risk management approach, in which it can be used to address some of the challenges noted, but not all. It should therefore be seen as an important contributor to facilitating MSME growth, and not as a sole solution (CENFRI, 2017).

This is because there are risks to MSMEs of a nature and scope that insurance cannot completely cover. These risks cannot be efficiently or cost-effectively transferred, and instead the focus should be upon risk reduction. For example, this relates to the risks being created by industrialisation in vulnerable geographical areas, overcrowding, and urban agglomerations putting pressure on ecosystems and others.

It is also important to pay attention to the enabling environment for risk transfer, particularly to ensure equitable and inclusive outcomes. The MSME sector in Morocco is large and oftentimes informal, as well as containing multiple micro enterprises with a high economic precariousness. This informal market can lead to a lack of protection for many of these firms. Thus, an important step in reaching a fully integrated risk management approach for MSMEs includes the formalisation and legal standardisation of MSMEs.

<sup>16</sup> Outcome from 2018 Workshop in Rabat with national stakeholders (see Annex 1)





# Implementation plan

5

*Recommendations for next steps in enabling flood insurance for MSMEs in Morocco are outlined in this section. This “implementation plan” is presented in the format of a table with a general gap area, a more specific gap area, some actors who could be responsible for addressing the gap, and some next steps or ‘actions’ that could be taken to address that gap.*

*The implementation plan builds upon the outcomes of a stakeholder consultation workshop carried out in Rabat in October 2018. Specifically, it builds upon conclusions reached at the workshop with regards to suggested actions to facilitate financing and climate insurance access for MSMEs. This exercise was a preliminary consultation, and should thus not be taken as a conclusive implementation plan but as a useful starting point to activate progress on achieving an integrated disaster risk financing approach for MSMEs in Morocco. A more comprehensive implementation plan would require a more in depth, lengthy, consultation with all relevant stakeholders and would follow-on from this starting point.*

*The implementation plan is intended to be complimentary to the gap analysis shown in Chapter 3, which focuses more generally on achieving ICRM in Morocco and the gaps and actions needed to achieve that. It is also intended to be complimentary to the activities that GIZ and MCII are continuing to implement in Morocco, as well as the activities of other development partners – including the World Bank support to disaster risk financing strategies at the macro level.*

TABLE 2: Implementation Plan (by Gap Area)

Gap area	Specific Gap	Actor	Next steps to implement
Barriers to engaging with MSMEs	Lack of financial awareness by MSMEs to access insurance products	<ul style="list-style-type: none"> <li>GIZ (TAM III, SAGA)</li> <li>Moroccan Foundation for Financial Education (FMEF)</li> </ul>	Awareness campaigns and financial literacy courses should be organised for MSMEs so that their financial literacy can be improved as a first step towards MSMEs accessing financial support.
	High insurance price points for MSMEs	Government Insurance sector	Actions on pooling a large number of adherents in order to reduce insurance policies' price point would be the next step here. This could come after courses on financial literacy for MSMEs, bringing them together.
	Risk-sharing with MSMEs (deductibles, prevention)	Local authorities	Local authorities to establish methods to share risks with MSMEs. Further elaboration of how these mechanisms could look would be the first steps to supporting MSMEs.
	Engaging the government (setting price caps, guarantees, subsidies, grants, etc.)	Insurance sector	Further forums for the national government to collaborate and communicate with insurers could be the first step to establish stronger links and devise products that could work for MSMEs.
Insurance market unwillingness	Lack of interest in MSMEs market, because of low return yields	Government	At the same time as above, the government to think further about how to incentivize insurance and reinsurance players (subsidies, guarantees, etc.) to engage with MSMEs.
Access to information	Lack of detailed data about MSMEs insurance needs	<ul style="list-style-type: none"> <li>L'Observatoire Marocain de la Très petite, Petite et Moyenne Entreprise (OMTPME)</li> <li>Maroc PME</li> <li>GIZ</li> <li>Chambers of commerce</li> </ul>	<p>Two actions could be taken as next steps for increasing the information available to the national institutions about the MSME market:</p> <p>The first would entail creating a census of MSMEs insurance needs and other characteristics, which would lead to the second action of establishing a database (registry) about MSME operational metrics, crossed with positioning data in order to add a climate risk exposure index (operational data is already available, there is a need to integrate it alongside geolocation data in a centralized access point). Long-term vulnerability and simulation maps would need to be established as well. In the long term, these could be the initial steps in the formalization of MSMEs in the country.</p>

TABLE 3: Implementation Plan (by actors)

ACTOR: SMSE ASSOCIATIONS				
<b>Objective 1: Reduce barriers to engaging with MSMEs</b>				
<b>ACTION 1:</b> Awareness campaigns and financial literacy courses should be organised for MSMEs so that their financial literacy can be improved as a first step towards MSMEs accessing financial support.	Moroccan Foundation for Financial Education (FMEF)	Duration 12 Months		Moderate costs
<b>Objective 2: Increase Access to information</b>				
<b>ACTION 1:</b> Creating a census of MSMEs insurance needs and other characteristics	L'Observatoire Marocain de la Très petite, Petite et Moyenne Entreprise (OMTPME)	6 Months		Small costs
<b>ACTION 2:</b> establishing a database (registry) about MSME operational metrics, crossed with positioning data in order to add a climate risk exposure index (operational data is already available, there is a need to integrate it alongside geolocation data in a centralized access point). In the long term, these could be the initial steps in the formalization of MSMEs in the country.	Maroc PME Chambre de Commerces	6 Months		Moderate costs
ACTOR: MOROCCAN GOVERNMENT				
<b>Objective 1: Reduce barriers to engaging with MSMEs</b>				
<b>ACTION 1:</b> Actions on pooling a large number of adherents in order to reduce insurance policies' price point would be the next step here. This could come after courses on financial literacy for MSMEs, bringing them together.	e.g. Ministry of finance	Timeline: 6 months		Cost estimate: moderate
<b>ACTION 2:</b> Local authorities to establish methods to share risks with MSMEs. Further elaboration of how these mechanisms could look would be the first steps to supporting MSMEs.	Local authorities	Timeline: 24 months		Cost estimate: moderate
<b>Objective 2: Address Insurance market unwillingness</b>				
<b>ACTION 1:</b> At the same time as above, the government to think further about how to incentivize insurance and reinsurance players (subsidies, guarantees, etc.) to engage with MSMEs.	National government	Timeline: 36 months		Cost estimate: expensive

<b>ACTOR: INSURANCE SECTOR</b>					
<b>Objective 1: Reduce barriers to engaging with MSMEs</b>					
<b>ACTION 1:</b> Actions on pooling a large number of adherents in order to reduce insurance policies' price point would be the next step here. This could come after courses on financial literacy for MSMEs, bringing them together.	Insurance Sector	Timeline: 6 months		Cost estimate: small	
<b>ACTION 2:</b> Further forums for the national government to collaborate and communicate with insurers could be the first step to establish stronger links and devise products that could work for MSMEs.	Insurance Sector	Timeline: 6 months		Cost estimate: small costs	
<b>ACTOR: GIZ, international cooperation</b>					
<b>Objective 1: Increase financial awareness of MSMEs</b>					
<b>ACTION 1:</b> Awareness campaigns and financial literacy courses should be organised for MSMEs so that their financial literacy can be improved as a first step towards MSMEs accessing financial support.	GIZ (TAM III, SAGA)	Timeline: 12 months		Cost estimate: moderate	
<b>Objective 2: Address lack of detailed data about MSMEs insurance needs</b>					
<b>ACTION 1:</b> Actions on pooling a large number of adherents in order to reduce insurance policies' price point would be the next step here. This could come after courses on financial literacy for MSMEs, bringing them together.	GIZ	6 months		small	
<b>ACTION 2:</b> Further forums for the national government to collaborate and communicate with insurers could be the first step to establish stronger links and devise products that could work for MSMEs.	GIZ	6 months		moderate	

## 5.1 Key partners

The following list of key partners is derived from the gap analysis developed for this roadmap and complemented with other relevant organizations.

List of Stakeholders – Morocco ACRI+ Project			
Government	1	MEF	Ministère de l'Economie et des finances (Ministry of Economy and Finance)
	2	MCINET	Ministère de l'Industrie, du commerce, de l'Investissement et de l'Economie numérique (Ministry of Industry and Commerce)
	3	CRI	Centre Régional D'investissement (éInvestment Center)
	4	CCIS	Chambre Commerce et Industrie (Chamber of Commerce and Industry)
	5	Wilaya	Représentation régional royale
	6	Région Souss-Massa	Direction Régionale de l'Environnement de la Région Souss/Massa (Environmental regional Directorate)
	7	ACAPS	Autorité de contrôle des Assurances et de la Prévoyance (Insurance and pension supervisory authority)
	8	Commune Ait Melloul	Commune de Ait Melloul
	9	FMEF	Moroccan Foundation for Financial Education
	10	OMTPME	L'Observatoire Marocain de la Très petite, Petite et Moyenne Entreprise
	11	4CMaroc	Centre de Compétence Changement Climatique au Maroc (Competence Cente for Climate Change in Morocco)
Insurance	12	SAMSARA	Samsara Assurances Maroc (Samsara Insurance Marrocco)
	13	AllianzSE	Allianz Insurance Group
	14	CAT	La Compagne d'Assurance Transport (Insurance Company of Transport)
	15	FMSAR	Fédération Marocaine des Sociétés d'Assurances et de Réassurance (Moroccan Federation of Insurance and Reinsurance Companies)
	16	MAMDA RE	Mutuelle Agricole Marocaine d'Assurances (Mutuelle Agricultural Insurance Company of Morocco)
Private Sector	17	COZINE	Collectif des zones industrielles pour l'environnement (Collective of industrial zones for the environment)
	18	CGEM	La Confédération Générale des Entreprises du Maroc (The General Confederation of Enterprises of Morocco)
NGOs	19	GIS4DS	Bureau d'ingénierie spécialisé dans les technologies spatiales et plus particulièrement en géomatique (Engineering company specialized in space technologies and geomatics)
	20	REC	Réseau des Experts du Climat (Climate Expert Network)
	21	ADIZIA	Association Des Investisseurs De La Z.I. D'Ait Melloul
University/ Research	22	Uni Mohammed V.	Mohammed V University (Rabat, Morocco)
International Organisations	23	GIZ	German Corporation for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH)
	24	AfDB	African Development Bank
	25	KFW	Kreditanstalt für Wiederaufbau

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## About ACRI+

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The Munich Climate Insurance Initiative (MCII) was launched in April 2005 in response to the growing realization that insurance-related solutions can play a role in adaptation to climate change, as advocated in the Framework Convention and the Kyoto Protocol. This initiative brings together insurers, experts on climate change and adaptation, NGOs and policy researchers who intend on finding solutions to the risks posed by climate change. MCII provides a forum and gathering point for insurance-related expertise on climate change impact issues. MCII is hosted at UNU-EHS in Bonn, Germany.

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