

Morocco: Adaptation monitoring and evaluation as part of the Regional Information Systems

1. Context

► Policy context

The realisation of major projects in the field of combating climate change manifest the contemporary political engagement of the Kingdom of Morocco. For instance, Morocco participated actively in the negotiation process of the Paris Agreement; the organisation of the Conference of the Parties (COP) 22; the review of the NDC following the adoption of the Paris Agreement; the establishment of the territorial plans to combat climate change; the ongoing elaboration of the **National Adaptation Plan (NAP)**; and recently the adoption of the **National Strategy on Sustainable Development**, which contributes significantly to climate resilience. For several years the **Office of the Secretariat of State to the Ministry for Energy, Mining and Sustainable Development responsible for Sustainable Development**, in cooperation with GIZ, commits to elaborating a comprehensive set of tools and instruments for an improved governance of climate change adaptation (CCA) available for actors and decision-makers.

► Purpose of the M&E System

The main objective of the Monitoring and Evaluation (M&E) system is to provide the regions with an effective instrument, shared and accessible via internet to control, analyse and visualise the data and indicators

related to climate change, while taking into account the spatial and temporal dimension.

More specifically, the M&E system follows three objectives:

1. Monitor & evaluate and the evolution of vulnerability in key sectors.
2. Support the monitoring of adaptation actions and give orientations for their improvement and recommend additional measures.
3. Acquire and systemize gained experiences for developing a learning and assistance tool on decision-making for key actors.

► Scale: level of application and aggregation

The M&E system was designed to respond to the needs and circumstances of three selected pilot regions: Souss-Massa, Marrakech Safi and Beni Mellal Khénifra. It has been integrated into an existing system: **the Regional Information System on Environment and Sustainable Development (SIREDD)**. In 2015, the Office of the Secretariat of State for Sustainable Development reviewed all existing SIREDDs with the aim of harmonization and upgrade of data towards a National Information System. The adaptation M&E component, henceforth, contains new aggregated indicators.



Published by

M&E Guidebook: Building blocks for the development of a national adaptation M&E system

In response to demand from partner countries, GIZ in collaboration with the Adaptation Committee, the Least Developed Countries Expert Group and IISD developed an M&E guidebook which outlines key considerations for the development of country-specific adaptation M&E systems. It is structured along four building blocks:

- **Context:** what is the policy context and what is the purpose of undertaking M&E?
- **Content:** what information is required to address the purpose?
- **Operationalization:** how will the information be gathered and what are the institutional arrangements?
- **Communication:** how is the generated information used and disseminated?

GIZ & IISD (2015). [Developing national adaptation monitoring and evaluation systems: A guidebook](#)

2. Content

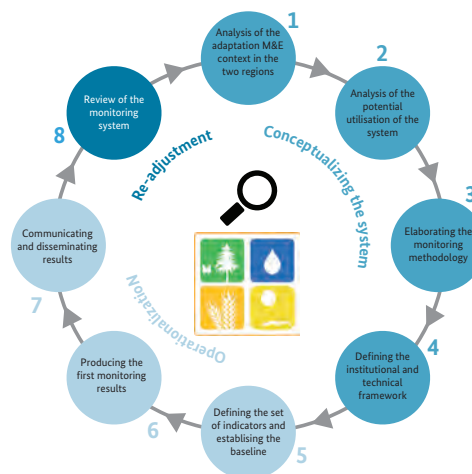
► Establishment process

The process of developing the adaptation M&E system in the three selected pilot regions comprises three phases (see figure 1):

1. **System conceptualisation:** Based on existing literature and research, studies were carried out to diagnose vulnerability to climate change in the concerned regions. The existing M&E systems and the gathered information were evaluated, followed by an identification of the users of the adaptation monitoring as well as their needs. During that phase, the monitoring method was adjusted.
2. **System operationalization:** indicators were elaborated based on climate change impact and vulnerability chains, which had been developed for each considered sector (see an example for agriculture in figure 2). For example, for the Souss-Massa region about 30 indicators were formulated. Similar to the German M&E system for adaptation, factsheets were elaborated for each of the indicators, containing information on the indicator itself, modalities and responsibilities for data collection, baseline values and interpretation. The indicators were then integrated in the SIREDD of the region.
3. **System readjustment:** At regional level, representatives of the regional directives for environment and their regional partners congregated at several workshops and contributed to the participatory studies. At the workshops the indicator lists were reviewed, updated and completed by taking into account the climate change indicators coming from the National Strategy on Sustainable Development and the Sustainable Development Goals (SDGs). In addition, the workshops

enabled the identification and validation of an approach to establish aggregated indicators that could be used for the elaboration of adaptation M&E indicators at the national level in the future, and to respond to the needs of the National Adaptation Plan.

Figure 1 Preparation process for the installation of the adaptation monitoring in 3 pilot regions



Source: GIZ (2014)

► Focus and approach

At the time of the establishment of the adaptation M&E system, Morocco did not have a coherent adaptation planning process at regional level. Therefore, the selected regions could not have established a monitoring system based on the results of a specific adaptation planning, and instead have focused their system on temporal changes. The M&E system seeks to analyse two aspects, namely **'process'**, in the implementation of adaptation measures and **'impact'**, in terms of the evolution of vulnerability.

To optimise resources, create synergies and avoid potential redundancies, Morocco has chosen to integrate adaptation monitoring into the SIREDD (see above). It is an **indicator-based system** using a participatory consultation process in order to select indicators and create ownership for data sharing.

The adopted M&E approach contains:

- the pre-selection of vulnerable sectors on which the monitoring system should focus;
- the analysis of the context for monitoring of adaptation;
- the introduction of causality chains (see figure 2) as a basis for the indicator definition and selection;
- the elaboration of information sheets for the indicators and
- the visualisation of indicators through graphs, tables and maps as well as their analysis and the spatial-temporal monitoring of the indicators.

► Indicators

Each preselected vulnerability sector developed indicators based on **causality chains**. Gender aspects were considered while developing the chain in order to make sure to have gender-sensitive indicators. Figure 2 shows an example of such a chain for the agricultural sector in the Marrakech-Safi region (which, until the new regional breakdown in 2015, had been called: Marrakech Tensift Al Haouz). There are several **types of indicators** used in the system: (1) indicators to assess changes in **vulnerability**, by taking into account exposure, sensitivity, impact and adaptive capacity; (2) indicators to track **adaptation measures**; (3) indicators to measure the impact of **adaptation actions**; (4) **climate finance** indicators and (5) **governance** indicators.

3. Operationalisation

► Data collection and analysis

The data for monitoring adaptation actions has been taken from decentralized sectoral services – for example existing M&E systems. It was important to provide **easily accessible data and simplified information**. This data has been integrated in the SIREDD in order to maintain, analyse and visualise it (see figure 3).

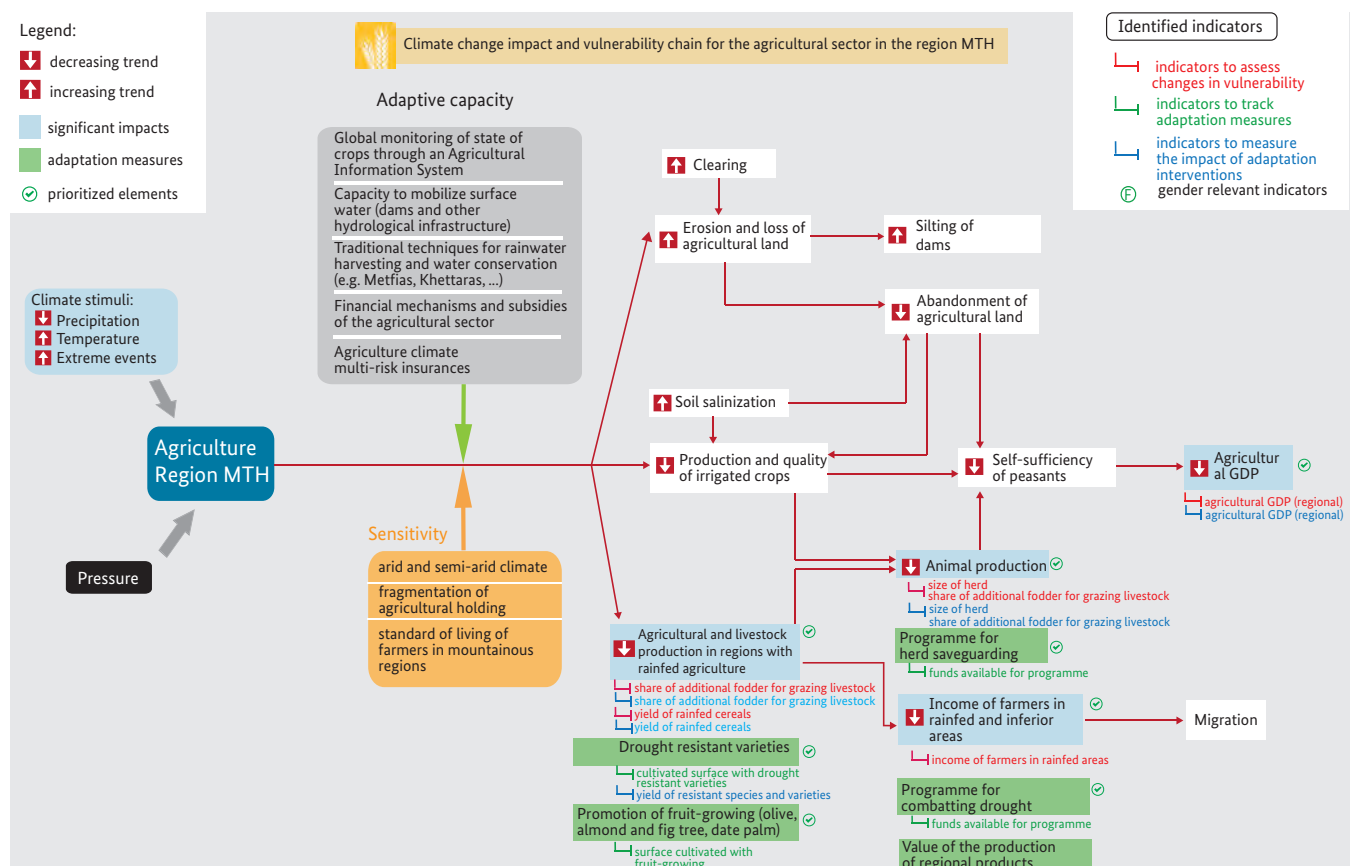
► Institutional arrangements

At national level, the **Office of the Secretariat of State to the Ministry for Energy, Mining and Sustainable Development responsible for Sustainable Development** is the responsible institution to install a harmonised approach on adaptation monitoring at national level. The **Regional Observatory of the Environment and Sustainable Development**, which today is part of the Regional Directory for the Environment, has the mission to monitor the state of the environment in the regions, to develop tools to support decision-making and finally to manage environmental information through the SIREDD. It receives support from the climate change committee, which comprises all regional representatives to provide the regional actors and decision-makers with the respective information.

► Resources needed

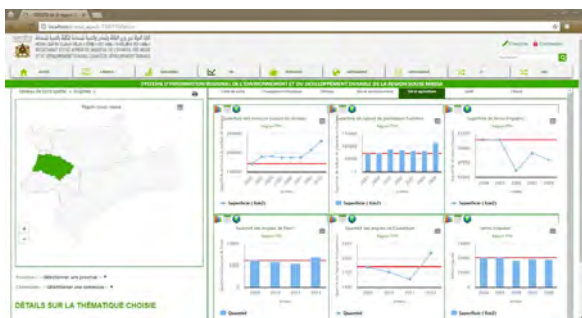
Today, Morocco has built on the adaptation M&E experience for the duplication and operationalisation of the SIREED-model. Its advantage is the relative low-cost approach. This is reflected in the choice of indicators, as only those for which data is already available were chosen to make the system quickly operational. Furthermore Morocco has chosen to integrate the adaptation M&E system in an existing system: the SIREDD.

Figure 2 Example for climate change impact and causality chain with respect to the agriculture sector in the Marrakech-Safi region, used as a basis for the indicator development



Source: GIZ (2014)

Figure 3 Example of the SIREDD-Souss-Massa interface, the module « climate change metric » – visualising the indicators in the scorecard.



4. Reporting and Outlook

► Outputs and reporting

The system is embedded in a centralised database. Thus, it is accessible online via login with password (see figure 3). In addition, the main output produced by the Regional Observatory of the Environment and Sustainable Development is the **Annual Report on the State of the Environment** at regional level.

► Lessons to date

Morocco has opted for integrating monitoring of adaptation into an **existing system**, the SIREDD. It has chosen a pragmatic and cost-efficient way to gather data through existing networks using inter-sectoral exchange platforms, which had already been established. A revision phase of the adaptation M&E system gives the system the possibility to adapt to the country's needs. **Data sharing**, especially in light of the duplication process of the SIREDD-model, is a big challenge in Morocco like in many other countries. For the facilitation and operationalisation of the SIREDDs that

are about to be implemented, it is foreseen to work on an installation of a governance system on climate information.

► What's next?

Once the update of the adaptation monitoring in the SIREDD and their duplication and operationalisation in all Moroccan regions is completed, all Regional Observatories can include a chapter on vulnerability and adaptation into their annual reports on the State of the Environment. Moreover, the data will be available to the public online. In the long-term, the SIREDDs will converge towards a national information system with indicators responding to national monitoring needs for climate change adaptation policies and programmes, including the national adaptation plan.

For further information

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- [Website of the Moroccan Ministry of Energy, Mines, and sustainable Development](#)
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This factsheet is part of a series of factsheets about national adaptation M&E systems. The series was initially published as part of the 2014 study 'Monitoring and Evaluating Adaptation at Aggregated Levels: A comparative analysis of ten systems'. The updated factsheets from 2017 and the initial study are available on www.AdaptationCommunity.net under 'Monitoring & Evaluation'.

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