

Mexico: M&E Instruments for Adaptation to Climate Change Actions, State of Veracruz



1. Context

► Policy context

In Mexico, the state level governments are autonomous entities in policy setting, institutional arrangements and decision making on Climate Change (CC). By Law they are obliged to develop their state programs on CC and should consider nationally proposed guidelines on 'Minimum Elements'.

The State of Veracruz is one of the most vulnerable states to CC impacts in Mexico. Since 2009, it has been pioneer for establishing CC policy and legal instruments such as the **Veracruz Program of Climate Change (PVCC)** and the **State Law for Mitigation and Adaptation of the Effects of Climate Change** (2010, LE-MAECC). In 2012, Veracruz installed the State Council for Mitigation and Adaptation to CC in order to review its own climate policy. The Ministry of the Environment (SEDEMA) was appointed responsible for the coordination of the Sectorial Agendas for Climate Change that are defined for each sector and set different measures and actions to face CC.

► Purpose of the M&E System

The government of Veracruz requires instruments that allow to keep track on the implementation of the Sectorial Agendas on CC and to observe and inform changes within its territory on greenhouse gas (GHG) emissions levels and on adaptation. The purposes of its Monitoring Systems are:

1. to monitor and keep track of a) GHG emissions reductions; and b) vulnerability reductions of different systems exposed/sensible to the climatic impacts in Veracruz;
2. to learn, analyze, inform, readjust and improve the implementation of its CC policy, and

3. to account for the use of public resources.

With respect to adaptation the Government of Veracruz intended to be able to analyze and report on:

- a. to what extent the State of Veracruz has worked to reduce its vulnerability to CC impacts;
- b. how much Veracruz is adapted to CC;
- c. measures already implemented;
- d. priority areas identified for the development of new measures, assessing to which extent those measures could reduce vulnerability and increase adaptive capacity. The original set of measures included in the monitoring, reporting and verification (MRV) and monitoring & evaluation (M&E) system was not based on a set of overall outcomes, targets and specific adaptation indicators. Therefore, the first version of the MRV and M&E system¹ for the Sectorial Agendas on CC was complemented with the **Indicator System for Adaptation on CC for the State of Veracruz (SI: Adapt-Ver)**.

► Scale: level of application and aggregation

Both systems operate on a subnational state level; the aggregation level is horizontally and they are linked with regard to the adaptation axis. The MRV and M&E system is composed of 19 key sectorial agendas for CC, meanwhile the SI: Adapt-Ver complements information on adaptation for the state observing 6 categories previously settled (see below for further information).

¹ The development of the MRV and M&E System has been advised in a joint effort between M&E Adapt (on behalf of the German Federal Ministry for Economic Cooperation and Development - BMZ) and the Mexican-German Alliance on Climate Change (on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety - BMUB).



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2. Content

► Establishment process

The MRV and M&E system process underwent three phases:

1. analysis and re-prioritization of the 373 measures previously selected, leaving the final number in 104 measures;
2. inclusion of these final measures into a reporting database on an Excel sheet that was generated to construct the MRV and M&E System;
3. programming of the system on an on-line platform. Subsequently, the development of SI: Adapt-Ver was realized by a participative advisory committee² involving the 19 ministries of the state and the university from 2015 until 2016.

M&E Guidebook for national adaptation M&E systems

An M&E guidebook by GIZ in collaboration with the Adaptation Committee, the LDC Expert Group and IISD outlines key considerations for the development of country-specific adaptation M&E systems. It is structured along four building blocks on which this factsheet is based:

- **Context:** what is the policy context and 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?

► Focus and approach

In contrast to the MRV and M&E system, the SI: Adapt-Ver has a rather qualitative character and is primarily based on people's perceptions. This tool aims to assess where Veracruz needs to set adaptation goals, reduce vulnerability to CC impacts and set a baseline against which progress can be measured. It gives information about the general status of adaptation and provides reference on the perceptions of experts about topics and problematics. This helps to identify the lack of information and implementation gaps. Moreover it increases monitoring capacity by instructing the future design of adaptation measures in manifold ways: First, by increasing the knowledge of CC impacts and vulnerability conditions as a base for planning and decision making. Second, by visualizing the use of resources and identifying if they are targeting the most vulnerable groups, sectors and regions of the state. Third, by providing orientation on what information is relevant to gather and report upon the state's adaptation plans and actions. All this enables communication with the different stakeholders of government and society in Veracruz.

The SI: Adapt-Ver consists of 6 categories: 1) Climate information and risk management, 2) Ecosystem services, 3) Social system, 4) Productive system, 5) Governmental capacities, 6) Social capacities, each subdivided in different topics and with specific indicative purposes (objectives).

² Initially the State Government had the hope to count with an adaptation index, but this was not feasible with the available information.

Table 1: Example of structure: Categories, objectives and topics of the SI: Adapt-Ver

Category	Objective	Topic
Climate information and risk management	To recognize the linkage between knowledge and climate scenarios on climate impacts and vulnerability reduction from different sectors and ecosystems, as well as to identify the actions undertaken to reduce loss and damage and the pre-cautionary actions against climate events.	<ul style="list-style-type: none"> • Generation of climate information • Availability and use of climate information • Pre-cautionary actions to tackle loss and damage at a State and Municipal level • Social activities to reduce affectations • Disaster risk reduction activities

Source: SI: Adapt-Ver

► Indicators

The SI: Adapt-Ver is composed by different qualitative indicators related to CC risk and vulnerability components (exposure, sensitivity, potential impact, and adaptive capacities) and to the review of what is and has been implemented in order to track progress on adaptation actions. No result or impact indicators were considered due to the lack of information or data that could provide a baseline.

The evaluation is conducted through a set of key questions asking for adaptation advances in the state level, also for evidence of existing tools and policy instruments targeted to reduce vulnerability and to facilitate adaptation processes, as well as on social and governmental capacities that are allowing to set conditions for a successful adaptation. The calculus of the indicators is integrated in a simple equation that sets three variable answers to the questions, where 1) Yes=stands for a totally positive answer regarding adaptation action, the score results in 2 points; 2) No=stands for a totally negative answer regarding adaptation action, the score results in 0 points; and 3) Partially=stands for a positive answer on adaptation action, but with exceptions and limitations, the score results in 1 point. For each one of the 34 topics it is possible to obtain a number that indicates if adaptation and vulnerability reduction is taking place³. Table 2 depicts an example for one topic.

Table 2: Description of the topic 'Educational projects', of the category 'Social capacities'

Category	Topic	Indicative purpose	Name of the indicator	Questions that define it
Social capacities	Educational projects	To know if the educative system acknowledges projects in the different levels for the development and strengthening of adaptive capacities on students	Materials on climate change	Is there a proposal to include the subject of climate change in the different schooling levels?
			Follow-up of CC scholar projects	Is there a proposal to form a unit or to constitute a committee in charge of the implementation and monitor the scholar projects on climate change?

Source: SI: Adapt-Ver

³ The number is obtained by the sum of answers to the indicators for each topic which is then normalized from 0 to 10, where 0 is the minimum value and 10 the maximum value. The SI: Adapt-Ver calculates one value with the next formula: Index for each topic = (10 * sum of the answers of the indicators)/maximum score for each topic).

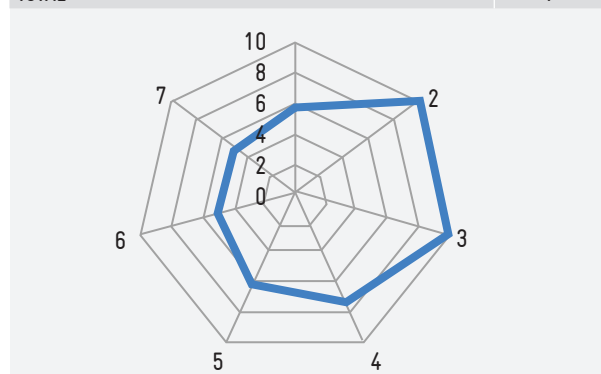
3. Operationalization

► Data collection and analysis

SI: Adapt-Ver mostly draws on already existing data from official records of state level institutions. In case data is lacking on the subnational level, it might be accessible at the national level, e.g. through the National Institute of Geography and Statistics (INEGI). If this is not the case, the needed data has to be collected in the field. For the first appliance many questions were answered through participative processes with experts and government officials. It was possible to obtain an approximation of the adaptation conditions taking into account the knowledge and experience of the interviewees. While this may represent a disadvantage, the aggregated value is that it helps the state government to detect on which topics there is no data available in order to start to recollect this information. With the uploaded information, the system provides graphical charts of the outcomes and scores for each of the categories and topics (Figure 1).

Figure 1: Outcomes from the questions underlined for the SI: Adapt-Ver

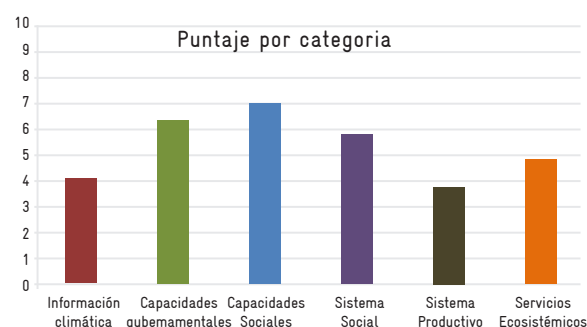
Capacidades Sociales	Puntaje
1. Comunicación del tema de cambio climático y adaptación a la sociedad	6
2. Proyectos educativos	10
3. Proyectos comunitarios	10
4. Organizaciones no gubernamentales	8
5. Investigación académica	6
6. Atención a grupos minoritarios	5
7. Sector privado	7
TOTAL	7



Source: SI: Adapt-Ver

The average of all six categories gives as a result a radiographic chart of adaptation conditions in the state. The first evaluation of the SI: Adapt-Ver, obtained the results depicted in Figure 2:

Figure 2: Scores for each category of the SI: Adapt-Ver



Source: SI: Adapt-Ver

► Institutional arrangements

The Sectorial Agendas on CC Veracruz are planned for every governmental period (i.e. every 6 years)⁴. Institutional arrangements for both monitoring systems are linked. The Ministry of the Environment (SEDEMA) is in charge of coordinating and conducting the process to apply the MRV and M&E system, as well as to review all the measures and related actions. Reporting is framed on a year time basis and the 19 ministries are responsible for accessing the system and uploading their specific sectorial implementation advances. They can also overview the general status and the system's results. As to SI: Adapt-Ver, institutional details still have to be convened. SEDEMA is the owner of the tool, which should be used with the participation of all Ministries that report adaptation actions on CC.

► Resources needed

To operate the SI: Adapt-Ver resources are required for conducting participative workshops with government officials and experts, including processing the obtained information; and for gathering still needed information and updating the MRV and M&E system. It needs a focal point to coordinate the work within each ministry; staff members who gather new information in the field and process and report it online to the MRV and M&E system; a focal point in SEDEMA's Unit of Climate Change who reports to Federal Ministry of Natural Resources (SEMARNAT) and Institute of Ecology and Climate Change (INECC) at national level. The financial resources needed to fulfill this requisite are mostly operative and should be aligned with the state's budget assigned to the Sectorial Agendas on CC.

4. Reporting and outlook

► Outputs and reporting

The system helps SEDEMA to report to its citizens to the State Secretary and to the Federal level via SEMARNAT and INECC, the responsible institutions to give a follow-up and to evaluate the implementation of CC policies of State and Municipal levels.

The MRV and M&E system is designed in an on-line platform where each Ministry can report their advances, and includes the following sections: 1) Introduction, 2) Capture, 3) Reference to specific measures, 4) Reference to global results, 5) Reference to calculation methodologies, 6) User's manual. Both, SI: Adapt-Ver and the MRV and M&E system are state level government tools not accessible to the public. At the end of each reporting period though, once the information has been internally validated, the reports will be made publicly available to reach the actual target audience, the citizens of Veracruz.

In order to conduct an initial report and establish a baseline for the different indicators, one year is needed. Results and outcomes of adaptation measures are usually observed in the long term. Therefore, the initial report, established at the beginning of the Sectorial Agendas, should be followed by annual ones with intermediate documentation and completed with a final report for the 6 year period of the Sectorial Agendas.

⁴ The current State administration is an exception and will govern for a two year period that is 2016-2018.

► Lessons to date

- Due to the lack of universal metrics for adaptation and the impossibility to establish a global adaptation indicator, any M&E adaptation system requires to be composed of a set of multi-sectorial qualitative indicators and also (if available) quantitative indicators.
- Programs/Sectorial Agendas on CC may fall short to generate important information in order to foresee a global result in adaptation. An Indicator System (ISys) for Adaptation represents a very useful complement, allowing the decision makers to observe the state of adaptation in their territory.
- A well used ISys feeds in and gives orientation to the Programs/Sectorial Agendas on CC and the selection of its measures, monitored in the MRV and M&E System.
- It is recommended to first define the ISys for adaptation and then integrate it in the MRV and M&E system.

► What's next?

Next steps for the adaptation strategy in Veracruz consist in: a) aligning the new selected adaptation measures on the Sectorial Agendas on CC for the State of Veracruz for the period 2016–2018 with the results of the SI: Adapt-Ver and integrating them with the new MRV and M&E system; b) identifying the focal points for adaptation in every ministry that reports on the Sectorial Agendas on CC and conducting a workshop to teach technical procedures for handling the SI: Adapt-Ver and the MRV and M&E system.

For further information

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