Global Climate Change Alliance Support Facility

# *Training workshops on mainstreaming climate change in national development planning and budgeting*

## HANDOUT FOR PARTICIPANTS

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## MODULE 9

## Mainstreaming climate change in monitoring systems

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# MODULE 9 – Mainstreaming climate change in monitoring systems

**TOPICS AND TOOLS COVERED BY THE MODULE:**

- Performance measurement and monitoring: key concepts and tools.
- Mainstreaming climate change in monitoring systems
- Performance assessment frameworks (PAFs) and budget support.

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**KEY CONCEPTS AND MESSAGES:**

*Performance measurement and monitoring: key concepts and tools*

1. A *hierarchy of objectives* is usually associated with a policy, programme or project; milestones and/or indicators and the associated targets, as defined in **Box 9.1**, may be used to monitor achievements at each level in the hierarchy (OECD 2002, EC 2004):
   - At the bottom of the hierarchy are *inputs* – these are not objectives but the means by which objectives can be achieved. Milestones (corresponding to 'pre-requisites'), and sometimes indicators, are typically associated with inputs.
   - The use of inputs is expected to deliver at first *intermediate results*; both milestones and output indicators can be associated with this level.
   - Intermediate results are expected, together, to contribute to the achievement of *specific objectives*. In principle, milestones are not used at this level (although there may be exceptions), because this level is no longer associated with processes but with outcomes. Outcome indicators should ideally be used at this level.
   - Finally, the achievement of specific objectives is expected to contribute to more general, *overall objectives*. Impact indicators are associated with this level.

   **Table 9.1** provides examples of impact, outcome and output indicators in relation to a GCCA-funded climate change mainstreaming project in Ethiopia.

**BOX 9.1 – MILESTONES, INDICATORS AND TARGETS**

A *milestone* is a key step in the process of developing or implementing a policy, programme or project. For instance, the adoption of a policy, law or regulation, the establishment of a coordination structure, or restructuring of an organisation may be milestones in the climate change mainstreaming process. An *indicator* is a unit of measurement, used to describe a situation, monitor the evolution of a situation or measure achievements against an objective; the measurement may be based on quantitative or qualitative units (e.g. 'number of pilot adaptation projects completed and evaluated' is an indicator). A *target* is the concrete translation of an objective, expressed by means of an indicator associated with a value or status, and a point in time by which it is expected to be reached (e.g. 'by the end of 2015, 20 pilot adaptation projects completed and evaluated for the purpose of drawing lessons and identifying good practices'); it may or not be expressed against a baseline (OECD 2002, EC 2004).

The realisation or completion of a milestone is a way of measuring progress towards an objective – but it is not *stricto sensu* an 'indicator' since the dimension of 'measurement' is missing. In practice, milestones are widely used alongside indicators in logical frameworks and performance assessment frameworks.

2. Objectives, related milestones, indicators and targets, and the inputs/resources required to achieve them, can be presented in the form of a *logical framework* – typically associated with a project, sometimes a programme), or a *performance assessment framework (PAF)* – typically associated with a strategy, plan or programme. **Table 9.1** uses in part[1] the structure of a logical framework.

3. Indicators and milestones are used to support *monitoring* (a process aimed at keeping track of progress and external factors, on a continuous basis, to inform management decisions and allow the timely adoption of corrective measures, where necessary) and *evaluation* (an occasional or periodic activity aimed at 'taking stock' of achievements, in a systematic and objective manner, for the purpose of informing stakeholders, re-orienting future activities and/or drawing lessons for future interventions) (OECD 2002, EC 2004). Monitoring and evaluation (M&E) are complementary activities, and the design of a PAF or logical framework supports both.

**Table 9.1 – Examples of indicators for a climate change mainstreaming project**

| **Ethiopia Global Climate Change Alliance: Building the national capacity and knowledge on climate change resilient actions** | | |
|---|---|---|
| **Objectives** | | **Corresponding indicators and milestones *(M)*** |
| **Overall objective** | Construction of a carbon-neutral and climate-resilient economy through the implementation of a 'climate-compatible' national socio-economic development programme | – Number of activities under the Growth and Transformation Plan (national development strategy) engaged in climate change action<br>– Contribution of climate change adaptation initiatives to growth<br>– *Progress made in the implementation of the Carbon Neutral Climate Resilient strategy for Ethiopia (CNCR-E)* |
| **Specific objective** | Increased awareness and capacity of targeted government institutions, both at federal and regional levels, and of the rural population at large, to deal with climate change | – At least 40% of the prioritised needs identified by the CNCR-E are met within the planning timeframe each year<br>– As from year 2, annual reports from the regional line services, non-state actors and non-governmental organisations underline improved capacities and better understanding of the climate change context<br>– The Environmental Council produces reports that confirm progress, clear action plans and constructive trends towards the achievement of the CNCR-E |
| **Intermediate results (outputs)** | The Environmental Protection Authority (EPA) has the institutional capacities to mainstream climate change into policy, regulatory and strategic development planning | – *(M)* An effective operational plan, including the definition of tangible outputs and outcomes, is drawn up and adopted by the EPA<br>– Reports of the monitoring and evaluation (M&E) system are produced on time and within budget<br>– Forums on climate change are convened according to plan<br>– At least 85% of forums on climate change are oriented towards open discussion through a stakeholder consultation involving regional line services, non-state actors, private companies |

[1] A full logical framework includes two additional columns: one specifying 'sources of verification' i.e. the origin of the data and information needed to monitor the chosen 'objectively verifiable indicators'; and one specifying assumptions and risks i.e. external factors that may influence capacity to achieve objectives.

| Ethiopia Global Climate Change Alliance:<br>Building the national capacity and knowledge on climate change resilient actions | | |
|---|---|---|
| **Objectives** | | **Corresponding indicators and milestones *(M)*** |
| | | – Number of man-days of training at federal, regional and local levels<br>– Number of training maps for federal and regional civil servant staff signed and implemented<br>– Number of training sessions accessible to non-governmental bodies |
| | A knowledge base is developed that allows stakeholders at all levels (federal, regional and local) to build resilience to climate change impacts | – *(M)* By the end of the project inception period, a clear operational plan for the creation of a knowledge base has been set up and approved<br>– By the end of year 2, 50% of planned activities with regard to the knowledge base have started, and 30% have been completed<br>– Once a year as from year 2, an annual report highlights lessons learned, provides recommendations and demonstrates benefits<br>– By the end of year 3, a climate change knowledge management system is operational and accessed by users<br>– All stakeholders involved in the climate change agenda provide knowledge and evidence that is used to assist policy formulation |
| | Climate change activities in the context of the CNCR-E have successfully been field-tested in the area of the Sustainable Land Management Programme (SLMP) of the Ministry of Agriculture and Rural Development | – Number of field-testing activities carried out in identified pilot areas of the SLMP<br>– *x*%, *y*% and *z*% of planned field-testing activities have been implemented by the end of, respectively, years 1, 2 and 3 of the project<br>– Number of prioritised best practices listed in the Climate Change Adaptation programme that are field-tested through the SLMP<br>– % of field-tested activities selected as best practices for climate change resilience<br>– Field-tested activities successfully implemented by type of targeted ecosystem<br>– Number of final beneficiaries of pilot activities (disaggregated by ecosystem, socio-economic status and gender) |

Source: GCCA Support Facility; adapted from the project's logical framework.

*Mainstreaming climate change in monitoring systems*

4. The monitoring of risks, other external factors that may influence a policy or intervention, and progress made in achieving the objectives of policies and interventions, is a fundamental aspect of good development practices. In the context of climate change mainstreaming, a wide range of aspects require monitoring. **Table 9.2** summarises the main aspects to be monitored, and the rationale for monitoring them. **Annex 9.1** provides examples of indicators related to these aspects.

**Table 9.2 – Climate change mainstreaming: Aspects to monitor**

| Aspect to monitor | Rationale for monitoring |
|---|---|
| Climate variability and change, impacts and vulnerabilities | – Make decisions as well informed as possible<br>– Support adaptive management |
| Policy and institutional change | – Enhance the transparency and accountability of the mainstreaming process<br>– Promote the institutionalisation of climate change mainstreaming |
| Policy implementation and outcomes | – Ensure commitment to the objectives set in policies and strategies<br>– Stimulate the achievement of tangible outcomes |

Source: GCCA Support Facility, based on Dalal-Clayton & Bass (2009), OECD (2009a), UNDP-UNEP (2011)

5. *Climate change monitoring* at large (i.e. the three aspects mentioned in Table 9.2) should be *integrated into the wider national development monitoring system*, including its specific (e.g. sector, local) components. Indicators and milestones related to climate change, the mainstreaming process and the associated response can thus be included in the performance assessment or logical frameworks associated with:

   - any national or sector development strategy/programme (including climate change strategies and action plans where applicable);
   - sub-national (e.g. regional, local) development plans;
   - individual projects (OECD 2009a, UNDP-UNEP 2011).

6. Development planners and those in charge of managing the response to climate change should therefore aim to *strengthen and adapt existing national monitoring systems* to integrate climate change (rather than developing a standalone system). The best way of achieving this is to build on existing institutions, statistical systems, data collection and management systems, including existing systems at the national meteorological services and the national statistical service. The monitoring and evaluation units of the ministry of planning or economic development, and of other relevant ministries and government agencies (e.g. those in charge of agriculture and forestry, water, environment and natural resources, health, land use planning, ...), should also be involved. Existing statistical systems and sources of data may be a (more or less) good starting point, but in many cases will need to be strengthened and made more compatible with each other (an issue that may go beyond climate change mainstreaming). Capacity strengthening will have to accompany and complement any information system development, requiring financial resources as well as specialised human resources (OECD 2009a, UNDP-UNEP 2011).

7. *Monitoring climate variability and change, impacts and vulnerabilities* involves (OECD 2009a, UNDP-UNEP 2011):

   - Strengthening the national meteorological services, with the objective of achieving improved meteorological data collection and management systems; the production of timely, reliable weather statistics and climate indicators; the timely identification of new patterns and emerging climatic trends; and improved capacity to develop and communicate meaningful climate projections and future climate scenarios.
   - Developing climate-related monitoring capacities in other organisations involved in the assessment of climate-related vulnerabilities and impacts, and in the identification and implementation of adaptation options. Such organisations include government bodies, non-

governmental and civil society organisations. They are likely to be found in practically all sectors of activity, notably agriculture and food security; energy; environment and natural resource management; financial services; health; trade; transport; waste management; water management; etc. These organisations should be trained, in their respective areas of competence, in assessing and mapping climate-related vulnerabilities; in anticipating their evolution over time; and in identifying and reporting on climate impacts.

- Fostering cooperation between national meteorological services and other organisations, for the development of tools for assessing current and future impacts, vulnerabilities and risks. For instance, early warning and longer-range forecasting systems (for events such as droughts, floods, storms, famine, epidemics of malaria and other diseases) signal the possible occurrence of disasters and epidemics with a lead time of a few days, weeks or months, thus supporting improved responsiveness to a variety of climate-sensitive emergencies. They work on the basis of sophisticated models that, typically, interpret current or recent climatic and non-climatic data in the light of vulnerability-related information (see for instance DaSilva et al 2004, Thomson et al 2005 & 2006, Ceccato et al 2007, on climate-sensitive early warning systems for malaria epidemics). The development and use of early warning and forecasting systems requires the development of partnerships between meteorological services and health services, agricultural authorities, water resource management organisations, organisations in charge of food security, the disaster risk reduction community, and others.

8. *Monitoring policy and institutional change* involves (Dalal-Clayton & Bass 2009, UNDP-UNEP 2011):

   - Monitoring policy evolution and change. Aspects to monitor include, for example:
     - the integration of adaptation and mitigation in national policies and strategies (e.g. poverty reduction strategy integrating climate vulnerability and adaptation aspects) and at sector and sub-national levels (e.g. agricultural policies and strategies emphasizing climate resilience; energy policy with a focus on energy efficiency and renewable sources);
     - the development of adaptation- and mitigation-oriented policies and plans (e.g. disaster risk reduction plans at various territorial levels; national REDD strategy).
   - Monitoring institutional change, with a focus on assessing progress towards the institutionalisation of climate change mainstreaming. This may involve the periodic assessment of:
     - institutional commitment to adaptation and mitigation (e.g. through the evolution of mandates);
     - effectiveness of coordination and participatory mechanisms;
     - existence and enforcement of procedures for ensuring systematic consideration of climate-related aspects and knowledge in decision making;
     - development of systems and tools supporting various aspects of climate change mainstreaming;
     - availability and actual participation in capacity development programmes with regard to climate change (including monitoring).

9. *Monitoring policy implementation and outcomes* involves (World Bank n.d. Guidance Note #8, Dalal-Clayton & Bass 2009, OECD 2009a, UNDP-UNEP 2011):

   - Monitoring the implementation of policies, strategies, programmes, projects and measures relevant to adaptation and mitigation – typically through the use of input and output indicators and the monitoring of milestones. Aspects to monitor include, for example:

- trends in resource allocation and actual spending for measures supporting adaptation and mitigation objectives;
- the integration of adaptation/mitigation measures in sector and sub-national programmes and projects, and the adoption of adaptation- and mitigation-specific programmes, projects and measures (e.g. zoning regulations, building standards, energy efficiency and emission standards);
- the actual implementation of such programmes, projects and measures (including constraints and difficulties met, successes and failures).

- Evaluating the outcomes and impacts of policies, strategies programmes, projects and measures relevant to adaptation and mitigation – typically through the use of outcome and impact indicators. Aspects to monitor include, for example:
  - the relevance, effectiveness and efficiency (achievements, costs and benefits) of adaptation and mitigation programmes, projects and measures[2];
  - their expected and unanticipated impacts, and their long-term sustainability, including for example:
    (i) the observed evolution in the resilience and adaptive capacity of vulnerable groups (e.g. women, children, farmers, coastal communities, poor communities, ...) and key sectors;
    (ii) the creation of green jobs;
    (iii) the share of economic growth that can be considered to be 'green growth';
  - overall progress towards climate-resilient, low-emission development.

*Performance assessment frameworks and budget support*

10. There is a double *relationship between PAFs and budget support* (EC 2007a, EC 2007b):
    - Progress measured against the targets set out in the PAF of a strategy or programme provides opportunities for policy dialogue in the context of budget support.
    - In the case of EC budget support, performance against a chosen sub-set of criteria and targets also determines the amount of disbursements (see Module 8 for further explanations).

    Increasingly, the PAF associated with development, poverty reduction and sector strategies is likely to include indicators and targets associated with climate change adaptation, disaster risk reduction, energy efficiency, emission reductions, etc. This entails that these aspects are likely to be increasingly raised in the policy dialogue. Likewise, with the agreement of the government concerned (since disbursement triggers are always the result of a negotiation), achievements in the field of climate change are likely to be increasingly used to determine actual budget support disbursements, in a results-oriented perspective.

[2] As far as adaptation is concerned, monitoring and assessing relevance, effectiveness and efficiency should be possible with regard to current climate risks and variability, but may be difficult or impossible with regard to future climate risks and variability, or very infrequent climate events. In the approach to monitoring and evaluation, a distinction has to be made between no- and low-regret measures – which are already justified on the basis of current climate conditions, and adaptation measures aimed at long-term climate change – the effectiveness and efficiency of which cannot be established in the short term (OECD 2009a).

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## Annex 9.1 – Examples of indicators for monitoring climate change and climate change mainstreaming

### 1. CLIMATE RISK AND VULNERABILITY INDICATORS

- Frequency and intensity of climate-related natural disasters
- Extent of agricultural land at risk of flooding or drought
- Extent of urban areas at risk of flooding or landslides
- Surface and proportion of key ecosystems (e.g. mangroves, coral reefs, wetlands, peatlands, forests) at risk from climate variability and change and other human pressures
- Proportion of population living in low-elevation coastal zones
- Population at risk from various types of extreme climatic events
- Infrastructure at risk from various types of extreme climatic events
- Proportion of the population living in poverty; number of poor people
- Proportion of the population with no or insufficient access to key infrastructure (e.g. clean water, healthcare, transport services, electricity, communication services)

### 2. INDICATORS FOR MONITORING POLICY AND INSTITUTIONAL CHANGE

- Number of national and sector policies and strategies that have been reviewed and updated in the light of climate change adaptation and mitigation considerations
- Resources allocated to adaptation and/or mitigation measures in the national budget
- Number of government and non-governmental organisations with defined mandates, structures, functions and procedures in place to support the mainstreaming of climate change in their work
- Number of people/Proportion of staff trained in generic or specific competences required to mainstream climate change adaptation and/or mitigation in their work
- Number of monitoring systems upgraded to track climate trends, climate-related risks and vulnerabilities, and the implementation and outcomes of adaptation and mitigation responses
- Timeliness and quality of periodic reports prepared by the national body in charge of coordinating the response to climate change
- Regularity of, and participation rate in, national coordination meetings convened by the body in charge of coordinating the national response to climate change
- Rate of implementation of planned stakeholder consultations on climate-related issues
- Proportion of surveyed 'key informants' who declare tangible progress is being achieved in the policy and institutional setup for mainstreaming climate change[3]

### 3. INDICATORS FOR MONITORING POLICY IMPLEMENTATION

- Number of ongoing and completed activities under the national development/poverty reduction strategy that are linked to the mainstreaming of climate change
- Proportion of climate-related priority actions identified in national or sector action plans that are or have been implemented

[3] For this indicator to be valid, it should be based on a periodic survey of a group of informants representing various categories of stakeholders – and the composition of this group should be stable across surveys.

- Number of climate-related pilot projects implemented and evaluated for the purpose of drawing lessons and defining best practices
- Number of ongoing and completed research projects with a focus on climate change adaptation and/or mitigation
- Proportion of capital expenditure projects submitted for public financing for which climate risk screening was undertaken
- Number of regulations adopted to support adaptation (e.g. zoning codes, building codes)
- Number/Proportion of local development plans based on climate-proofed territorial planning
- Number/Proportion of farmers trained in climate change adaptation and management of climate risks
- Proportion of households (urban/rural) effectively covered by early warning systems for climate-related natural disasters
- Proportion of private houses, government buildings, industrial facilities, other infrastructure built or retrofitted according to 'climate-proofed' building standards
- Proportion of residential buildings built or retrofitted to meet energy efficiency standards
- Proportion of industrial facilities (in a given sector, of a given size) periodically checked for compliance with GHG emission standards
- Forest areas under management arrangements that effectively protect them from degradation and deforestation

## 4. INDICATORS FOR MONITORING POLICY OUTCOMES

- Loss of life and injuries from climate-related disasters
- Economic losses and damages from climate-related disasters (annual total, % of GDP)
- Proportion, and productivity, of farmland exploited using seed varieties, technologies and/or farming practices selected to better cope with climate variability and extremes
- Number/Proportion of farmers covered by an insurance against climate risks
- Number/Proportion of farmers with access to timely weather and climate forecasts
- Number/Proportion of farmers adopting high-yielding livestock breeds and pasture development for reducing methane production
- Carbon dioxide and other GHG emissions (annual total, per capita, % change against a base year) by source (deforestation, agriculture, ...)
- Carbon intensity of economic activity (tonnes of $CO_2$ per 1,000$ GDP)
- Share of fossil fuels and renewable energy in total primary energy supply (by type of fuel and energy source)
- Proportion of vehicles meeting given emission standards
- Proportion of industrial facilities (in a given sector, of a given size) meeting given emission standards
- Amount of methane captured from landfills and used to produce heat and power
- Contribution of climate-related 'green growth' activities to economic growth

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