

## CREWS Core Programme Indicators – revised February 2020

1. The CREWS initiative was launched to significantly close the capacity gap, in Least Developed Countries (LDCs) and Small Island Developing States (SIDS), to generate and communicate effective, impact-based, multi-hazard, gender-informed, early warnings and risk information to protect lives, livelihoods, and assets. The core programme indicators are proposed to monitor progress against this goal.
2. CREWS Implementing Partners measure their progress in each project against the Monitoring Framework contained in the [CREWS Operational Procedures Note No2 Monitoring and Evaluation](#). The metrics against which progress is measured are drawn from the indicators developed in each project against the CREWS outputs.
3. Higher level impacts i.e. partially attributable to CREWS investments, are measured across the CREWS portfolio of projects, using indicators adopted by Member States for relevant global goals and targets with which countries measure their national progress. Specifically, indicators for targets used by countries to measure life and economic loss to disasters and access to early warning systems and risk information ([SDG 1.5](#) and [Sendai Framework Targets, A, B and G](#)).
4. Currently, the number of LDCs and SIDS that report on Sendai targets G is low (23% of LDCs and 3% of SIDS)<sup>1</sup>. While these figures are expected to increase in the future, metrics are required, in the meantime, to show progress across the CREWS portfolio of projects.
5. At its 8<sup>th</sup> Meeting, the CREWS Steering Committee requested the Secretariat, in consultation with the Implementing Partners, to propose a limited number of core programme indicators against which to be used to reflect the progress of the initiative.
6. At its 10<sup>th</sup> Meeting, the Steering Committee discuss an initial proposed set of core programme indicators, made recommendations and requested the CREWS Secretariat to circulate a revised version in January 2020 for an expert review.
7. Annex 1 provides the revised list of CREWS core programme indicators. It is expected, once these are validated, to become the metrics against which CREWS will regularly measure progress of its overall portfolio and, more broadly, early warning capacity of LDCs and SIDS. Measurements will have a 2015 baseline.
8. In order to ensure relevance and measurability, the revised list of CREWS core programme indicators are drawn from:
  - (i) Indicators related to SDG 1 and Sendai Targets A, B, G and the UNFCCC Paris Agreement;
  - (ii) Result frameworks of development partners hydromet country investments;
  - (iii) CREWS Monitoring Framework Outputs;
  - (iv) World Bank Core Sector Indicators;
  - (v) GFDRR M&E Framework and Indicators;
  - (vi) WMO's Strategic and Operating Plan Results Framework;

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<sup>1</sup> UN Office for Disaster Risk Reduction (UNDRR, 2019)

- (vii) Information available in WMO's Country Profile Data Base (CPDB, cpdb.wmo.int), World Bank Open Dataset (data.worldbank.org) and [UNDRR Sendai Monitor](#) and [countries database](#);
- (viii) WMO Strategy for Service delivery (WMO, N° 1129) and its Service Delivery Progress Model;
9. Annex 2 shows the alignment between the list of CREWS core programme indicators and the above source of data.
10. This process builds on current country practices and an extensive body of literature on how to measure multi-hazard early warning systems for each of its four components<sup>2</sup>, across its value chain and, in particular, how early warnings are received, perceived, understood, acted upon by users and feedback provided to the designated warning authority.
11. A number of global and regional reviews of early warning systems have been carried out by different entities. A compilation of these is available on the [CREWS website](#)<sup>3</sup>.

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<sup>2</sup> (i) Risk-informed system design; (ii) Monitoring and warning services; (iii) Communication and dissemination; (iv) Public access and ability to respond to the warnings.

<sup>3</sup> <https://www.crews-initiative.org/en/impacts>

ANNEX 1

**DRAFT Programme indicators against which CREWS will measure progress across its portfolio of projects in LDCs and SIDS**

Metrics	Indicators	Linked to	Source of information	Remarks
<b>1. Loss of life</b>	# of deaths and missing persons in LDCs and SIDS attributed to hydrometeorological events, per 100'000 population	- CREWS Objective - Sendai Target A	UNDRR Sendai Monitor	This indicator is a subset of Sendai Target 1 (covering LDCs and SIDS and loss of life due to hydrometeorological events).
<b>2. Forecasting and warning capacity</b>	Type of hazards, which pose a risk of life loss in the country, for which forecasting and warning capacity is available	- CREWS Output N° 1	NMHSs through CREWS Implementing Partners	Indicator informs on the type of hazards for which forecast and warning services, are available. The list of hazards could be shown as a comparison to hazards, which pose a risk of life loss in the country, for which such services are not yet available. Examples of hazards for which forecasting and warning capacity have been developed through CREWS financing are flash floods, coastal inundation, sand and dust storms etc... This indicator does not, at this stage, inform on the quality (accuracy and timeliness) of the forecasts and warnings. Certain forecasting products can cover multiple hazards.
	'Level of Service' category of the National Meteorological and Hydrological Service (NMHS) in LDCs and SIDS	- CREWS Output N° 1	WMO	WMO categorizes NMHSs Level of Service from 1 – basic, to 4 – Advanced. <a href="https://www.wmo.int/pages/prog/dra/documents/CDSIP-Annex5.doc">https://www.wmo.int/pages/prog/dra/documents/CDSIP-Annex5.doc</a> This information is captured in WMO's Country Profile Database and not currently available across all LDCs and SIDS.
<b>3. Access to early warning</b>	# of people living in areas covered by forecasts and warnings for a given hazard	- Sendai Target G - World Bank and GFDRR indicators	NMHSs through CREWS Implementing Partners	This figure provides information on the number of people benefiting from a given prediction/warning product i.e. the population living in the areas covered by a forecast. Ideally this indicator would measure the # of people with access to the warnings (and who took action on the warnings). This latter type of information is currently only available on a survey basis.
	# of projects which apply the CREWS	CREWS	CREWS	This indicator will assist in identifying good practices in

	<i>Operational Procedure Note N° 3 for Gender-Sensitive Programming to the project cycle (programming, operations, M&amp;E)</i>	Output N° 6	project reports	developing gender-responsive early warning systems.
<b>4. Use of risk information</b>	# of LDCs and SIDS that have generated risk information to enhance the early warning system	- CREWS Output N° 2	National institutions through CREWS Implementing Partners	This indicator identifies data and information generated by the project regarding the physical monitoring of the hazards and the socio-economic vulnerability of populations at risk. This data is required to obtain impact-based forecasts.
<b>5. Capacity to disseminate warnings</b>	# of LDCs and SIDS communicating warnings through common alerting procedures	- CREWS Output N° 3 - WMO's Strategic and Operating Plan Results Framework	WMO	WMO monitors countries that operationalize the Common Alerting Protocol (CAP) with registered alerting authorities.
	# of households and individuals with access to and use of ICT in LDCs and SIDS	- CREWS Output N° 3	International Telecommunication Union (ITU) global ICT statistics	Trends with regard to this indicator do not reflect on the effectiveness of CREWS project. It reflects the level of potential outreach in the dissemination of alerts and warnings. This information is partially available with gender disaggregation.
<b>6. Capacity to prepare for and respond to warnings</b>	# of LDCs and SIDS using standard operating procedures (SOPs) to issue warnings for forecasted hazards	- CREWS Output N° 4 - Sendai Target G	National institutions through CREWS Implementing Partners	This indicator does not reflect the effectiveness of the SOPs or if they are regularly applied and tested. Will benefit from cooperation and further development with partners working on early action.

ANNEX 2 - Alignment between CREWS core programme indicators and existing sources of data

SDG 1 and Sendai Targets A, B (Sendai monitor)	✓	# of deaths and missing persons in LDCs and SIDS attributed to hydrometeorological events, per 100'000 population
Sendai Targets G (Sendai monitor)	✓	# of hazards, which pose a risk of life loss in the country, for which forecasting and warning capacity is available
World Bank Core Sector Indicators and GFDRR M&E Framework and Indicators		'Level of Service' category of the National Meteorological and Hydrological Service (NMHS) in LDCs and SIDS
WMO's Strategic and Operating Plan Results Framework	✓	# of people living in areas covered by forecasts and warnings for a given hazard
WMO's Country Profile Data Base (CPDB, cpdb.wmo.int)	✓	# of projects which apply the <i>CREWS Operational Procedure Note N° 3 for Gender-Sensitive Programming</i> to the project cycle (programming, operations, M&E)
		# of LDCs and SIDS that have generated risk information to enhance the early warning system
		# of LDCs and SIDS communicating warnings through common alerting procedures
		# of households and individuals with access to and use of ICT in LDCs and SIDS
		# of LDCs and SIDS using standard operating procedures (SOPs) to issue warnings for forecasted hazards