Developing Monitoring and Evaluation (M&E) Framework for Uttar Pradesh State Action Plan on Climate Change (UP SAPCC 2021 – 2030)

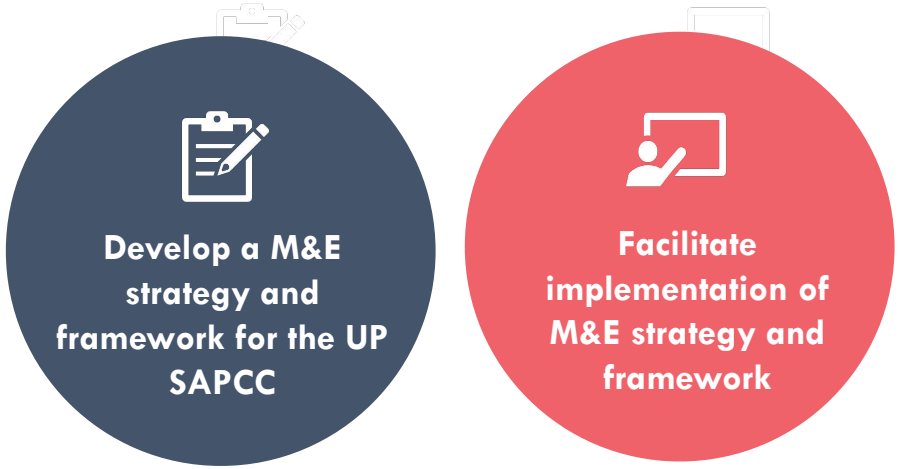
National Climate Conclave
New Delhi
02/12/2025

Context

- In 2009, Ministry of Environment, Forest, and Climate Change (MoEFCC) requested all States to prepare State Action Plan for Climate Change (SAPCC) to identify regional and state specific climate risks. Subsequently, they were advised to revise their SAPCCs starting in 2018, keeping in view the latest international commitments.
- Initially, UP SAPCC was launched in 2014 and was later revised with the support of GIZ, under the project “Climate Adaptation and Finance in Rural India” (CAFRI) in 2022.
- Critical component of this support was to aid evidence-based planning and implementation of relevant measures through the development and operationalization of a Monitoring and Evaluation (M&E) framework for the SAPCC.

Project Objective

- GIZ provided technical support to UP DoEFCC under the CAFRI project to develop and operationalize the M&E Framework for the revised UP SAPCC
- The broad objectives of the project was:



Approach

Phase 1: MLE Strategizing

- Continuous engagement with stakeholders
- Leveraging existing MLE systems
- Creation of M&E Framework

Phase 2: MLE Institutionalization

- Creating MIS and implementation roadmaps
- Provide online and offline handholding support

Need for the M&E Framework for the UP SAPCC

- Essential for ensuring that climate change action plans are effective and achieving their intended goals.
- Guarantees better evidence-based planning and tracking and aids in the identification of pertinent activities through the creation and operationalization of a Framework
- Critical since gaps identified over time reveal mistakes, offers paths for learning and improvements, and provides opportunity to build on expertise and knowledge.
- Allows policymakers and implementers to identify successes and challenges and make data driven decisions to adjust their strategies accordingly

UP SAPCC Missions

No.	Missions	Strategies	Action of Points	Adaptation	Mitigation	Both
1	Sustainable Agri-culture Mission	5	19	18	-	1
2	Jal Mission	5	25	21	-	4
3	Green UP Mission	5	20	6	10	4
4	Enhanced Energy Efficiency and Green Energy Mission	6	37	1	32	4
5	Sustainable Habitat Mission	9	35	15	9	11
6	Human Health Mission	5	31	24	-	1
7	Disaster Manage-ment Mission	2	10	10	-	-
8	Strategic Knowl-edge Mission	4	10	10	-	-
	Total	41	187	104	51	25

UP SAPCC Structure

- **Strategies:** Each Mission has certain number of strategies
- **Action points:** Each strategy is broken down into concrete action points
- **Nature of Action:** Implementation, Research, Capacity Building, Policy
- **Type of Action:** Adaptation, Mitigation
- **Target:** Overall target for the next 10 years
- Target (2021 – 2025)
- Target (2026 – 2030)
- Estimated Financial Requirement (INR Cr.)
- Relevant Central & State Schemes
- Nodal & Implementing Agencies
- SDG and NDC Linkages

The Sustainable Agriculture Mission has been taken as an example to explain the structure of different components of each mission present in the UP SAPCC

S. No.	Actions	Nature of Action	Type of Action	Target	Target (2021-2025)	Target (2026-2030)	Estimated Financial Requirement (in INR Cr)	Relevant Central and State Schemes	Nodal and Implementing Agency	SDG and NDC Linkages
1	Generate and disseminate precise weather forecasts to all farmers based on high resolution network of weather observation stations and ensure last mile delivery of agro-met services									
1.1	Establish a network of Agro-Automatic Weather Stations (AWSs) at a finer resolution of 10km x 10km grid. Integrated the ones installed by IMD under its Gramin Krishi Mausam Sewa (about 200 to be installed across India)	Implementation	Adaptation	2433 AWSs across UP	Tender, procure and install all AWS	Continue maintenance	50.0 (Installation & maintenance)	Gramin Krishi Mausam Sewa	NA: Agriculture Department IA: Agriculture Universities, IMD	NDC 06 SDG 2,8,13

Guiding principles while developing the M&E Framework

- **Leveraging existing data system:** A corpus of UP specific data already exists and is getting collected at state and national level through schemes, programmes, projects, policies and action plans. This had been leveraged.

- **Linkage:** It is difficult to retrofit existing M&E system into a new system. After thoroughly reviewing all climate relevant state and national documents, convergence of the UP SAPCC action points with these documents was identified.

- **Convergence**: M&E Framework should have the capability to allow for convergence of climate change indicators across multiple departments and catalyse them to work collectively to tackle the climate change crisis.

- **Engagement:** To ensure ownership, consultations and engaging implementation partners was integral to this process.

Steps in Developing UP SAPCC M&E Framework

Step-1

Creating a comprehensive list of indicators

Step-2

Shortlisting of indicators



Step-3

Consultation with line departments

Step-4

Reviewing and finalizing Mission level indicators

Step 1: Creating a Comprehensive List of Indicators



Review of relevant documents

- UPSAPCC 2021-2030
- UP DEMP
- UP SDG Vision 2030
- NITI Aayog SDG Index
- SAPCC Vulnerability Indicators
- MoSPI documents



Convergence of Action Points/ Strategies/ Priority Areas

- Strategies and Action Points
- Priority Areas
- SDG Targets
- NITI Aayog SDG Indicators
- SAPCC Vulnerability Indicators



Identifying Schemes/ programmes

Looked at current schemes, programmes and dashboards implemented at national and state level which are mapping to action points/strategies/ priority areas



Indicators identified for schemes/ programmes

- Identified for each action point
- Combined at strategy level to remove redundancies



E. Comprehensive List of Common Indicators (Mission level)

Compilation of comprehensive list of indicators for all strategies and action points after removing redundancies

A. Documents reviewed to Develop M&E Framework



B. Convergence at Action Point Level

- After perusing the documents thoroughly, the convergence of each of the above-mentioned documents was identified with the UPSAPCC.
- In SAPCC, each mission has several strategies, which are further broken down into implementable action points. While mapping the UPSAPCC with the relevant documents, the **convergence was located at the action-point level and not at the strategy level**

  - ❖ Mapping with UP DEMP
  - ❖ Mapping with UP SDG Vision 2030
  - ❖ Mapping with NITI Aayog SDG Index 2020-21
  - ❖ Mapping with Vulnerability Indicators of UP SAPCC

C. Identifying Schemes and Programmes

No. UPSAPCC Action Point	Relevant Project/ Schemes/ Dashboards	Schemes Description	Action-point–level Indicators
Strategy 1: Generate and disseminate precise weather forecasts to all farmers based on a high resolution network of weather observation stations and ensure last mile delivery of agro-met services			
1.1 - Establish a network of Agro-Automatic Weather Stations (AWSs) at a finer resolution of a 10-km-by-10-km grid. Integrate the ones installed by IMD under its Gramin Krishi Mausam Sewa (about 2433 to be installed across India)	1. Gramin Krishi Mausam Sewa 2. Statistical Year book, 2018, Rural and Urban Development (MoSPI)	1. To issue crop- and location-specific weather-based agro advisories for the benefit of farming community on every Tuesday and Friday and occurrence of extreme weather. Timeline: 2015-present	* No. of District Agro-Meteorology Units (DAMUs) established (1) * Accuracy of dissemination of the district and sub-district agromet advisories (1) * No. of farmers receiving district agromet advisories (1) *Average monthly rainfall (actual and normal projected) (2) * Disaster preparedness score as per Disaster Resilience Index * Access to information and technology

Mapping SAPCC Action Points with Schemes

Missions	No. of Strategies	No. of Action of Points	No. of Action of Points: Mapped with Schemes	Mapping (%)	Details of Unmapped Action Points
Human Health	5	13	12	92	Recommendation (1)
Sustainable Agriculture	5	19	17	89	Proposed studies (2)
Disaster Management	2	10	7	70	Recommendations (2) Proposed study/risk assessment (1)
Jal	5	26	15	58	Recommendations (8) Proposed Studies (3)
Enhanced Energy Efficiency & Green Energy	6	38	19	50	Recommendation (14) Proposed studies (3) Training and capac-ity building (2)
Green UP	5	20	10	50	Recommendations (7) Proposed studies/activities (3)
Sustainable Habitat	9	35	15	43	Recommendations (16) Develop policy (3) Proposed study/assessment (1)
Strategic Knowledge	4	8	2	25	Proposed Awareness/ Training/Capacity Building 3) Recommendations (3)

D. Indicators Identified from Schemes & Programmes

- Indicators from schemes are mapped at the action-point level. However, within one strategy there were repetitions of schemes mapping to more than one action point.
- Similarly, schemes were repeated and mapped across more than one strategy. These redundancies were removed to include indicators from one scheme only once.
- The action point level indicators for each strategy are collated and labelled as strategy-level indicators.
- For the Sustainable Agriculture Mission, we got three indicators from the Gramin Krishi Mausam Sewa Scheme. These are:
  - the number of District Agro-Meteorology Units (DAMUs) established,
  - accuracy of dissemination of the district and sub-district Agromet Advisories, and
  - the number of farmers receiving district agro-met advisories.
- This scheme mapped with three action points (1.1, 1.2, and 3.2) across two strategies. However, instead of mentioning it twice for the two separate strategies, these indicators have been mentioned only once in the comprehensive list of indicators to remove redundancies

E. Comprehensive List of Common Indicators (Mission Level)

- The indicators that were common across the different strategies and coming from same schemes were labelled as the comprehensive list of common indicators.
- This comprehensive list contains indicators from each scheme only once without any repetitions

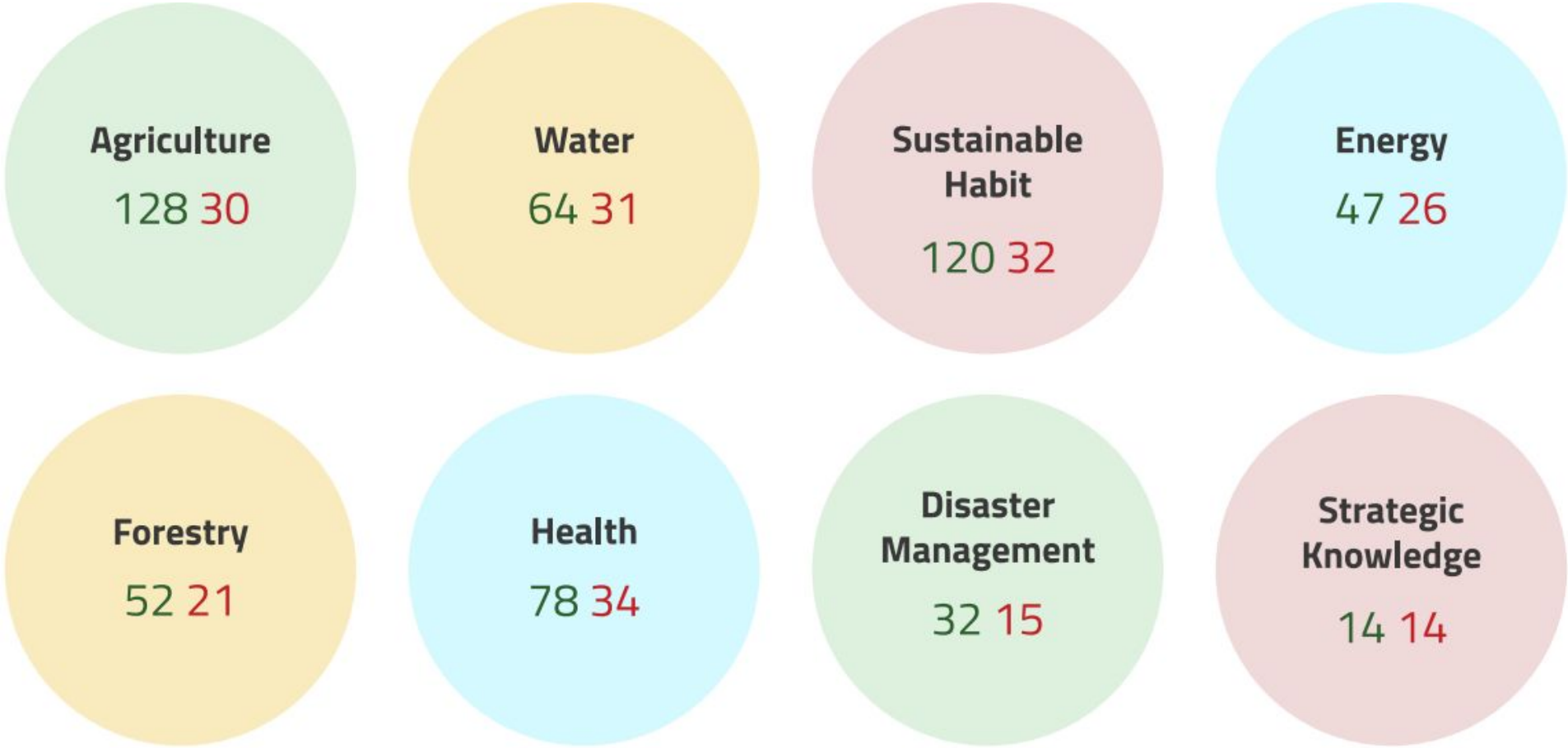
Step 2: Shortlisting Indicators

- Compile comprehensive list of indicators from schemes/ programme mapping.
- Shortlist intermediate and outcome level indicators.
- Identify indicators that are relevant to strategy (Categorize as 1 or 0).
- Identify indicators that provide a holistic perspective (Categorize as 1 or 0).

Shortlisting Indicators for Sustainable Agriculture Mission

No.	Indicators (30)	Mapping to Strategy	Relevance to SAPCC Strategy (1/0)	Holistic Perspective (1/0)	Data Source
Agro-weather Services					
1	No. of District Agro-Meteorology Units (DAMUs) established	1,3	1	1	Gramin Krishi Mausam Sewa
2	No. of Agro-automatic weather stations established	1,3	1	0	Gramin Krishi Mausam Sewa
3	Access to information and technology	1	1	1	UP-SAPCC
4	No. of farmers accessing the knowledge-based decision support system	1	1	1	Gramin Krishi Mausam Sewa
5	Disaster preparedness score as per Disaster Resilience Index	1	1	1	Disaster Scorecard for States and Union Territories of India Report Vol. 1, NDMA, NITI Aayog SDG Index 2020-21

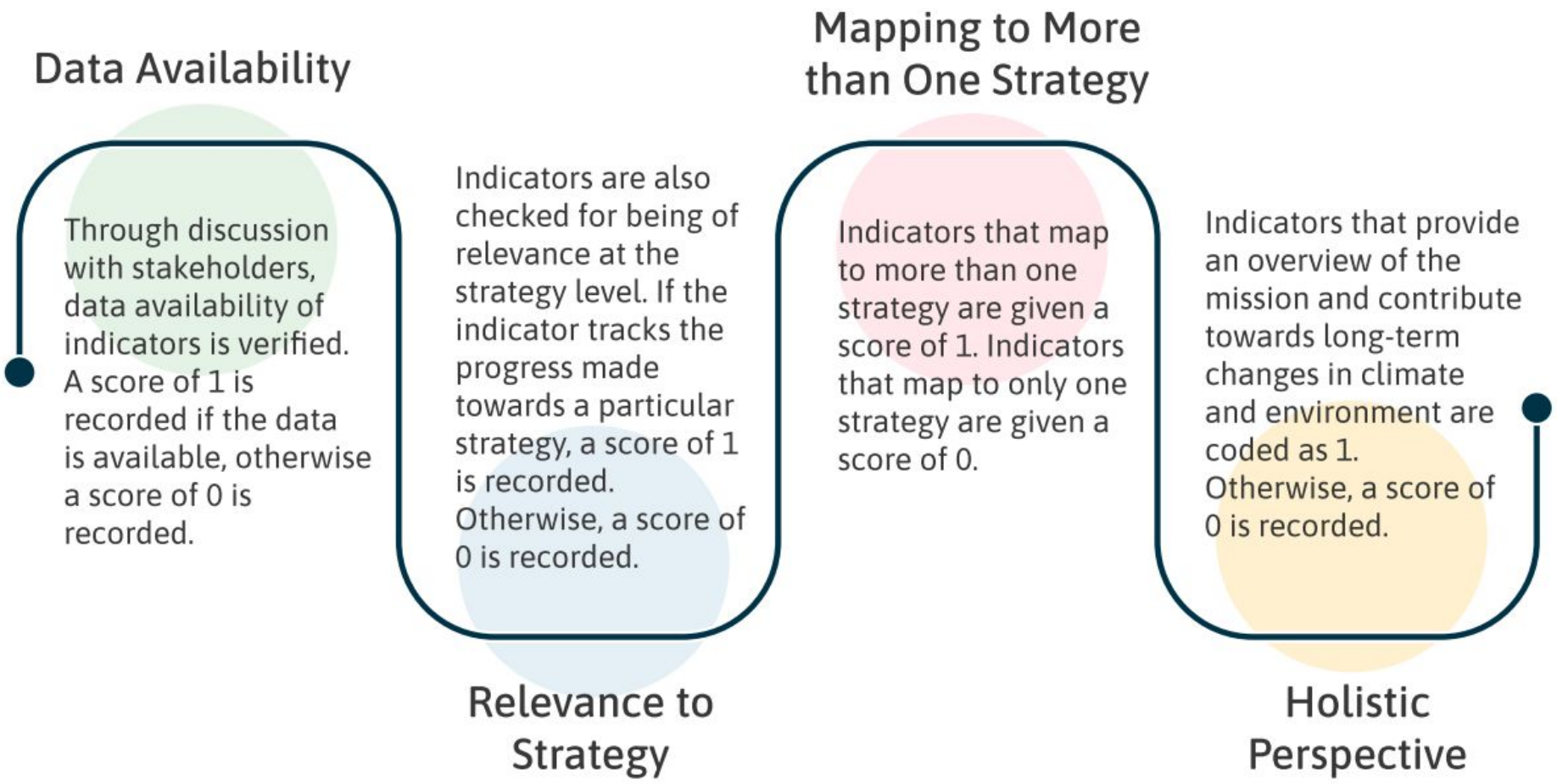
Comprehensive List of Common Indicators Vs. Shortlisted Indicators for All SAPCC Missions



Step 3: Consultation with Line Departments

No.	Mission	Participating Departments
1.	Sustainable Agriculture	Agriculture, Horticulture & Food Processing, Fisheries, Animal Husbandry, Dairy Development, Sugarcane Development, NABARD, Remote Sensing Application Center, PRI, IMD, Minor Irrigation, and Sugar Industry & Cane Development Department
2.	Jal	Ground Water Department, Minor Irrigation, Namami Gange and Gramin Jalapurti Vibhag, Irrigation & Water Resources, UP Jal Nigam (rural), UP Jal Nigam (urban), Public Works Department (PWD), State Water Resources Agency (SWaRA), and State Mission for Clean Ganga
3	Green UP	Forest Department, UP Forest Corporation, UP Biodiversity Board, Directorate of Environment, Forest & Wildlife, and DoEFCC
4	Enhanced Energy Efficiency and Green Energy	Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA), Directorate Electrical Safety, UPSRTC, Transport Department, UP Power Corporation Ltd. (UPPCL), UP Council of Science & Technology, MSME & Export Promotion, and UP Rajya Vidyut Utpaadan Nigam (UPRVUNL)
5	Sustainable Habitat	PRI, Rural Development, Urban Development, Infrastructure and Industrial Development, MSME & Export Promotion, PWD, UP Pollution Control Board (UPPCB), Housing & Urban Planning, Directorate of Local Bodies, and UP State Road Transport Corporation (UPSRTC) Transport Department
6	Human Health	Department of Medical Health & Family Welfare
7	Disaster Management	State Disaster Management Authority (UPSDMA), Relief Com-

Score Card for Shortlisting Indicators with Line Departments



Scoring Sheet for Strategy 1 of Sustainable Agriculture Mission

No.	Indicators	Mapping to More than One Strategy	Data Availability	Relevance to Strategy	Holistic Perspective	Total Score	Rank
1	No. of agro-automatic weather stations established	1	1	1	0	3	High
2	Access to information and technology	0	0	1	0	1	Low
3	No. of farmers accessing the knowledge-based decision support system	0	1	1	1	3	High
4	Disaster preparedness score as per the Disaster Resilience Index	0	1	1	1	3	High

Step 4: Reviewing and Finalizing Mission Level Indicators

- Indicators for which data was not being collected or collated and/or was not relevant to the strategy or mission were removed from the list.
  - For instance, water productivity from the Jal Mission and malnutrition and anaemia related indicators in the Health Mission were deleted.
- Line department officials suggested rephrasing some indicators for which data was being collected from existing data systems.
  - For instance, in the Jal Mission, the groundwater restoration indicator was changed to two separate indicators:
    - annual groundwater extraction and
    - annual groundwater restoration.
- Some suggestions were made to add new SMART indicators for which data was available; it was felt that such indicators could be better parameters for monitoring progress towards 2030 targets.
- The Strategic Knowledge Mission had mostly new indicators that seemed more relevant to monitor progress across the mission.
- The number of research studies conducted that are aligned to the climate action plan at the state level and the number of district knowledge centres established are examples of such indicators.

Limitations

✔ Lack of existing M&E frameworks, the long time span it takes to show any visible impacts of climate actions, the dynamic nature of schemes, and getting implementation partners on board to implement the M&E framework are some critical challenges that we identified during the framework development process.

- The developed M&E framework is based only on existing government schemes and programmes. There is some uncertainty associated with the timeline and continuity of identified schemes and programmes. Some schemes might end earlier, get subsumed, or be renamed into some other scheme. Hence, the framework needs to be adaptive and accommodate this dynamic nature of the schemes.
- Climate actions are inherently cross-sectoral and require support across sectors, departments and hierarchical levels. This adds to the ambiguity in data responsibility. There needs to be political will and participation from all the departments relevant to the 8 missions for successful implementation of the M&E system.

Recommendations

- In the long term, the goal should be to implement a centralized data system that will eventually allow all implementing partners to exchange data without any hassles.
- Each mission-relevant implementing partner should assign a nodal officer to ensure data for the finalized SAPCC indicators get updated at the suggested periodicity.
- The framework should be kept dynamic to ensure that new indicators that appear to be critical can be incorporated at a later stage.
- Due to the volatile nature of the schemes and the time taken for the effects of climate change to be visible, the data availability for these indicators might change in future. Hence, indicators should be reviewed periodically via a consultative process.

Thank you

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