Developing Monitoring & Evaluation Framework for UPSAPCC 2021-2030: Sustainable Agriculture Mission

Environment, Forest and Climate Change Department
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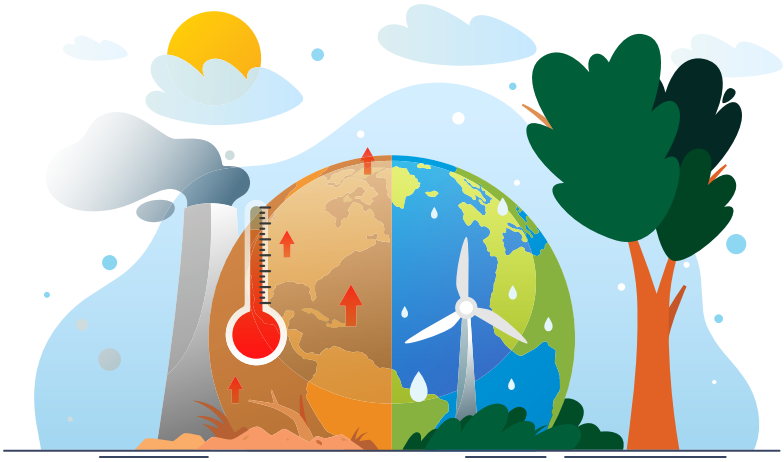
Introduction

The threat of climate change has become more and more real by every passing day. It is a challenge that humanity has to face as one and that is why international treaties like the Paris agreement 2015 and the pathway to sustainable development, as envisaged under Sustainable Development Goals (SDGs)- Agenda 2030 have been shaped.

The Indian government too had framed the the National Action Plan on Climate Change (NAPCC) of India in 2008. Over time each state has adapted these and framed their own State Action Plan on Climate Change (SAPCC) - twice, earlier in 2009 and an updated one in more recent years. In case of the state of Uttar Pradesh, this was done in 2021.

There are eight consolidated missions under the UPSAPCC 2021-2030 namely Green UP Mission, Sustainable Agriculture Mission, Jal Mission, Human Health Mission, Enhanced Energy Efficiency and Green Energy Mission, Sustainable Habitat Mission, Disaster Management Mission and Strategic Knowledge Mission.

But to successfully implement each of these missions, one needs a system to monitor and evaluate the various actions being taken under them.



About the Sustainable Agriculture Mission

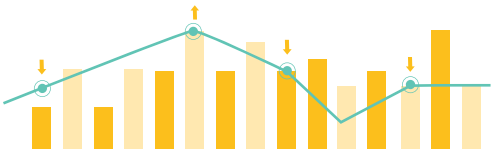
The agriculture sector is the prime driver of economic growth in UP because a majority of the population relies on agriculture for its livelihood. This mission has derived its mandate from the National Mission on Sustainable Agriculture of NAPCC. This mission consists of five strategies and 19 corresponding action points. Each strategy is aligned with some SDGs and NDCs. The mission encompasses a wide range of focus areas including:

- Universalisation of access to climate risk knowledge to every farmer
- Universalisation of crop and livestock insurance
- Mainstreaming climate adaptive agricultural practices to hedge climate risks

An oversight of the nature of actions and strategies across the eight missions of UPSAPCC 2021-30

No	Mission	Strategies	Action Points	Adaptation	Mitigation	Both
1	Sustainable Agriculture 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 Management Mission	2	10	10	-	-
8	Strategic Knowledge Mission	4	10	10		
lk	**TOTAL**	**41**	**187**	**104**	**51**	**25**

Why an M&E Framework for the revised UP SAPCC?



Meet the Goals

Monitoring and evaluation (M&E) frameworks are essential for ensuring that climate change action plans are effective in achieving their intended goals.

Keep track of Plans

It is crucial because it guarantees better evidence-based planning and tracking and aids in the identification of pertinent activities through the creation and operationalization of a framework.

Course Correction for the path ahead

Moreover, M&E is critical since gaps identified over time reveal mistakes, offer paths for learning and improvements, and provide opportunities to build on expertise and knowledge. A comprehensive M&E framework also allows policymakers and implementers to identify successes and challenges and make data-driven decisions to adjust their strategies accordingly.

Align with other state plans

With an eye on the goal, the metrics developed in the M&E framework also helps define roles and responsibilities better. The framework also leverages existing monitoring systems under other programmes in the state such as the UP SDG Vision 2030 and UP DEMP.

A foolproof system for the future

Once deployed, it will facilitate the creation of a data collection, flow, and management system through coordinated efforts by all relevant line departments

Vision for a dynamic Management Information System (MIS)

The M&E framework that has been developed should give way to a dynamic Management Information System (MIS) wherein data from various line departments will be collated, leading to effective monitoring of the targets set for various activities in the UP SAPCC 2.0. This system can continue to be adapted and used to for other future programmes.

The Method in brief

The M&E framework was created with the understanding that existing monitoring and data systems should be utilized rather than constructing a separate parallel data gathering mechanism. All relevant documents including the UP DEMP , UP SDG Vision 2030, NITI Aayog SDG index, and the MoSPI documents were studied along with various state and national schemes and programmes that overlap with a particular mission and the indicators within them were collated.

After this the indicators were shortlisted. As a first step only the intermediate and outcome-level indicators were shortlisted. Another criteria was whether they mapped to the strategies within a certain mission or not. Finally, the indicator or a set of indicators were chosen if they gave a holistic perspective of the strategy. Each criteria had a score attached to it and based on this scoring mechanism, the indicators were ranked and chosen.

To finalize the process, consultative workshops were held with various line departments and the indicators were further refined along with identifying or assigning the data sources for these indicators, the periodicity of their collection, who would be responsible for the job, etc.

What is notable is that some of the indicators are relevant to more than one strategy and based on this and other criteria such as data availablity, relevance to strategy/ies, holistic perspective, these indicators have been defined as high-priority or not.

How can one use this book?

This book compiles the different indicators that the various line departments need to gather information about in order to successfully monitor the strategies of UPSAPCC 2021-2030. The finalized list of indicators for the Sustainable Agriculture Mission are presented below in Table 1A.

Table 1A: Indicators for the Sustainable Agriculture Mission

Blue text: Vulnerability indicators (from SAPCC)

Pink Text: These indicators are not from any current scheme since they are part of an action point, which is a recommendation for something that needs to happen in future.

Brown Text: Indicators from NITI Aayog SDG Index 2020

Green text: Dashboards and Reports

S. No	Indicators(20)	Mapping to Strategy
1	No. of Agro-automatic weather stations established	1,3
2	No. of farmers accessing the knowledge based decision support system	1
3	No. of fishermen benefitted under Centrally Sponsored Scheme on "Fisheries Training and Extension"	2
4	No. of exposure visits on CRPs/CSA	2
5	Establishment of climate smart centres	2
6	No. of stakeholders trained (Govt. officials, NGO staff, BODs and CEOs of FPOs, SHG member, Bankers)	2
7	Area under Drip irrigation under PMKSY	3,4
8	Area under Sprinkler irrigation under PMKSY	3,4
9	No. of farmers using Post harvest technology practices	3
10	Area under Stress Tolerant Varieties (STVs)	3,4

Table 1A: Indicators for the Sustainable Agriculture Mission (Contd.)

S. No	Indicators(20)	Mapping to Strategy
11	Production of Horticulture crops	3
12	No. of FPOs availed loans under Atmanirbhar Kisan Integrated Development Scheme /Atma Nirbhar Krishak development	3
13	Total area under organic farming	3
14	Total number of farmers issued Soil Health Card	3
15	No. of irrigation and drainage systems modernized	4
16	Gross Area Under Irrigation by Sources	4
17	No. of water user associations (WUA)* formed	4
18	No. of farmers availed claims under PM-Fasal Bima Yojana/ RWBCIS	5
19	Crop insurance coverage	5
20	Crop (major cereals) yield variability (Coefficient of variation)	5

One of the key ways in which the challenge of climate change can be addressed by Governments and development agencies is by reducing vulnerability. Derived from the vulernabilities listed under the chapter Climate Vulnerability Assessment" of the UPSAPCC 2021-2030, **Table 1: Vulnerability Indicators for the Sustainable Agriculture Mission,** as the name suggests, highlights the vulnerability indicators most relevant for the Sustainable Agriculture Mission.

In **Table 2: Operationalized M & E Framework for the Sustainable Agriculture Mission,** you will find a detalied look at the individucal indicators, their definitions, the strategies they have been mapped to the measurement unit, their data sources, the department or agency responsible for their collection and the period during which this has to be done. Thus this is the most comprehensive table for the indicators and offers the Operationalized M & E Framework for the Sustainable Agriculture Mission.

Since all these indicators have been derived from different schemes, one can refer to the schemes under **Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies**. If one is working on certain projects under UP DEMP or has to see the alignment of the indicators with a specific programme or the UP SDG Vision 2030, one can refer to the tables in the annexure online using the QR code given below.

To understand the detailed process behind these tables one can refer to **Developing Monitoring & Evaluation Framework for UPSAPCC 2021-2030 : Process Document**.

Table 1B: Vulnerability Indicators for the Sustainable Agriculture Mission

S. No	Indicators Selected for the M&E Framework: Sustainable Agriculture Mission	Functional Relationship with Vulnerability
1	Percentage of area under rainfed agriculture	Positive
2	Access to information and technology	Negative
3	Crop (major cereals) yield variability (Coefficient of variation)	Negative
4	Crop Insurance Coverage	Negative
5	Percentage change in small and marginal landholdings	Positive
6	Percentage of total culturable area covered under the Sustainable Agriculture Mission	Negative
7	Livestock per 1,000 rural population	Negative
8	Access to agricultural inputs	Negative
9	Food security (crop yield - major cereals/ population) (kg/person)	Negative
10	Crop (major cereals) yield variability (Coefficient of variation)	Positive
11	On-farm development and water resource management assets created under MGNREGS	Negative
12	Stray cattle density (per km2)	Positive

Reference Text for Table 2: Operationalized M &E Framework for the Sustainable Agriculture Mission

The Uttar Pradesh State Action Plan on Climate Change (UP SAPCC) 2021-2030 presents climate change–related mitigation and adaptation strategies to address regional and state-specific climate risks. The table below puts together the operationalized M&E Framework for the Sustainable Agriculture MIssion. This Framework was developed after several rounds of deliberations and discussions between DoEFCC, GIZ and Sambodhi, and presents the final short-listed indicators for this mission.

Instructions for reading the mission spreadsheet	Legends
Column 2, Indicator, presents the indicators selected for this mission.	** Indicators derived from schemes, programmes, NITI Aayog SDG Index, SAPCC Vulnerability Indicators, Dashboards and reports
Column 3, Definition, provides a definition of the indicator.	**Blue text: Vulnerability indicators (from SAPCC)**
Column 4, Mapping to Strategy, presents the strategy or strategies to which each indicator is being mapped.	**Pink Text: These indicators are not from any current scheme since they are part of an action point, which is a recommendation for something that needs to happen in future.**
Column 5, Measurement Unit, is the unit (e.g., kg, hectares, INR, number, etc.,) at which indicator is being measured.	**Brown Text: Indicators from NITI Aayog SDG Index 2020**
Column 6, Data Source, is the relevant national or state level schemes, programmes, projects, and/or dashboards mapped to the indicators [Source: secondary research].	**Green text: Dashboards and Reports**
Column 7, presents the **Department/ Agency** responsible for collecting data.	
Column 8, Periodicity, is the frequency at which data is available from the said source. Eg., Annual, bi-annual, quarterly, monthly, etc.	
Column 9, Notes, contains additional relevant information,	

Strategy 1	Generate and disseminate precise weather forecasts to all farmers based on high-resolution network of weather
Strategy 2	Build capacity of farmers to embrace climate-smart techniques and tools to combat impacts of climate change
Strategy 3	Mainstream climate-smart adaptation in agriculture production, consumption and livelihoods; develop and implement contingency plans at the village level in UP
Strategy 4	Improve water-use efficiency in agriculture
Strategy 5	Enable enhanced access to risk-sharing me sures for farmers in a changing climate regime

Table 2: Operationalized M & E Framework for the Sustainable Agriculture Mission

No.	Indicator (20)	Definition	Mapping to Strategy
1	No. of automatic agro-weather stations established	Total number of automatic weather stations established in the state	1, 3
2	No. of farmers accessing the knowledge-based decision support system	Total number of farmers accessing the knowledge-based decision support system at the state level	1
3	No. of fisher-folk benefitting from "Fisheries Training and Extension"	Total number of fisher-folk benefitted from "Fisheries training and extensions scheme"	2
4	No. of exposure visits on CRPs/CSA	Total number of exposure visits conducted or organized on climate-resilient practices or climate-smart agriculture Climate-resilient practices: Climate resilience is a fundamental concept of climate risk management. In the context of agriculture, resilience refers to the ability of an agricultural system to anticipate and prepare for, as well as adapt to, absorb and recover from the impacts of changes in climate and extreme weather. Climate-smart agriculture (CSA) is an integrated approach to managing landscapes—cropland, livestock, forests and fisheries—that address the interlinked challenges of food security and climate change.	2
5	Establishment of climate-smart centres	Number of climate-smart centres established	2
6	No. of stakeholders trained	Total number of stakeholders trained at the state level covering all the acting agencies. (Stakeholders will include government officials, NGO staff, BODs and CEOs of FPOs, SHG members, Bankers, etc.)	2

Measurement Unit	Data Source	Department/Agency Responsible for Data Collection	Periodicity	Notes
Number	Gramin Krishi Mausam Sewa	Department of Agriculture	Annual	
Number	Gramin Krishi Mausam Sewa	Department of Agriculture	Bi-weekly	
Number	Pradhan Mantri Matsya Sampada Yojana (PMMSY)	Department of Fisheries	Monthly	
Number	Department of Agriculture, Department of Horticulture, Department of Fisheries	Department of Agriculture, Department of Horticulture, Department of Fisheries	Monthly	
Number	Bankers Institute of Rural Development (BIRD)/State Institute of Rural Development (SIRD),Krishi Vigyan Kendra (KVK/State agricultural universities (SAUs), Department of Agriculture, Department of Horticulture	Department of Agriculture, Department of Horticulture	Annual	
Number	BIRD/SIRD, KVK/SAUs, Department of Agriculture, Department of Horticulture	Department of Agriculture, Department of Horticulture	Annual	

Table 2: Operationalized M & E Framework for the Sustainable Agriculture Mission

No.	Indicator (20)	Definition	Mapping to Strategy
7	Area under drip irrigation	Drip irrigation is the most efficient water and nutrient delivery system for growing crops. It delivers water and nutrients directly to the plant's root zone, in the right amounts, at the right time, so each plant gets exactly what it needs, and when it needs it, to grow optimally.	3, 4
8	Area under sprinkler irrigation	Sprinkler/spray irrigation is the method of delivering water to crops in a controlled manner in that is similar to rainfall. The water is distributed through a network that may consist of pumps, valves, pipes, and sprinklers. The water is sprinkled through small tubes and rotating nozzles attached to a major pipeline with water. Total area brought under sprinkler irrigation in the state	3, 4
9	No. of farmers using post-harvest technology practices	Total number of farmers using post-harvest technology in their farm-grown crops. Post-harvest technology is an inter-disciplinary "science and technique" applied to agricultural produce after it is harvested,for effective protection, conservation, processing, packaging, distribution, marketing, and utilization to meet the food and nutritional requirements of the people.	3
10	Area under stress-tolerant varieties (STVs)	Total area in the state cultivated using stress-tolerant varieties. Stress-tolerant varieties are those that are able to withstand and maintain their biomass production during such high-stress conditions such as salt ingress, drought, heat, cold, presence of heavy metals, ozone, UV radiation, and nutrient-deficit enviroment.	3, 4
11	Production of Horticulture crops	Total amount (quantity) of horticulture crops produced Horticultural crops include fruits, vegetables, medicinal, aromatic, and ornamental plants. These are mostly perennial crops and are important dietary nutritional components and sources of medicines and aroma, along with significant aesthetic value to humans.	3
12	No. of FPOs that availed loans	No. of FPOs availed loans under Atmanirbhar Kisan Integrated Development Scheme/Atma Nirbhar Krishak development FPOs, or organizations created by the farmers, for the farmers and of the farmers registered under the Companies Act 2013, aim to provide end-to-end services and support to small farmers. They cover marketing, technical assistance, processing, marketing, and other aspects of cultivation inputs.	3
13	Total area under organic farming	Total area under organic cultivation Organic farming is a method of agricultural production that excludes the use of synthetic substances, such as pesticides, synthetic medicines or fertilizers, and genetically modified organisms.	3
14	Total number of farmers issued with Soil Health Cards	Total number of farmers who have been issued Soil Health Cards Soil Health Card: A report that contains the status of soil with respect to 12 parameters, namely N,P,K (Macro-nutrients); S (Secondary nutrient); Zn, Fe, Cu, Mn, Bo (Micronutrients); and pH, EC, OC (Physical parameters).	3

Measurement Unit	Data Source	Department/Agency Responsible for Data Collection	Periodicity	Notes
Hectare	Department of Agriculture, Department of Horticulture [PMKSY]	Department of Agriculture, Department of Horticulture	Monthly	
Hectare	Department of Agriculture, Department of Horticulture [PMKSY]	Department of Agriculture, Department of Horticulture	Monthly	
Number	Department of Agriculture [RAFTAAR Scheme]	Department of Agriculture	Annual	
Hectare	Department of Agriculture and Framers Welfare [Revamped National Food Security Mission (NFSM)]	National Food Security Mission (NFSM),Seed and farm unit	Seasonal (Kharif, Rabi and Summer)	
Metric tonnes	Department of Horticulture and Food Processing	Department of Horticulture and Food Processing	Seasonal (Kharif, Rabi and Summer)	
Number	Department of Agriculture	Department of Agriculture	Annual	
Hectare	Department of Agriculture, Department of Horticulture	Department of Agriculture, Department of Horticulture	Seasonal (Kharif, Rabi and Summer)	
Number	Department of Agriculture, Department of Horticulture	Department of Agriculture, Department of Horticulture	Annual	Definition Source - https://www.india.gov.in/spotlight/soil-health-card#tab=tab-1

Table 2: Operationalized M & E Framework for the Sustainable Agriculture Mission

No.	Indicator (20)	Definition	Mapping to Strategy
15	No. of irrigation and drainage systems modernized	Total no. of irrigation and drainage systems rejuvenated/upgraded Drainage systems are categorized as 1) Surface drains which are open drains and 2) Subsurface drains that are deep open drains and pipe drains	4
16	Gross area under irrigation by sources	Gross area under irrigation by sources like groundwater, rainfall, ponds, wells, canals, lakes, rivers, dams and tube wells Gross Area: Total area sown at least once or multiple times in a given year, i.e., the area is counted as many times as there are sowings in a year.	4
17	No. of Water User Associations (WUAs) formed	A WUA is a cooperative association of individual water users who wish to undertake water-related activities for their mutual benefit.	4
18	No. of farmers who availed insurance claims	Total number of farmers availed claims under insurance schemes	5
19	Crop insurance coverage	Percentage of gross cropped area that is covered under the crop insurance schemes	5
20	Crop (major cereals) yield variability (Coefficient of variation)	Coefficient of yield variation (CV) = N/D N = Standard deviation of major cereals D = Mean yield of major cereals	5

Measurement Unit	Data Source	Department/Agency Responsible for Data Collection	Periodicity	Notes
Number	Irrigation Department	Irrigation Department	Annual	Definition Source - https://www.fao.org/3/r4082e/r4082e07.htm
Hectare	Minor Irrigation Department	Minor Irrigation Department	Annual	"Definition Source - http://eands.dacnet.nic.in/PDF_LUS/Concepts_%26_Definitions.pdf https://www.fao.org/3/U5835E/u5835e03.htm"
Number	Irrigation Department	Irrigation Department	Annual	Definition Source - https://iiswc.icar.gov.in/sites/default/files/wua.pdf
Number	Department of Agriculture, Pradhan Mantri Fasal Bima Yojana (PMFBY)/ Restructured Weather Based Crop Insurance Scheme (RWBCIS)	Department of Agriculture	Seasonal (Kharif, Rabi and Summer)	
Percentage	Department of Agriculture, PMFBY	Department of Agriculture	Seasonal (Kharif, Rabi and Summer)	
Ratio	Department of Agriculture	Department of Agriculture	Seasonal (Kharif, Rabi and Summer)	"Definition Source - https://core.ac.uk/reader/7060270"

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
1.	Rashtriya Krishi Vikas Yojna (RKVY), now known as Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RAFTAAR)	The scheme is responsible for planning and executing programmes for incentivizing investment in agriculture by providing the states considerable flexibility and autonomy. The scheme aims to make farming the main source of economic activity by risk mitigation, strengthening the efforts of the farmers along with promoting agri-business entrepreneurship through the creation of agri-infrastructure. It also focuses on empowering the youth through various skill development, innovation, and agri-business models.
2.	Gramin Krishi Mausam Sewa (GKMS	The scheme has been implemented by the India Meteorological Department in collaboration with state agricultural universities / the Indian Council of Agricultural Research. The scheme issues crop- and location-specific weather-based agro advisories for the benefit of the farming community every Tuesday and Friday and on occurrences of extreme weather.
3.	Pradhan Mantri Krishi Sinchai Yojana (PMKSY)	The scheme has three components, viz., PMKSY (per drop more crop), watershed management (as part of land resources) and AIBFMP (as part of the Ministry of Water Resources, River Development and Ganga Rejuvenation). It is implemented by the Ministry of Agriculture and Cooperation. It aims to enhance the physical access of water on the farm and expand cultivable areas under assured irrigation (Har Khet Ko Pani). It also looks to improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent. Further, the scheme ensures the integrated development of rain-fed areas using the watershed approach towards soil and water conservation. The scheme also ensures the regeneration of groundwater, arresting runoff, providing livelihood options, and other NRM activities.

Geography	Timeline	Notes
National	2007(RKVY) -ongoing (RAFTAAR)	https://uphorticulture.gov.in/en/ page/rashtri- ya-krishi-vikas-yojna https://byjus.com/free-ias-prep/rkvy-raftaar/ https://www.manage.gov.in/ RKVY/Pro- grammes.aspx https://rkvy.nic.in/ https://agricoop.nic.in/sites/default/- files/ RKVY_Guildlines_%28XII_Plan%29-2014.pdf https://rkvy.nic
National	2015-ongoing	https://prepp.in/news/e-492-gramin-kri- shi-mausam-sewa-govt-schemes https://journalsofindia.com/gramin-kri-shi-mausam-sewa-gkms-scheme/ https://icar.org.in/content/2nd-vir-tual-re- view-workshop-gram-in-krishi-mausam-sewa-gkms-organized
National	2015 – 2025, 2026	Link -https://pmksy.gov.in/mis/ frmDashboard.aspx https://www.india.gov.in/spotlight/prad-han-mantri-krishi-sinchayee-yojana https://www.india.gov.in/spotlight/prad-han-mantri-krishi-sinchayee-yojana

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
4.	Pradhan Mantri Fasal Bima Yojana (PMFBY)	The objective of the scheme is to safeguard farmers financially against natural risks such as natural disasters, insect, pests, diseases and adverse weather conditions. All farmers––including sharecroppers and tenant farmers––growing notified crops in the notified areas are eligible for coverage. It aims to provide cover to farmers incurring loss in crop yield, which may occur during the sowing, harvesting, or post harvesting period. This scheme also covers localised losses for certain perils with farm-level assessment. The scheme is implemented in Uttar Pradesh in association with the Uttar Pradesh State Government. A minimum subsidised premium (2 % for Kharif crops and 1.5% for Rabi crops) is charged from farmers and the remaining share is equally borne by state and central governments. The scheme is implemented on an area-approach basis. For Uttar Pradesh, the insurance unit is considered as Gram Panchayat for both major crops and minor crops.
5.	Revamped National Food Security Mission (NFSM)	NFSM aims at increasing production of rice, wheat, pulses, coarse cereals (Maize and Barley) and Nutri-Cereals through area expansion and productivi- ty enhancement in a sustainable manner in the identified districts of the country and restore soil fertility and productivity at the individual farm level.
6.	Sub Mission on National Food Security Mission (NFSM)- Nutri Cereals	Under this scheme, the government is creating awareness among farmers about nutri-cereals (millets such as ragi, sorghum, bajra, and small millets through demonstration and training
7.	Atmanirbhar Kisan Integrated Development Scheme	The programme will provide a long-term debt financing facility for viable projects in post-harvest infrastructure and community development. Banks and financial institutions would lend Rs 1 lakh crore to primary agricultural credit societies, marketing cooperative societies, self-help groups, farmers, and joint-liability companies. An interest subsidy of 3% per annum would be offered on all loans up to a ceiling of Rs 2 crore. The Agriculture Infrastructure Fund (AIF) will be used to fund the project. The schemes aims to empower the farmers of Uttar Pradesh by forming 2,725 FPOs which will directly benefit 27.25 lakh shareholder farmers.

Geography	Timeline	Notes
National	2016-ongoing	
National	2007-ongoing	Link - https://birdlucknow.nabard.org/wp-con- tent/uploads/2021/02/Guide-Book-FPO-schemes.pdf https://www.nfsm.gov.in/Progressreportsum- mary.aspx
National	2018-ongoing	Link - https://static.pib.gov.in/WriteReadData/specificdocs/docu- ments/2022/feb/doc202222418701.pdf https://pib.gov.in/PressReleasePage.aspx?PRID=1741993#:~:text=The%20Government%2C%20under%20the%20 Sub,millets%20through%20demonstration%20an d%20training.
National	2021-ongoing	Link – https://currentaffairs.adda247.com/atma-nir- bhar-krishak/

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
8.	Post-Harvest Technology and Management	The aim of the scheme is to create adequate infrastructure in the production catchment/ rural areas for primary processing and value addition that can reduce post-harvest losses on the farm and add scheme focuses on the lower end of the spectrum of not covered under the programmes of the Ministry of (NHM). Under the scheme, the technologies developed country and abroad for primary processing, value by-product management have been given The SHGs/UGs of farmers/ Cooperative Society who ready to enter the tripartite agreement will be selected with other Centers. The objective is to improve the technology for its proper and effective utilization, to production of technologies and to train scientists for of ICAR and other Centers.
9.	Mera Gaon Mera Gaurav	Aims at providing farmers and rural dwellers with required information, knowledge and advisories in sugarcane and other enterprises on regular basis by adopting villages.
10.	Restructured weather-based crop insurance scheme (RWBCIS)	The RWBCIS was launched on 18th February 2016 by Hon'ble Prime Minister. WBCIS uses weather parameters as "proxy for crop yields in compensating the cultivators for deemed crop losses. Pay-out structures are developed to the extent of losses deemed to have been suffered using the weather triggers. Schemes mitigate the hardship of the insured farmers against the likelihood of financial loss on account of anticipated crop loss due to adverse weather conditions related to rainfall, temperature, wind, humidity etc. and to develop payout structures to tehe extent of losses deemed to have suffered using the weather triggers.

Geography	Timeline	Notes
National	2007- Started- ongoing	Link – https://agricoop.nic.in/sites/de- fault/- files/PHTM2014.pdf
National	2015 - ongoing	Link – https://iisr.icar.gov.in/iisr/pages/subpag- es/ex- tension-training-achieve.jsp https://icar.gov.in/node/4127 https://www.drishtiias.com/dai- ly-updates/dai- ly-news-analy- sis/mera-gaon-mera-gaurav- programme-ica r https://cafri.res.in/mera-gaon-mera-gaurav/
National	2016- ongoing	Link – https://www.newindia.co.in/por- tal/RWBCIS/rw- bcis.html https://agricoop.nic.in/sites/de- fault/files/FI- NAL-1.pdf https://agricoop.nic.in/sites/default/files/ RWB- CIS%20Revised%20Guidelines_3.pdf

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
11.	Pradhan Mantri Matsya Sampada Yojana (PMMSY)	This scheme is implemented by The Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India. implements This scheme endeavours to bring about Blue Revolution through sustainable and responsible development of the fisheries sector in India—together with the welfare of fishers--at an estimated investment of Rs. 20,050 crores. The scheme is designed to address critical gaps in the fisheries value chain from fish production, productivity, and quality to technology, post-harvest infrastructure, and marketing.It aims to modernize and strengthen the value chain, enhance traceability, and establish a robust fisheries management framework while simultaneously ensuring the socio-economic welfare of fishers and fish farmers.
12.	Uttar Pradesh Water Sector Restructuring Project Phase 2	This scheme aims to strengthen the institutional and policy framework for integrated water resources management for the entire state; it also aims to increase agricultural productivity and water productivity by supporting farmers in targeted irrigation areas.
13.	Paramparagat Krishi Vikas Yojna (PKVY)	This scheme supports and promotes organic farming and thereby aims to improve soil health. This will encourage farmers to adopt an ecofriendly concept of cultivation and reduce their dependence on fertilisers and agricultural chemicals to improve yields. Preservation of soil health by employing natural resources such as farm manure, poultry manure, urban compost, and biogas slurry are the main thrust areas under the scheme.
14.	Mission for Integrated Development of Horticulture (MIDH)	This scheme aims to improve horticultural production, increase farmer income, and improve food security; It aims to improve productivity by using high-quality germplasm, planting materials, and micro irrigation to save water. Under this scheme, financial assistance is provided for the setting up of nurseries and tissue culture units that are oriented towards the production of quality seed and planting material
15.	Transparent Farmer Service Scheme (Pardarshi Kisan Seva Yojana)	This scheme disseminates new technology of agriculture to solve agriculture-related problems so as to provide food security while maintaining the growth rate of 5.1 percent per year.

Geography	Timeline	Notes
National	5 years FY 2020-21–– FY 2024-25.	Link – https://pmmsy.dof.gov.in/#schemeIntro
State	2013-2023	Link – https://projects.worldbank.org/en/projects-op- erations/project-detail/P122770 https://idup.gov.in/post/en/phase-on-going https://ewsdata.rightsindevelopment.org/proj- ects/p122770-in-uttar-pradesh-water-sector-r estructuring-projec/
National	2015-ongoing	Link – https://agricoop.nic.in/sites/de-fault/- files/FFH201819_Eng.pdf http://nirdpr.org.in/nird_docs/sagy/up.pdf https://www.manage.gov.in/pub-lications/re- ports/pkvy.pdf https://pgsindia-ncof.gov.in/PKVY/index.aspx
National	2014-ongoing	Link – https://midh.gov.in/ https://www.drishtiias.com/dai-ly-updates/dai- ly-news-analy-sis/mission-for-integrated-de-velopment-of-ho rticulture http://nirdpr.org.in/nird_docs/sagy/up.pdf
National	2021-ongoing	Link – https://upagripardarshi.gov.in/stat-icpag- es/Achievements4.aspx

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
16.	Integrated Cereal Development Program in Coarse Cereals (ICDP-CC) -based Cropping Systems Areas under Macro Management of Agriculture (MMA)	Based on the major cropping systems followed in the country, schemes for three major cereal-based cropping systems (the rice-based cropping system, the wheat-based cropping system, and the coarse-Cereals–based cropping system) were formulated. These schemes are: (i) Integrated Cereals Development Program in Rice-based Cropping Systems Areas (ICDP-Rice) (ii) Integrated Cereals Development Program in Wheat-based Cropping Systems Areas (ICDP-Wheat) (iii) Integrated Cereals Development Program in Coarse-Cereals–based Cropping Systems Areas (ICDP-Coarse Cereals). However, assistance to all cereal cropping systems will be extended under all the schemes. For monitoring purposes, major groups of crops have been identified.
17.	Rashtriya Gokul Mission	This scheme aims to uplift the rural poor as more than 80% low-producing indigenous animals are with small and marginal farmers and landless labourers. The scheme is important in enhancing milk production and productivity of bovines to meet the growing demand of milk and making dairying more remunerative to the rural farmers of the country. The scheme is leading to the multiplication of elite animals of indigenous breeds and to an increase in the availability of indigenous stock. The scheme will result in enhanced productivity and benefit of the programme, reaching all cattle and buffaloes of India, especially with small and marginal farmers. This programme will also benefit women since over 70 percent of the work involved in livestock farming is undertaken by women.
18.	Livestock Insurance Scheme	The objectives of this scheme are to provide a protection mechanism to the farmers and cattle readers against any eventual loss of their animals due to death and to demonstrate the benefit of the insurance of livestock to the people and popularize it with the goal of attaining qualitative improvement in livestock and their products
19.	Pradhan Mantri Matsya Sampada Yojana	This scheme aims to modernize and strengthen the value chain, enhance traceability and establish a robust fisheries management framework while simultaneously ensuring the socio-economic welfare of fishers and fish farmers.

Geography	Timeline	Notes
National	Started in 1994	Link – https://static.pib.gov.in/WriteReadD- ata/specificdocs/docu- ments/2022/ feb/doc202222418701.pdf
National	2021-2026	Link – https://dahd.nic.in/sites/default/filess/ Opera- tional%20guidelines_RGM.pdf https://dahd.nic.in/scheme/ rashtri- ya_gokul_mission
State	2008-ongoing	Link – https://dahd.nic.in/schemes-programmes https://dahd.nic.in/related-links/livestock-in- surance
National	FY 2020-21 to FY 2024-25	Link – https://pmmsy.dof.gov.in/#schemeIntro

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
20.	UP Sodic Lands Reclamation III Project	This scheme aims to increase agricultural productivity in selected areas of degraded lands in UP through reversal of water-induced land degradation, enhancement of soil fertility and crop-wise recommendations of nutrients and fertilizers required for the individual farms to help farmers improve productivity through judicious use of inputs. Under the programme, all soil samples are being tested in various soil testing labs across the country. Thereafter the experts analyse the strengthes and weaknesses (micro-nutrients deficiency) of the soil and suggest measures to deal with it. The result and suggestion are displayed in the cards. Farmers can avail of this service.
21.	Soil health card (SHC) scheme	Soil cards are issued to farmers which will carry crop-wise recommendations of nutrients and fertilizers required for the individual farms to help farmers improve productivity through judicious use of inputs. Under the programme, all soil samples are being tested in various soil testing labs across the country. Thereafter the experts analyse the strengthes and weaknesses (micro-nutrients deficiency) of the soil and suggest measures to deal with it. The result and suggestion are displayed in the cards. Farmers can avail of this service.
22.	Rainfed Area Development Component of National Mission for Sustainable Agriculture (NMSA)	This schems aims to enhance agricultural productivity especially in rain-fed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation. It adopts an area-based approach for development and conservation of natural resources along with farming systems. This component has been formulated in a watershed plus framework, i.e., to explore potential utilization of natural resources base/assets available/created through watershed development and soil conservation activities /interventions under MGNREGS, NWDPRA, RVP&FPR, RKVY, IWMP etc.
23.	Livestock Health and Disease Control Scheme	The main aims of the scheme are: a) To implement the critical animal disease control programme to eradicate PPR by 2030 by vaccinating all sheep and goats and to control Classical Swine Fever (CSF) by vaccinating the entire pig population. b) To provide doorstep veterinary services to farmers via Mobile Veterinary Units (MVUs). c) To assist states/union territories in the control of animal disease (ASCAD) by the prevention and control of important livestock and poultry diseases.

Geography	Timeline	Notes
State	2018- ongoing	Link – http://www.upbsn.org/sodic%20land4.htm https://www.soilhealth.dac.gov.in/publicre- ports/dashboardtargetreport https://agricoop.nic.in/sites/default/- files/FFH201819_Eng.pdf http://nirdpr.org.in/nird_docs/sagy/up.pdf
National	2015- ongoing	https://www.soilhealth.dac.gov.in/publicre- ports/dashboardtargetreport https://agricoop.nic.in/sites/default/- files/FFH201819_Eng.pdf http://nirdpr.org.in/nird_docs/sagy/up.pdf
National	2014-2015	Link - https://nmsa.dac.gov.in/RptActivityAchieve- ment.aspx https://agricoop.nic.in/sites/default/- files/FFH201819_Eng.pdf
National	2013-2030	Link – https://pib.gov.in/PressReleasePage.aspx-?PRID=1786265 https://dahd.nic.in/sites/default/filess/L- H%20%20DC%20Operational%20Guidelines%20scheme%202021.pdf

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
24.	National Livestock Mission	The revised version of this scheme aims to achieve employment generation, entrepreneurship development, and an increase in per animal productivity, thus targets an increas in the production of meat, goat milk, egg and wool under the umbrella scheme Development Programme. The excess production will help in export earnings after meeting domestic demands. The concept of the scheme is to develop the entrepreneur in order to create the forward and backward linkage for the produce available at the unorganized sector and to link with the organized sector.
25.	Central Sector Scheme on Strengthening of Database and Information Networking for the Fisheries Sector	This scheme aims to improve the database of inland and marine fisheries resources and the catch of fish by the adoption of standardized methodology of data collection. It also endeavours to improve IT systems in the states/union territories as well as in national-level fishery institutes so that data collection and their analysis can be done efficiently and effectively. The schemes also aims to conduct a census of inland and marine fisheries.
26.	Centrally Sponsored Scheme on Fisheries Training and Extension	This scheme was in operation during the 9th Plan and has been continued during the 10th Plan with some modifications. It aims to provide training and extension support to the fishery sector.
27.	Centrally Sponsored National Scheme of Welfare of Fishermen	The scheme is operated as a centrally sponsored scheme through the FISHCOPFED (Insurance component only) of states/union territories. The scheme has the following three broad components: 1) Development of model fishermen villages, 2) Group accident insurance for active fishermen and 3) Saving-cum-Relief.
28.	Centrally Sponsored Scheme on Development of Inland Fisheries and Aquaculture	The Government of India formulated and launched the scheme for the macro-management approach in states/union territories during the 10th Plan. The total outlay approved for the entire 10th Plan period is Rs 135.00 crore. The components approved under the scheme are: 1. Development of freshwater aquaculture 2.Development of brackish water aquaculture 3.Coldwater fisheries and aquaculture 4. Development of waterlogged areas 5. Productive utilization of inland saline/alkaline soils for aquaculture 6. Integrated development of inland capture resources (reservoirs/rivers etc.) For all the components, the expenditure on developmental activities will be shared on a 75:25 basis by the Government of India and the state/union territory governments.

Geography	Timeline	Notes
National	2021-ongoing (Revised version); the earlier version started in 2014	Link – https://dahd.nic.in/nation-al_livestock_mission https://dahd.nic.in/sites/default/filess/Ut-tar%20Pradesh%20Sanction%20General.pdf
National	2003-04	Link – https://agritech.tnau.ac.in/ fish- ery/fish_schemes_goi_4.html https://dahd.nic.in/related-links/cen-tral-sec- tor-scheme-strengthening-data-base-and-info rmation-networking-fisheries
National	2002	Link – https://agritech.tnau.ac.in/fish- ery/ fish_schemes_goi_3.html
National	2002	Link – https://dahd.nic.in/related-links/ central- ly-sponsored-nation-al-scheme-welfare-fishermen
National	2002	Link – https://agritech.tnau.ac.in/fish-ery/fish_schemes_goi.html

Table 3: Various State Schemes and their alignment with the Sustainable Agriculture Mission and its strategies

No.	Scheme Name	Description
29.	Neel Kranti Mission (Blue Revolution)	The Government of India in December 2014 had launched this scheme with a central outlay of Rs. 3,000 crores. The Ministry of Agriculture and Farmers Welfare, Department of Animal Husbandry, Dairying & Fisheries has restructured the scheme by merging all the ongoing schemes under an umbrella of Blue Revolution. The restructured scheme provides focused development and management of fisheries, covering inland fisheries, aquaculture, marine fisheries including deep sea fishing, mariculture and all activities undertaken by the National Fisheries Development Board (NFDB).
30.	Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP)	The scheme aims to demonstrate the improved production and post-harvest technologies in an integrated manner with visible impact to catalyze increased production of millets in the country. Further, the scheme is expected to generate consumer demand for millet-based food products through various processing and value addition techniques
31.	Watershed Development Component of Pradhan Mantri Krishi Sinchayee Yojana (WDC-PMKSY)	The PMKSY was implemented as per the IWMP guidelines the WDC-PMKSY. The activities undertaken include ridge area treatment, drainage line treatment, soil and moisture conservation, rainwater harvesting, nursery raising, afforestation, horticulture, pasture development, livelihoods for asset-less persons, etc. The activities to be taken up are distributed over three phases: The preparatory phase (1 to 2 years) involves the preparation of DPR, entry point activities and institution & capacity building. The watershed works phase (2 to 3 years) involves the watershed development works, livelihood activities for the asset-less persons, and production system and micro enterprises. The consolidation and withdrawal phase (1 to 2 years) involves the consolidation and completion of various works.

Geography	Timeline	Notes
National	2015-16 to 2019-20	Link – https://nfdb.gov.in/welcome/blue_revolution https://vikaspedia.in/agriculture/poli- cies-and-schemes/fisheries-related/blue-revolution
National	Started in 2011	Link – https://agricoop.nic.in/sites/default/files/IN- SIMP.pdf
National	Started 2015-ongoing	Link – https://dolr.gov.in/en/programme-schemes/p- mksy/watershed-development-component-pradhan-mantri-krishi-si nchai-yojana-wdc-pmksy/

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