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National Mission for Sustainable Agriculture (NMSA)

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It is one of the major missions of the National Action Plan on Climate Change (NAPCC). Change in agricultural practices also plays a crucial role in the mitigation of climate change effects. This mission tries to comprehensively revamp the agricultural practices so that the desired objectives of the Nationally Determined Contributions (NDC's) can be achieved.

Strategies Associated with NMSA

1. Steps would be taken to promote a combined system of farming which would encompass the following
- Covering all the varieties of crops
- Livestock farming and Fisheries
- To give an extra impetus to the scope of livelihood, there will be a focus on plantations and pasture-based composite farming.
- Mitigate the risks associated with the failure of crops through supplementary or residual production systems.

2. Give thrust to the adoption of technologies that will help in protecting resources during extended spells of dry seasons or droughts or during heavy floods caused by excess rains.
3. Promote new water management techniques that will help in the effective and optimum utilisation of water resources.
4. Promoting better agronomic techniques for
- Higher productivity in farms
- Better soil conservation
- Better soils water holding capacity
- Optimum utilisation of energy and chemicals
- Higher soil carbon storage

5. Database on soil through
- Survey of Land use pattern
- By researching the profile of soil
- Using GIS technology for Soil analysis
- To help adopt location and soil specific crop management practices and optimise fertilizer use.

6. Promotion of nutrient practices based on location and crop type for
- Enhancing the health of the soil
- Increasing productivity of crops
- Enhance the quality and protect the land resources and water resources

7. Collaborating with institutions and the domain experts of the respective field to develop climate change mitigation techniques for specific agro-climatic conditions.

8. Co-ordination, converging and utilising investments from other schemes/missions like MGNREGS, Mission for integrated development of horticulture (MIDH), RKVY, National Food Security Mission, IWMP. National Mission for Agriculture Extension and Technology (NMAE&T) etc.

Four Major Programmes of NMSA

1. Rainfed Area Development (RAD)

- Develops an area-based approach for the development and conservation of natural resources along with farming systems. It is a combination of various aspects of agriculture such as crops, fishery, livestock, horticulture, forestry and other agro-based activities which will act as a source of generating revenue.
- Implement practices that will regulate soil nutrient based on soil health card, development of farming lands.
- Using an approach that is cluster-based, with an area of 100 hectares or more
- Develop new property resources which would be common, like a bank for grains, fodder, shredders for biomass, combined marketing initiative.

2. On-Farm Water Management (OFWM)

- The primary focus is optimum utilisation of water by promoting advanced on-farm water conservation equipment and technologies.
- Emphasis on efficient harvesting and management of rainwater.
- Water conservation on the farm itself by digging farm ponds utilising funds from MGNREGA mission.

3. Soil Health Management

- Promote sustainable practices which preserve the health of soil based on a specific location and the type of crops that could be grown in those locations by taking the help of various techniques like management of residue, organic farming by making new maps with details on soil fertility and linking them with macro-management and micromanagement of nutrients, optimum land use, right utilisation of fertilisers and reducing degradation & erosion of soil.
- Use of thematic maps generated with the help of Geographical Information System (GIS) technology and the databases created on soil and land with the help of scientific surveys.
- State Government, Soil and land Use Survey of India (SLUSI), National Centre of Organic Farming (NCOF), Central Fertilizer Quality Control and Training Institute (CFQC&TI).

4. Climate Change and Sustainable Agriculture: Monitoring, Modeling and Networking (CCSAMMN)

- Create and disseminate knowledge and updated information on climate change.
- Support pilot blocks for spreading rainfed technologies and co-ordinate with other schemes or missions like MGNREGS, NFSM, RKVY, IWMP, Accelerated Irrigation Benefit Program (AIBP), NMAET.

Regulations for successful implementation of the mission

1. Ministry of Environment and Forests have made a set of guidelines to ease out the regulatory regime for the following

- Harvesting
- Transit of agroforestry species

2. Development of comprehensive agriculture policy, National Agroforestry Policy 2014, which is expected to facilitate the agroforestry practices amongst the states.

3. Regulatory framework of CAMPA will oversee the allocation, disbursement and utilization of funds under the programme.