1. Cabinet Approves 'Mission Mausam' to Enhance Climate Preparedness

The Union Cabinet, chaired by Prime Minister Shri Narendra Modi, has approved 'Mission Mausam', a transformative initiative with an outlay of Rs. 2,000 crore over two years. The mission aims to create a more weather-ready and climate-smart India.

Objectives of Mission Mausam

Mission Mausam will be primarily implemented by the Ministry of Earth Sciences. Its key objectives include:

• **Tackling Extreme Weather Events:** It aims to improve preparedness for extreme weather events and climate change impacts.

• **Research and Development:** It will boost R&D in atmospheric sciences, weather surveillance, forecasting, and management.

• **Technological Advancements:** The mission will incorporate cutting-edge technologies such as artificial intelligence (AI), machine learning (ML), advanced sensors, and high-performance supercomputers.

Focus Areas

Mission Mausam will focus on:

• **Improved Weather Forecasting:** Accurate and timely information across various scales, including monsoon forecasts, cyclones, air quality alerts, and weather interventions like fog and hail management.

• **Next-Generation Infrastructure:** Deployment of next-generation radars, satellite systems, and a GIS-based automated Decision Support System for real-time data dissemination.

• **Capacity Building and Awareness:** Strengthening the capacity of stakeholders and raising awareness about weather and climate-related issues.

Benefits to Multiple Sectors

The mission will have wide-reaching impacts, benefiting sectors such as:

• Agriculture
• Disaster Management
• Defence
• Aviation
• Power and Water Resources

• Tourism and Transport
• Urban Planning

Implementation and Collaborations

Three key institutes from the Ministry of Earth Sciences—India Meteorological Department (IMD), Indian Institute of Tropical Meteorology, and National Centre for Medium-Range Weather Forecasting—will lead the implementation of Mission Mausam. They will be supported by other national and international institutes, academia, and industries, positioning India as a global leader in weather and climate sciences.

Relevance: GS Prelims & Mains Paper II; Governance
Source: PIB

2. What does dissolution of SCoS entail?

Introduction

The Union Ministry of Statistics and Programme Implementation has dissolved the 14-member Standing Committee on Statistics (SCoS) headed by eminent economist and former chief statistician of the country Pronab Sen. Geeta Singh Rathore, Director-General of the Ministry's National Sample Survey Office (NSSO), told the SCoS members that its works overlapped with that of the Steering Committee for National Sample Surveys, headed by Rajeeva Laxman Karandikar, former director of the Chennai Mathematical Institute and this was cited as the reason for dismantling the SCoS. Dr. Sen has said that the SCoS members had questioned the delay in conducting the census, as censuses have long been a crucial source of reliable data for policymakers. He also complained that the members were not given any specific reason for the committee's dissolution.

What were the key responsibilities of SCoS?

The SCoS advised the Centre on survey methodology, including sampling frames, sampling design, survey instruments, questions, etc. It also played a vital role in finalising the tabulation plan of surveys, reviewing the extant framework, and addressing the issues raised from time to time on the subjects, results, methodology, etc. related to all surveys. The Terms of Reference for the SCoS also included providing guidance for conducting pilot surveys/pre-testing, exploring the availability of administrative statistics relating to surveys/statistics, providing guidance for studying or identifying data gaps, providing additional data requirements, and imparting technical guidance to the Central and State level agencies for conducting surveys.

What is the role of the new committee?

The Steering Committee, which replaces the SCoS, has 17 members and one non-member secretary. The Centre has retained at least four members from the SCoS in the Steering Committee other than officials such as Ms. Rathore. Sonalde Desai, Bishwanath Goldar, S. Chandrasekhar, and Mausumi Bose are the four experts who are retained. The tenure of the Steering Committee will be for two years. Its Terms of Reference are quite similar to that of SCoS, including reviewing subject results, methodology questionnaires, sampling frames, sampling design, concepts, definitions, survey instruments etc. related to all National Sample Surveys. It will also advise the Ministry on survey methodology and finalise the tabulation plan of surveys.

The mandates of both the committees clash in a way, though the composition of the Steering Committee is different as it has more official members while the SCoS had several non-official members.

Why is there a pressure for a new census?

Serious academicians and policymakers have been demanding the Centre to conduct a census. The Opposition said that the lack of fresh data keeps crores of people away from schemes such as the National Food Security Act. The Opposition has also been questioning the numbers on employment and unemployment. On the periodic labour force surveys too, there were questions. Since the Census is conducted by the Union Home Ministry, the Ministry of Statistics has been telling the SCoS members in its meetings that it has no role in deciding the date of census. Statisticians and academics argue that the census can provide State and sub-district wise data on issues such as education and employment.

What are the flaws in administrative data?

While the Centre has been claiming that data provided by the EPFO, ESIC on its enrolments and Reserve Bank of India's KLEMS (K: Capital, L: Labour, E: Energy, M: Materials and S: Services) database gave a rosy picture about the employment scenario in the country. However, questions have been raised as administration data, especially on labour, is threshold-based. It is alleged that such data was airing the perspectives of policy architects or reflecting the government's intentions.

The chances of manipulating the administration data set were also high as Government agencies generated that data and it is also argued that such data has limitations of analytical rigour.

On the other hand, survey-based data, including the census, has universal coverage without any thresholds, providing a wider and bigger platform. However, surveys such as PLFS could not provide State or district-level data, but the census will be able to provide even sub-district data. PLFS also allegedly had an urban bias.

How urgent is the next census?

The country's decennial census has been conducted every ten years since the 1870s, with the last census in 2011. The 2021 census was delayed due to the COVID-19 pandemic, and even after three years, the Centre has not provided a roadmap for the next census. Economists and policymakers argue that relying on 2011 census data for statistical surveys, even after 13 years,

will negatively impact decision making. So they suggested that the way forward is to conduct the next census at the earliest.

Relevance: GS Prelims & Mains Paper II; Governance
Source: The Hindu

3. Can nano DAP replace the conventional granular version in Punjab's Rabi season?

Introduction

Punjab requires roughly 5.50 lakh tonnes of di-ammonium phosphate (DAP) annually, the bulk of which — around 4.8 lakh tonnes — is needed during the Rabi (October-March) season to cultivate wheat, potatoes, and other horticulture crops.

But the supply of the conventionally used granular DAP, the majority of which is imported, has been unreliable, with shortfalls and delays triggering panic among farmers. This is why agro-scientists and policymakers have long been exploring alternatives, such as Indian Farmers Fertiliser Cooperative Ltd-developed nano DAP.

Can this replace the conventional granular DAP in Punjab?

First, how is nano DAP different?
The indigenously-manufactured nano DAP comes in liquid form. It is logistically easier to manage, and more cost-effective than the granular DAP.

A 500 ml bottle of nano DAP, which costs Rs 600, is sufficient to cover one acre of land. In comparison, a single 50 kg bag of granular DAP costing Rs 1,350 is needed for one acre of wheat. For potatoes, 2.5 to 3 such bags are needed per acre. Apart from the lower price, farmers using nano DAP are likely to benefit from lower handling and transportation costs.

Nano DAP was officially launched by IFFCO in 2023, following the introduction of nano urea in 2021. These innovations are a part of India's broader strategy to reduce reliance on imported fertilisers. In the case of DAP, India uses around 10.5-11.5 million tonnes annually — but domestic production is only around 4-5 million tonnes, with the remainder being imported.
Beyond benefitting farmers, indigenously-produced nano fertilisers are also set to ease India's subsidy burden, which is pegged to be Rs 1.88 lakh crore in FY 2024.

But their viability will eventually be determined based on results after large-scale adoption. Some have already raised question marks regarding nano DAP's efficacy compared to the conventional granular form.

What are PAU's concerns regarding nano DAP?

Punjab Agricultural University (PAU) scientists said that their experiments have found that nano DAP use resulted in a substantial decrease in yield of the wheat crop, compared to granular DAP. They said that they applied the nano fertiliser as per IFFCO's guidelines, but that resulted in shorter plant heights, and sub-optimal results.

PAU scientists also expressed similar opinions regarding IFFCO's other nano fertiliser — nano urea. After two years of field experiments, they observed a decrease in rice and wheat yields. These findings were published in PAU's monthly journal this January, with PAU scientists recommending that conventional urea not be replaced until further field experiments are carried out.

In the last year, IFFCO manufactured around 6 crore bottles of nano DAP which can cover around 2.43 crore hectares of land. India has around 18 crore hectares of agricultural land in total.

How has IFFCO responded to PAU's criticism?

Harmail Singh Sidhu, IFFCO's marketing manager for Punjab, stated other agricultural Institutions like the Indian Council of Agricultural Research (ICAR) are also testing nano DAP (and nano urea) and unlike PAU, have not made a negative comment yet. He said that PAU scientists should conduct further trials using IFFCO's recommendations on usage.

"The Government of India (GoI) has recommended using nano DAP to replace only 25-50% of conventional DAP at the moment," Sidhu said. "At least 50% of the recommended DAP dose, to be administered at the time of sowing, should comprise conventional DAP. The remaining 50% should be by nano DAP, to be used as a foliar spray after the crop's leaves emerge," he said.

He added that nano DAP can also be used to treat seeds prior to sowing (5 ml per kg of seeds) for better results. "By even cutting down the use of granular fertiliser by 50% would greatly benefit the soil and environment," he said.

In Punjab, 70 lakh bottles of nano fertilisers (nano DAP and urea) have been sold since August 2021, Sidhu said.

Relevance: GS Prelims & Mains Paper III; Economics
Source: Indian Express