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1. Agricultural Technology Management Agency (ATMA) Scheme**Related to Governance, GS II**

Prelims: Facts about the scheme, Centrally Sponsored schemes

Mains: Significance of the scheme, Dissemination of technology with a bottom-up approach

Context: The ATMA scheme and the progress it has made so far have been discussed in the Lok Sabha.

About the Scheme:

- It is a centrally sponsored scheme which was launched in the financial year 2005-06.
- The scheme is also known as Support to State Extension Programmes for Extension Reforms that largely focuses upon technology dissemination among farmers with an integrated approach.
- It operates at state, district, block and village levels and it involves a decentralized farmer-friendly extension system.
- The extension process includes activities such as farmers' training, exposure visits, Kisan Mela, mobilization of farmer groups and setting up farm schools. This promotes a bottom-up approach with sharing of agricultural knowledge from lab to land.

Working of the Scheme:

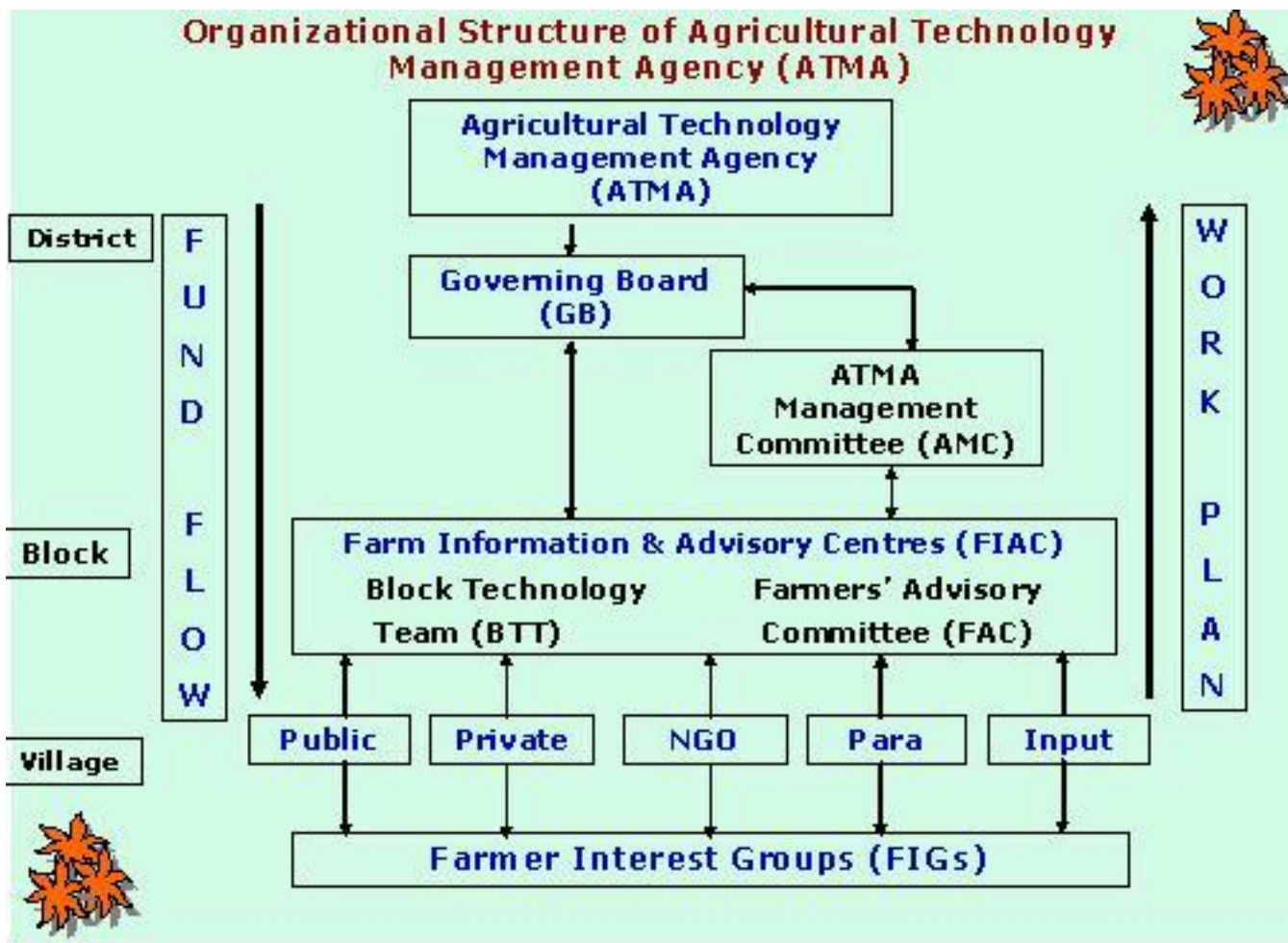


Image source: <https://agritech.tnau.ac.in>

Origin of the Scheme:

- The Innovation in Technology Dissemination of the National Agricultural Technology Project (NATP) intended to develop an integrated extension delivery system to invoke new technologies.
- The farmer-driven and farmer accountable ATMA scheme was thereby formulated as a part of NATP.
- NATP is a World Bank aided project implemented by [ICAR](#) and the Department of Agriculture, Cooperation and Farmers' Welfare.

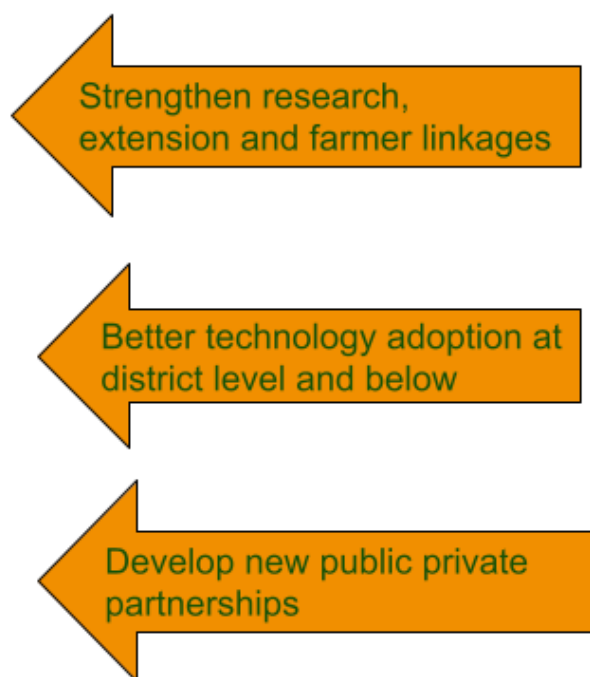
Participants:

- The scheme involves participants such as farmers/farmer groups, NGOs, Krishi Vigyan Kendras, [Panchayati Raj Institutions](#).

Funding:

- The ATMA scheme is assisted by the central government with a funding of 90% from the centre and 10% from the state.
- The 10% share of the state includes cash contributions, beneficiary contributions or the contributions from non-governmental organizations.
- The release of funds is in accordance with the Strategic Research and Extension Plan which is prepared by the state governments.

Objectives of ATMA scheme



Salient Features:

- The scheme results in the validation and refinement of technologies through various research units.
- It includes extensive usage of information technology along with private sector participation in technology transfer in the field of agriculture.
- The Farmer Advisory Committee created within the ambit of the scheme assists in the improvement of feedback provided by research institutions.

2. PANEX – 21

Related to International Relations (GS II) and Disaster Management (GS III)

Prelims: About PANEX 21, BIMSTEC

Mains: Role of Humanitarian Assistance and Disaster Relief exercise to tackle natural disasters.

Context: PANEX 21 is a Humanitarian Assistance and Disaster Relief exercise between the members of [BIMSTEC](#) countries which is going to take place later in the month of December 2021. The inaugural ceremony was organized at [DRDO](#) Bhawan in New Delhi.

About the Event:

- The event witnessed the presence of subject matter experts on Disaster Management and delegates from Bangladesh, India, Nepal, Bhutan, Myanmar, Sri Lanka and Thailand.
- The intention is to tackle the implications of disasters like the pandemic which requires the intervention of different agencies involving transnational coordination.
- The emergence of the [Omicron](#) variant has contributed to rising tensions across the globe.
- The exercise will also focus on the disastrous effect of cyclones in the Bay of Bengal due to rising sea surface temperatures.

Read more about experts' take on Omicron in the given link:

[**Sansad TV Perspective: Omicron**](#)

Areas of Focus:

- Climate change
- Unplanned urbanization
- Underdevelopment
- Poverty
- Threat of pandemic
- Increasing frequency and complexity of disasters

3. Home-grown Microprocessor

Related to Indigenisation of Technology, GS III

Prelims: About the indigenous processors

Mains: The importance of such initiatives (The Microprocessor Challenge) in bringing more innovation and self-reliance in technology.

Context: The Swadeshi Microprocessor Challenge organized by the Ministry of Electronics and Information Technology brought in innovations in drone technology which is designed to assist the differently-abled, diagnosis and waste management.

Microprocessor:

- The central unit of a computer system that carries out arithmetic, logical operations involving addition, subtraction and transfer of numbers from one area to another is known as a microprocessor or processor. It is also referred to as the central processing unit.
- It works by accepting binary data as input and processes the data followed by an output based on the instructions stored in the memory.

The different Microprocessors designed in the Event:

- Vega-FCS-FT that used a VEGA processor to create a fault-tolerant reliable integrated avionics system for Drones.
- SHAKTI processor was used to display home solutions for blood cell counting which is essential for diagnostics.
- SpectroProcessor can be applied in biomedical operations and uses SHAKTI processors.
- The SHAKTI processor was also used for making a calibration system for Nuclear Spectroscopy.
- Remote monitoring and optimization of the sewage treatment plant was demonstrated using the VEGA processor.
- With the help of the SHAKTI processor, an anti-theft geofencing based locking system was exhibited.
- The VEGA processor enabled a lower limb exosuit for the differently-abled.

Read more about the Swadeshi Microprocessor Challenge in [PIB](#) dated 3rd Dec 2021

4. Inflation

Related to Economy, GS III

Prelims: About Inflation

Mains: Steps taken by the government to control inflation

Context: The Government of India has taken various measures to tackle inflation which was discussed in the Rajya Sabha.

Measures Taken :

1. Reduced central excise duty on petrol and diesel
2. Monitoring the price situation of essential commodities and taking corrective action
3. Using the stocks for cooling down prices through supply to states and Open market sales.
4. The import duty of edible oils has been rationalised to bring down the prices by placing stock limits..

Read more about [Inflation](#) in the linked article.

5. India – Japan Science and Technology Seminar

Related to International Relations, GS II

Prelims: About India – Japan Relations

Mains: Areas of scientific collaboration to strengthen the India – Japan diplomatic relationship.

Context: A two-day seminar has been conducted by Sree Chitra Tirunal Institute for Medical Sciences and Technology which is an autonomous body under the Department of Science and Technology in collaboration with Indian JSPS (Japan Society for the Promotion Of Science) Alumni Association in order to celebrate the 70th anniversary of [India – Japan diplomatic relations](#).

Aim of the seminar:

The event aimed at building the foundation of student exchange and increasing the level of collaboration between the two countries in order to address the demands of the entire planet and the region.

Focus Areas:

- Data Handling

- Machine Learning
- [Artificial Intelligence](#)
- Collaboration in Space Missions
- Cooperation between the researchers in the fields of biotechnology, nanotechnology and quantum technology

6. Waste-wise cities

Related to Environment, GS III

Prelims: About Solid Waste Management

Mains: The important highlights of the report assessment and best practices that are required for solid waste management to achieve zero waste cities.

Context: The NITI Aayog and the Center for Science and Environment released the compendium of best practices in municipal solid waste management.

Waste-wise Cities: Important facts about the report

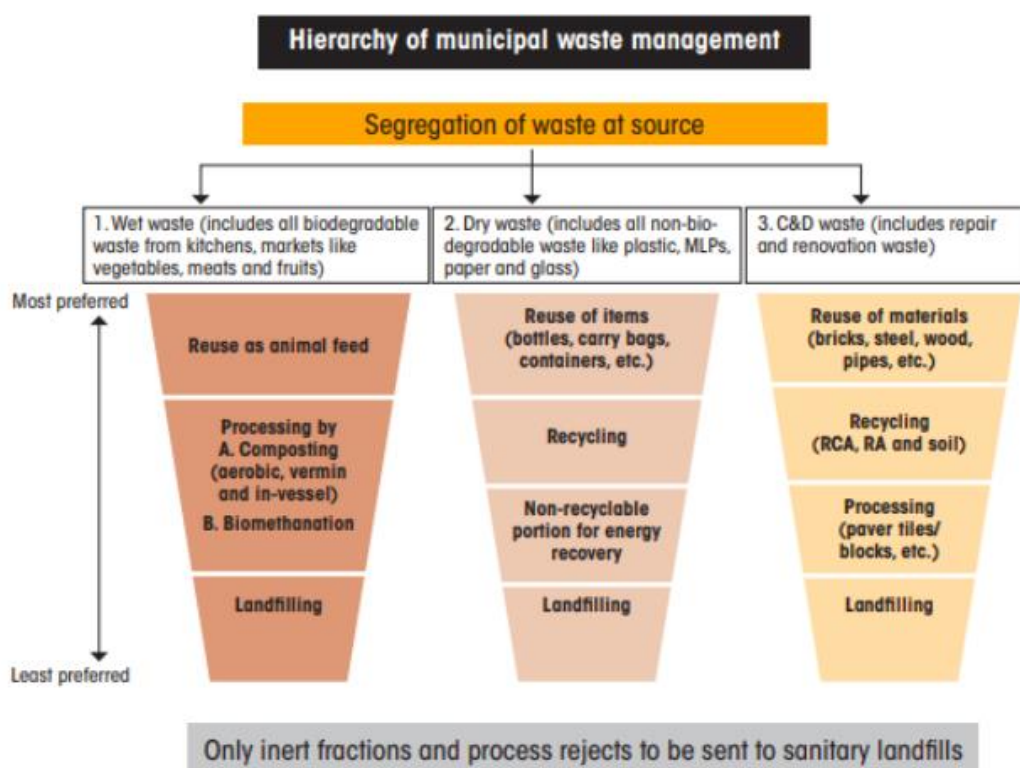
- The report documents the best practices in 28 cities across 15 states.
- The report acts as the comprehensive knowledge repository that offers a picture of how the Indian cities are managing solid waste.
- The scope of solid waste management in India has witnessed a sustainable value chain with exemplary initiatives such as [Swachh Bharat Abhiyan](#).
- This report includes an assessment of thematic aspects of solid waste management that ranges from source segregation, material recovery and technological innovation to managing different kinds of wastes.

Significance:

- With the growing complexities of urbanization, the issue of solid waste management plays an important role in the governance of cities in order to achieve the target of zero waste cities. The report released by NITI Aayog and CSE provides a precise understanding of the present scenario with respect to waste management in the country.
- It was highlighted that frontier technologies have been employed to convert waste into the highest form of energy.
- The compendium acts as an important resource for developing cities to get new ideas, strategies, institutional arrangements, technologies and modes of implementation that facilitate cities to offer best practices in terms of waste management.

- It is recommended that awareness must spread across the urban areas regarding the processing of waste that must be reworked, reused and recycled.
- The NITI Aayog recommends some of the best practices that include:
 - Behaviour change communication
 - Source segregation of waste
 - Innovative models of circular economy
 - Advanced Data Management
 - GIS (Geographical Information System) tracking of waste transportation vehicles

Components of MSW management - the hierarchy



Source: Guidelines for Swachh Bharat Mission (urban) 2.0. 2021

Image source: www.niti.gov.in

7. Tripartite MoU

Related to International Relations, GS II

Prelims: About WTO

Mains: India's Trade with WTO; Relevance of WTO

Context: The Permanent Mission of India to [WTO](#) in Geneva, The Center for Trade and Investment Law (Indian Institute of Foreign Trade) and the Center for Trade and Economic Integration (CTEI) signed a Memorandum of Understanding in order to collaborate in the areas of research and capacity building in international trade law and policy.

Objectives:

- The tripartite MoU intends to offer enormous research opportunities for the staff of the Center for Trade and Investment Law and the officials of the Government of India.
- The purpose is to bring in reforms by experts in the existing international trade laws and policies that reflect the decline of competence of organizations like WTO.
- There must be policies pertaining to International Trade that conform with the changing needs of present geopolitical trends.
- This MoU aims at increasing India's capacity to formulate its foreign trade policy and contribute to maintaining stability in global trade.

Read more about [WTO Reforms](#) in Perspective by Sansad TV.