



TATHASTU
Institute Of Civil Services

DAILY CURRENT AFFAIRS

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TATHASTU
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S.NO.	TOPIC
1.	MEKEDATU BA- LANCING RESERVOIR-CUM- DRINKING WATER PROJECT
2.	THE ROAD TO 2047 FOR INDIAN AGRICULTURE
3.	NOT ALL INSULTS CAN BE RULED AS OFFENCES UNDER SC/ST LAW

MEKEDATU BA- LANCING RESERVOIR-CUM- DRINKING WATER PROJECT

Cauvery Nigam writes to Centre on Mekedatu

CNNL has approached Ministry of Environment for approval of the terms of reference for conducting impact assessment; 'pending for six years'

The Hindu Bureau
CHENNAI

Seeking to revive the issue of clearance for the Mekedatu balancing reservoir-cum-drinking water project, Karnataka's Cauvery Neeravari Nigam Limited (CNNL) has approached the Union Ministry of Environment for approval of the terms of reference for conducting an Environment Impact Assessment and drawing up an Environment Management Plan.

Tamil Nadu is opposed to the project.

In a communication sent in early July to the Scientist "E" and Member-Secretary of the Expert Appraisal Committee for river valley and hydro-electric projects, CNNL, a special purpose vehicle floated to implement irrigation projects in the Cauvery basin in Karnataka, contended that the Union Ministry was "not constrained"



Bone of contention: Karnataka claims that the Mekedatu project will be more beneficial to Tamil Nadu. FILE PHOTO

from processing the matter for according approval to the Terms of Reference.

Pointing out that the matter had been "pending" with the Ministry for nearly six years, CNNL said there had never been "any kind of hindrance" for the Ministry.

The communication, sent by the CNNL chief engineer, should be seen in the light of the push from Karnataka Chief Minister Siddaramaiah and Deputy Chief Minister D.K. Shivakumar for the project on the ground that it will be

"more beneficial" to Tamil Nadu than Karnataka and will help the people of the lower riparian State in times of distress.

Asked for a response, Member-Secretary Yogender Pal Singh told *The Hindu* that any decision of the committee would be made public through the Ministry's website.

An official of the Tamil Nadu government recalled that in late 2019, the State government filed a plea for contempt of court action against several Central and Karnataka authorities.

- ❖ It is a multi-purpose (drinking water and power) project proposed by Karnataka, which involves building a balancing reservoir near Kanakapura in Ramanagara district, Karnataka.
- ❖ It is about 90 km away from Bengaluru and 4 km ahead of the border with Tamil Nadu.
- ❖ The project is proposed at the confluence of the Cauvery River with its tributary Arkavathi.
- ❖ The plan involves building a 99-metre-high, 735-metre-long concrete gravity dam, an underground powerhouse, and a water conductor system.
- ❖ The expected capacity of the dam is 66,000 TMC (thousand million cubic feet) of water





- ❖ Once completed, it is expected to supply over 4 TMC of water to Bengaluru city for drinking purposes.
- ❖ The estimated cost of completing the project is around Rs 14,000 crores, covering an area of over 5,000 hectares.

Issue:

- ❖ Tamil Nadu — the lower riparian state — has claimed that the project is against the interest of the state's water requirement.
- ❖ Tamil Nadu says, Mekedatu area represents the last free point in Karnataka from where Cauvery water flows unrestricted into Tamil Nadu, and Mekedatu dam project is an attempt by Karnataka to lock this free flow of water.
- ❖ The lower riparian state has to give its no-objection for any project that comes up on the Cauvery as per the Cauvery tribunal and Supreme Court order.

Which are the major tributaries of Kaveri River?

- ❖ It's important tributaries joining from left are the Harangi, the Hemavati, the Shimsha, and the Arkavati, whereas the Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil, and the Amaravati joins from right.

Question:

Q.1 Consider the following statements regarding Mekedatu Reservoir Project:

1. The project involves building a balancing reservoir in Karnataka.
2. The project is proposed at the confluence of Cauvery with its tributary Arkavathi.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2





THE ROAD TO 2047 FOR INDIAN AGRICULTURE

The road to 2047 for Indian agriculture

Context

India's centennial year of independence is still away, in 2047, but the goal of becoming a developed nation looms large. Achieving this requires a significant increase in per capita Gross National Income (GNI) to about six times the current level. This necessitates a comprehensive development approach, especially in agriculture.

Transforming Indian agriculture depends on adopting sustainable practices that ensure long-term productivity and environmental health. Precision farming, genetically modified crops, and advanced irrigation techniques such as drip and sprinkler systems are leading this transformation. For instance, the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has covered 78 lakh hectares, promoting water-use efficiency through micro-irrigation. The scheme's ₹93,068 crore allocation for 2021-26 underscores the government's commitment to sustainable water management.

India's agricultural sector faces challenges, including climate change, land degradation, and market access issues. The Pradhan Mantri Fasal Bima Yojana (PMFBY), introduced in 2016, provides financial assistance for crop losses. With 49.5 crore farmers enrolled and claims totalling over ₹1.45 lakh crore, the scheme is a cornerstone of agricultural risk management.

The Electronic National Agriculture Market (eNAM), launched in 2016, integrates existing markets through an electronic platform. By September 2023, 1,361 mandis had been integrated, benefiting 1.76 million farmers and recording trade worth ₹2.88 lakh crore. This initiative improves market access and ensures better price realisation for farmers.

An imbalance

Despite agriculture engaging nearly 46% of the workforce, agriculture's contribution to GDP is about 18%, highlighting a stark imbalance. If current growth trends continue, this disparity will worsen: while overall GDP has grown at 6.1% annually since 1991-92, agricultural GDP lags at 3.3%. Under the Narendra Modi administration, overall GDP growth was 5.9%, and agriculture grew at 3.6%. However, this is insufficient for a sector so critical to the nation's socio-economic fabric.



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There are several challenges but also opportunities

By 2047, agriculture's share in GDP might shrink to 7%-8%, yet, it could still employ over 30% of the workforce if significant structural changes are not implemented. This indicates that merely maintaining the current growth trajectory will not suffice.

The expected 7.6% overall GDP growth for 2023-24 is promising. However, the agri-GDP's anaemic growth of 0.7%, primarily due to unseasonal rains, is alarming.

Further, according to United Nations projections, India's population is expected to reach 1.5 billion by 2030 and 1.59 billion by 2040. Following the agricultural challenges, meeting the food requirements of this burgeoning population will be imperative. With an estimated expenditure elasticity of food at 0.45, the demand for food is expected to grow by approximately 2.85% annually, considering the population growth rate of 0.85%.

India's real per capita income increased by 41% from 2011-12 to 2021-22 and is projected to accelerate further. However, the expenditure elasticity post-2023 is anticipated to be lower, correlating a 5% rise in per capita expenditure to a 2% growth in demand. The anticipated food demand will vary among commodities, with meat demand growing by 5.42% and rice demand by a mere 0.34%.

To address these challenges, rationalising food and fertilizer subsidies and redirecting savings towards agricultural research and development innovation and extension services are crucial.

Some initiatives

Several initiatives have been rolled out to bolster farmer prosperity and sustainable agricultural growth. The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), launched in 2019, disburses ₹6,000 annually to farmers in three instalments. This scheme has already benefited over 11.8 crore farmers, offering much-needed financial support. Another critical initiative, the Soil Health Card (SHC) scheme, aims to optimise soil nutrient use, thereby enhancing agricultural productivity. Over 23 crore SHCs have been distributed, providing farmers with crucial insights into soil health and nutrient management.

The government also championed the

International Year of Millets in 2023, promoting nutritious coarse grains, both domestically and internationally.

The Agriculture Infrastructure Fund, with a ₹1 lakh crore financing facility, supports the development and modernisation of post-harvest management infrastructure. Within three years, over 38,326 projects have been sanctioned, mobilising ₹30,030 crore in the agricultural infrastructure sector. These projects have created employment for more than 5.8 lakh individuals and improved farmer incomes by 20%-25% through better price realisation.

Moreover, the Survey of Villages and Mapping with Improved Technology in Village Areas (SVAMITVA) initiative aims to ensure transparent property ownership in rural areas. As of September 2023, over 1.6 crore property cards have been generated, enhancing land security and facilitating credit access for farmers.

Strategic planning

The government's strategic planning for agriculture, leading up to 2047, focuses on several key areas: anticipated future demand for agricultural products, insights from past growth catalysts, existing challenges, and potential opportunities in the agricultural landscape. Projections indicate that the total demand for food grains in 2047-48 will range from 402 million tonnes to 437 million tonnes, with production anticipated to exceed demand by 10%-13% under the Business-As-Usual (BAU) scenario.

However, to meet this demand sustainably, significant investments in agricultural research, infrastructure, and policy support are required. The Budget for 2024-25, with an allocation of ₹20 lakh crore for targeted agricultural credit and the launch of the Agriculture Accelerator Fund, highlights the government's proactive approach to fostering agricultural innovation and growth.

The road to 2047 presents both challenges and opportunities for Indian agriculture. By embracing sustainable practices, leveraging technological innovations, and implementing strategic initiatives, India can enhance farmer incomes, meet the food demands of its growing population, and achieve inclusive, sustainable development.

Question:

Q.2 The road to 2047 presents both challenges and opportunities for Indian agriculture. By embracing sustainable practices, leveraging technological innovations, and implementing strategic initiatives, India can enhance farmer incomes, meet the food demands of its growing population, and achieve inclusive, sustainable development. (250 words/15 marks)





Syllabus (GS Paper-3)

- ❖ Agriculture
 - ☛ Role of Agriculture in Indian Economy
 - ☛ Major crops and cropping patterns in various parts of the country
 - ☛ Irrigation and Irrigation Systems
 - ☛ Agricultural Marketing and Issues
 - ☛ e-Technology in the aid of farmers
 - ☛ Farm Subsidies and MSP
 - ☛ Public Distribution System
 - ☛ Buffer Stocks and Food Security
 - ☛ Economics of Animal-Rearing
 - ☛ Food processing and related industries in India
 - ☛ Land Reforms in India

Some Question:

- Q1. What is sustainable agriculture? How is it different from conventional farming?
- Q2. Elaborate the significance of sustainable farming amid growing concerns over climate change, environmental sustainability and food security.
- Q3. Discuss measures for enhancing soil fertility and optimally managing water resources for India's rainfed agriculture.
- Q4. How does the National Mission For Sustainable Agriculture (NMSA) aim at promoting sustainable agriculture?

Sustainable agriculture

- ❖ The agriculture world over has reached a stage where it needs to move from an intensification-based approach to more sustainable and environment-friendly methods. Sustainable agriculture is a system of farming that focuses on meeting the current production demands without compromising on the ability of future generations to meet their needs. It takes into account the aspects related to ecological stability, economic viability, and socio-cultural continuity while preserving natural resources for future generations.
- ❖ **Principles and objectives of agricultural sustainability** Some of the key principles of sustainable agriculture include:
 - ❖ **Increasing productivity:** Consistently increasing agricultural productivity is crucial to maintaining food security. This must also focus on reducing the dependence on chemical fertilisers and pesticides. The very concept of efficiency needs to evolve, where efficient production must include water- and energy-smart production systems in addition to higher yields. Reducing the agricultural footprint while ensuring food security is one of the key attributes of sustainable agriculture.
 - ❖ **Protecting and enhancing natural resources:** Sustaining agricultural growth requires conservation and sustainable use of scarce natural resources like soil and water. Agricultural production depends directly on natural resources and therefore the sustainability of production depends on the sustainability of the resources themselves.





- ❖ Indian agriculture remains predominantly rainfed covering about 60 per cent of the country's net sown area and accounts for 40 per cent of the total food production. In such a scenario, sustainable agriculture focuses on maintaining and enhancing soil fertility, optimally managing water resources and reducing water pollution, and developing ways to reduce the emission of greenhouse gases.
- ❖ **Improving livelihoods and fostering inclusive economic growth:** Adequate access to resources can significantly reduce poverty and food insecurity in rural areas. Agriculture is one of the most labour-intensive of all economic activities. Therefore, there exists a direct correlation between increased agricultural incomes and reduced poverty. Agricultural sustainability can only be achieved if it provides decent employment conditions.
- ❖ **Enhancing the resilience of people, communities and ecosystems:** The stability of any economic activity including agriculture is greatly impacted by extreme weather events, which in turn also induce market volatility. Increased focus on making the various agristakeholders resilient to threats, both natural and man-made, would also contribute to sustainability. This will not only ensure stable productivity, but also better market economics by averting price shocks and volatility.
- ❖ **Adapting governance to new challenges:** A successful and complete transition to sustainable production requires increasing and balanced participation of the private and public sectors ensuring equity, accountability, and transparency among other things. Farmers are provided with suitable incentives that promote the adoption of new and sustainable methods. Effective governance holds the key to impactful implementation of these measures including enabling policy initiatives and suitable legal and institutional framework.
- ❖ These principles, individually as well as collectively, also support the Sustainable Development Goals including SDG1 (Reducing Poverty), SDG2 (Zero Hunger), SDG3 (Good Health and Well-Being), SDG5 (Gender Equality), SDG6 (Clean Water and Sanitation), SDG8 (Decent Work and Economic Growth), SDG11 (Sustainable Cities and Communities), SDG12 (Responsible Consumption and Production), SDG13 (Climate Action), SDG 14 (Life Below Water), SDG15 (Life on Land), and SDG16 (Peace, Justice and Strong Institutions).

Methods of sustainable agriculture and their advantages

- ❖ **Organic farming:** It is a vital aspect of sustainable agriculture that emphasises ecological balance and the use of natural inputs for production. It obliterates the usage of synthetic fertilisers and pesticides thereby promoting soil health. It involves practices like crop rotation and the application of organic fertilisers like manure and compost.
- ❖ Organic farming is not only an environmentally sustainable method of agricultural production but also reduces pollution and health risks associated with chemical inputs while supporting rural livelihoods.
- ❖ Agricultural productivity is sometimes a point of concern here. Yields are often lower in organic farming in comparison to conventional methods, however, the long-term benefits of improved soil fertility, reduced environmental impact, and enhanced resilience make organic farming a crucial component of sustainable agricultural practices.
- ❖ **Crop rotation:** It is the practice of systematically alternating different crops on the same land over successive seasons. This method significantly enhances soil health and fertility by breaking pest and disease cycles, and reducing reliance on chemical inputs. **Agroforestry:** It is the practice of integrating





trees into agricultural landscapes, including crop or animal production systems, thereby creating a diverse and resilient farming system. This approach plays an important role in promoting sustainable agriculture by promoting ecological, economic, and social interactions. It also helps in enhancing farmers' incomes by supplementing the production of traditional crops with timber, fruits, and other tree-based products. Agroforestry also promotes biodiversity by providing habitats for various species, including beneficial insects that naturally control pests and diseases.

- ❖ **Integrated pest management (IPM):** IPM is a critical component of sustainable agriculture that minimises the use of pesticides while effectively managing pests. IPM is an ecosystem-based approach that combines various techniques, including biological control, cultural practices, habitat modification, and judicious use of pesticides. IPM does not seek complete elimination of insect diversity. Instead, it seeks to keep the pest population below levels that may be economically damaging while preserving beneficial organisms and promoting a healthy balance in the ecosystem.
- ❖ **Zero tillage:** Zero tillage, also known as no-till farming, is the practice of growing crops without disturbing the soil strata through traditional tillage methods. This approach preserves the soil structure and enhances fertility, resulting in numerous environmental and economic benefits. This system involves sowing seeds directly into the soil, often using specialised equipment that creates furrows without turning the soil. This method significantly reduces soil erosion and improves the water retention capacity of soil.
- ❖ **Hydroponics and aquaponics:** Hydroponics is the technique of growing plants in a nutrient enriched water medium, without the requirement of soil. This method is highly resourceefficient and requires significantly less water than traditional soil-based farming methods, aligning perfectly with sustainability goals. Since this method involves a controlled environmental setting, it significantly reduces the risk of land degradation due to overuse and further reduces the need for pesticides.
- ❖ Aquaponics is another advanced technique that combines hydroponics with aquaculture. This is a symbiotic system in which the fish waste provides an organic nutrient source for the plants, while the plants help filter and purify the water for the fish.

Challenges to sustainable agriculture

- ❖ **Climate change:** Indian agriculture is predominantly rainfed making it highly dependent on monsoons, which in turn increases its susceptibility to climate variability, including increased frequency of extreme weather events such as droughts and floods. Climate change could slash crop yields resulting in quantitative as well as qualitative decline in productivity impacting food security and farmers' livelihoods.
- ❖ **Population:** An expanding population will put further pressure on already stressed agricultural systems. Shifting to sustainable methods of agriculture that focus on organic productivity may face challenges due to reduced yield, posing a risk to food security for millions. The dependence of a large chunk of the population on agriculture for livelihood is also a matter of serious concern.
- ❖ **Lack of knowledge:** Adoption of new technologies and practices is directly related to the level of awareness. This can be enhanced through institutional mechanisms and interventions like campaigns and workshops, and creating awareness about the success stories to encourage farmers to shift to sustainable practices.





- ❖ **High capital cost:** Sustainability comes at a cost. The initial investments in infrastructure, equipment, and inputs that are required to carry out sustainable agriculture are often very high. The lack of access to credit, particularly in case of small and marginal farmers can hinder the adoption of sustainable practices.
- ❖ **Market access and post-harvest losses:** Market access and post-harvest losses are significant barriers to sustainable agriculture in India, undermining its economic viability. Reduced usage of chemical inputs in sustainable farming often produces perishable and diverse crops that require efficient handling and storage. However, infrastructural inadequacies, such as insufficient cold storage and poor transportation networks, may lead to increased post-harvest losses. This reduces profitability and acts as a deterrent to the adoption of environmentally friendly practices. Challenges before sustainable agriculture and food systems can be tackled under the holistic approach of 'One Earth, One Family and One Future'. In this regard, the National Mission For Sustainable Agriculture (NMSA) is a defining move in the right direction. It is one of the eight missions outlined under the National Action Plan on Climate Change (NAPCC).
- ❖ The NMSA aims at promoting sustainable agriculture through a series of adaptation measures focusing on ten key dimensions encompassing Indian agriculture, namely improved crop seeds, livestock and fish cultures, water use efficiency, pest management, improved farm practices, nutrient management, agricultural insurance, credit support, markets, access to information and livelihood diversification.

The NMSA has outlined the following objectives of sustainable agriculture:

- ❖ Making agriculture more productive, sustainable, remunerative and climate resilient by promoting location-specific integrated/composite farming systems.
- ❖ Conserving natural resources through appropriate soil and water conservation measures focusing on comprehensive soil health management practices based on soil fertility maps, soil test-based application of macro and micro-nutrients, judicious use of fertilisers, efficient water management to expand coverage for achieving 'more crop per drop', etc.
- ❖ Capacity building of farmers and other stakeholders, in conjunction with other ongoing missions like National Mission on Agriculture Extension & Technology, National Food Security Mission, National Initiative for Climate Resilient Agriculture, etc., in the domain of climate change adaptation and mitigation measures.
- ❖ Leveraging resources from other schemes/missions like the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Integrated Watershed Management Programme (IWMP), RKVY etc. Establishing and enhancing inter and intra Departmental/Ministerial coordination for accomplishing key deliverables.
- ❖ To sum up, sustainable agriculture is deemed to be a vital step in combating climate change and ensuring the resilience of our agricultural systems. By focusing on efficient resource utilisation, enhancing livelihoods, and fostering inclusive growth, sustainable agriculture offers a pathway to achieving long-term ecological stability, economic viability, and social equity.

