



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

+918988885050



+918988886060

www.vajiraoinstitute.com



info@vajiraoinstitute.com

TODAY'S ANALYSIS

(04 September 2024)

TOPICS TO BE COVERED

- DIGITAL AGRICULTURE MISSION
- INDIA PLANS \$15 BN FOR SEMICONDUCTOR CHIP MANUFACTURING
- MCQs



ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

+918988885050



+918988886060

www.vajiraoinstitute.com



info@vajiraoinstitute.com

DIGITAL AGRICULTURE MISSION

Seven schemes to improve farmers' lives and increase their incomes

1 Digital Agriculture Mission

- Use of technology for improving farmers' lives
- Total outlay of Rs 2,817 crore
- It comprises two foundational pillars:
 - › Agri Stack
 - › Krishi Decision Support System
- The Mission has provision for Soil profile, Digital crop estimation, Digital yield modelling etc



On September 2, the **Union Cabinet** approved the **Rs 2,817-crore Digital Agriculture Mission** aimed at creating **Digital Public Infrastructure (DPI)** in the agricultural sector.

This initiative follows the success of similar e-governance projects like **Aadhaar** and

UPI.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



OBJECTIVES

Digital Public Infrastructure (DPI):

- The DPI Mission will **integrate advanced technology into agriculture**, including **3 major components**:
 - i. AgriStack,
 - ii. Krishi Decision Support System (DSS),
 - iii. Soil Profile Maps.
- The **mission will also establish the Digital General Crop Estimation Survey (DGCES)** for accurate agricultural production estimates.

COMPONENTS

1. AgriStack:

- **Farmers' Registry:**
 - **Purpose:** Create a **digital identity for farmers, similar to Aadhaar**, to centralize information on land ownership, crops, livestock, and demographics.
 - **Implementation:** **Farmers will receive a digital ID that links to a comprehensive database** containing their personal and agricultural details. This system aims to simplify interactions with government schemes and services.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



- **Pilot Projects:** Trials have been conducted in **districts such as Farrukhabad (Uttar Pradesh) and Gandhinagar (Gujarat)**. The goal is to **create digital IDs for 11 crore farmers**, with 6 crore targeted in the current financial year and the rest in subsequent years.
- **Funding:** Rs 5,000 crore has been **allocated separately for state incentives** to develop the Farmers' Registry.
- **Crop Sown Registry:**
 - **Purpose:** Track and record crop planting information through digital surveys.
 - **Method:** Mobile-based ground surveys will be used to gather data each crop season. This registry will help in assessing crop patterns and planning agricultural policies.
 - **Pilot Projects:** **Conducted across 11 states in 2023-24**, with plans to expand to 400 districts in the current financial year and the rest in 2025-26.
- **Geo-referenced Village Maps:**
 - **Purpose:** Link geographic data with land records to provide accurate mapping of agricultural areas.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



- **Details:** These maps will integrate land records with physical locations, improving land management and agricultural planning.

2. Krishi Decision Support System (DSS):

- **Purpose:** Develop a geospatial system that integrates information on **crops, soil, weather, and water resources.**
- **Features:**
 - **Crop Mapping:** Generate detailed crop maps to identify planting patterns and monitor agricultural trends.
 - **Disaster Monitoring:** Track **droughts, floods,** and other environmental factors affecting crops.
 - **Yield Assessment:** Use data to estimate crop yields, aiding in insurance claims and policy formulation.

3. Soil Profile Maps:

- **Purpose:** Create **detailed soil maps to enhance soil management** and agricultural productivity.
- **Details:**

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



- **Scale:** Maps will be produced on a 1:10,000 scale, covering 142 million hectares of agricultural land.
- **Progress:** A soil profile inventory of **29 million hectares** has already been **completed**, with further mapping underway.

DIGITAL GENERAL CROP ESTIMATION SURVEY

- **Purpose:** Improve the accuracy of crop yield estimates to support agricultural policies and services.
- **Features:**
 - **Data Collection:** Use scientifically designed **crop-cutting experiments** and remote sensing data to estimate yields.
 - **Benefits:** Provide accurate data for Minimum Support Price **(MSP)-based procurement, crop insurance, and credit-linked loans**. Facilitate balanced use of fertilizers and improve irrigation practices.

FUNDING & IMPLEMENTATION

- **Budget Allocation:** Rs 2,817 crore allocated, with Rs 1,940 crore from the central government and the remainder from state governments and Union Territories (UTs).

ADDRESS:



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

+918988885050



+918988886060

www.vajiraoinstitute.com



info@vajiraoinstitute.com

- **Timeline:** The mission will be rolled out over 2 years, concluding in 2025-26. Originally planned for 2021-22, the launch was delayed due to the COVID-19 pandemic.
- **Current Status:** Pilot projects are in progress, and the mission is part of the Agriculture Ministry's goals for the first 100 days of the Modi government's third term.

IMPACT ON FARMERS & AGRICULTURE

- **Enhanced Efficiency:** Streamlined access to services and benefits through digital platforms will reduce paperwork and physical visits.
- **Improved Data Accuracy:** Better crop estimates and soil profiles will support more effective agricultural policies and resource management.
- **Empowerment:** Digital tools will empower farmers with accurate information and services, leading to better decision-making and increased productivity.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

+918988885050



+918988886060

www.vajiraoinstitute.com



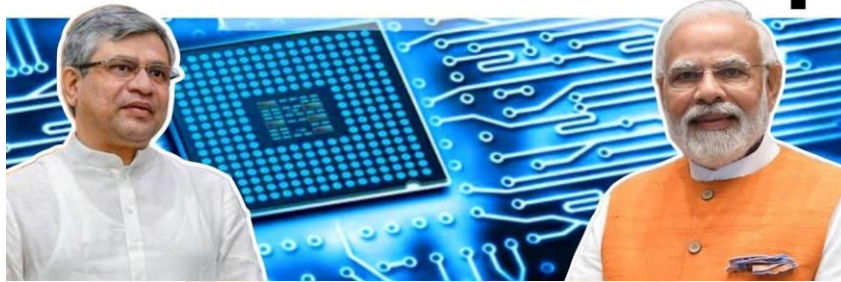
info@vajiraoinstitute.com

INDIA PLANS \$15 bn FOR SEMICONDUCTOR

CHIP MANUFACTURING

\$15 Billion Mega Plan

Semiconductor Chip



The Indian government has **announced an increased funding outlay of \$15 billion for the second phase of its semiconductor manufacturing incentive policy.**

A. This marks a **significant rise from the \$10 billion allocated for the first phase.**

B. The push aims to enhance India's presence in the global semiconductor industry.

KEY DEVELOPMENTS

- **Major Investments and Partnerships:**

- **Tata Group's Fab Plant:** Tata, in partnership with Taiwan's Powerchip

Semiconductor Manufacturing Corporation (PSMC), is setting up India's first

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



commercial semiconductor fabrication plant with an investment exceeding Rs 91,000 crore.

- **Assembly and Testing Plants:** The government has **approved 3 additional assembly and testing plants (ATMPs and OSATs)**. These plants, less complex than fabrication plants, focus on assembling and testing semiconductor components.

- **Micron Technology:** The **first ATMP, approved in June 2023**, is being developed by US-based Micron Technology.
- **Tata's Assam Facility:** Tata is also building an assembly plant in Assam.
- **C G Power and Murugappa Group:** The third facility is a joint venture between C G Power and Industrial Solutions (part of the Murugappa Group) and Japan's Renesas Electronics.

- **Financial Commitments:**

- **Total Project Cost:** The combined cost for these four projects exceeds Rs 1.48 lakh crore.
- **Government Subsidies:** The **central government will contribute nearly Rs 59,000 crore in capital expenditure subsidies.**

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



- State governments are enhancing the appeal of these projects by offering land and electricity at reduced rates.

IMPORTANCE OF CHIP MAKING

- **Economic and Strategic Significance:**

- **Current Landscape:** India currently has **minimal involvement in semiconductor manufacturing. Major production is concentrated in Taiwan and the United States, with the US investing around \$50 billion** and the EU also offering substantial incentives.

- **Strategic Goals:** Building **domestic fabrication capabilities is crucial** for economic growth and strategic autonomy, given the extensive **use of semiconductors in various industries from aerospace to consumer electronics.**

- **Geopolitical Context:**

- **Global Tensions:** Amid rising **geopolitical tensions, particularly between the US and China**, India aims to capitalize on opportunities to strengthen its local chip industry with government support.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



LIMITATIONS

- **Technological Limitations:**

- **Node Sizes:** The **Tata-PSMC** fabrication plant will not produce cutting-edge **semiconductor nodes**. This technology requires advanced capabilities not yet available with these partners.
- **High Barriers:** The semiconductor industry faces high entry barriers. **Despite significant investments, like those made by China in Semiconductor Manufacturing International Corporation (SMIC),** achieving technological advancements in smaller node sizes remains challenging. Leading companies such as Taiwan Semiconductor Manufacturing Company (TSMC) possess a substantial technological advantage in this area.

- **Technological Innovation:**

- **Innovation Needs:** Manufacturing advanced semiconductor nodes involves a **high level of technological innovation**, which is currently beyond the scope of many new entrants, including the Tata-PSMC venture.

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



MCQs

1. Which of the following are the components of Digital Public Infrastructure for farmers?

1. AgriStack
2. Soil Profile Maps
3. e-Commerce for agriculture.

- (A) Only 1 & 3
(B) Only 1 & 2
(C) Only 1
(D) All of the above



Ans. (B)

2. The component of AgriStack in DPI for agriculture deals with which of the following?

1. Giving a digital identity to farmers
2. Digital mapping of land records
3. Digital survey of crop planting.

- (A) Only 1 & 3
(B) Only 1 & 2
(C) Only 2
(D) All of the above

Ans. (D)

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



3. Consider the following statements and mark the correct one:

1. The Digital agri mission is completely funded by the center
2. The Digital agri mission aims to improve soil health among other things.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (B)

4. Consider the following statements wrt Semiconductor chip manufacturing plants and mark the correct one:

1. Semiconductor chip fabrication plants are more complex than assembly plants.
2. Tata group has invested in a semiconductor fabrication plant.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (C)

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

+918988885050



+918988886060

www.vajiraoinstitute.com



info@vajiraoinstitute.com

5. Which of the following can be considered as the advantages of domestic semiconductor chip manufacturing?

1. Atma Nirbharta
2. Economic Development
3. Strategic Autonomy

(A) Only 1 & 2

(B) Only 2

(C) Only 2 & 3

(D) All of the above



Ans. (D)

ADDRESS:

19/1A Shakti Nagar, Nagiya Park Near Delhi University, New Delhi - 110007 (India)