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ANDHRA PRADESH

■ Rayalaseema Integrated Horticulture Hub — The ₹1-Lakh-Crore Plan

In News: A **₹1-lakh-crore Rayalaseema Integrated Horticulture Hub** is being built to turn the drought-prone region into a **Global Horticulture Hub**, with the foundation stone to be laid at **Madanapalle** and **Chittoor district receiving ₹1,529.69 crore** in the first tranche.

The problem it addresses

- Rayalaseema agriculture remains **largely rain-fed with patchy micro-irrigation**; delayed release of **Handri-Neeva** water pushes sowing back, so harvests bunch together and the market gluts.
- **Weak Farmer Producer Organisations**, absence of pre-arranged buyers and middlemen dictating prices through **crate advances** leave farmers exposed to price crashes.
- A critical shortage of **cold storage and pack houses** meets a brutal perishability clock: **tomatoes have about a two-day shelf life and mangoes about ten days**, so a transport delay or a full market yard forces farmers to dump produce on the road.
- These three — water timing, marketing structure and the cold chain — are the standard diagnosis of distress sales in Indian horticulture, and the hub is designed against all three rather than any one.

Structure and funding

- Funding: **₹40,000 crore from the Centre and ₹60,000 crore in private investment**, covering **201 clusters across 10 districts**.
- Each cluster gets **collection centres, grading facilities, cold storage and direct market linkages**, so a farmer can store and sell on demand rather than under distress.
- **Chittoor's ₹1,529.69 crore** over three years covers **20 clusters in 27 mandals**, with the first phase (2026-27) in five clusters across seven mandals.
- Chittoor allocation: **₹620.40 crore for micro-irrigation**, **₹383.74 crore for demand-driven crops** (exotic fruits, vegetables, flowers, oil palm), **₹162.80 crore for productivity** through orchard rejuvenation, pruning, mulching and integrated pest and nutrient management, **₹84.96 crore for post-harvest management** (cold storage, ripening chambers, reefer transport), and **₹77.11 crore for market infrastructure**.
- Institutional support: **₹23 crore for FPOs and agri-startups**, **₹21 crore for quality planting material**, **₹17.21 crore for farm mechanisation** and **₹17.40 crore for training**.

Targets, Totapuri and the policy demands

- By **2030**, cultivation area is to rise from **8.4 lakh hectares to 14.41 lakh hectares** and output to **435 lakh tonnes**, with central assistance of **₹40,352 crore** and private investment of **₹59,000 crore** in the wider expansion proposal.
- Focus crops are **water-efficient commercial crops under drip irrigation** — banana, papaya, pomegranate — and export promotion for **Madanapalle tomato, tamarind, banana and sweet orange**.
- For **Totapuri mango**, the Horticulture Department launched phased **top-working** — grafting superior varieties onto existing rootstocks — in Tirupati district, led by **ICAR-CISH Lucknow** with **ICAR-IIHR Bengaluru** and **Dr YSR Horticultural University**, alongside Good Agricultural Practices training in Chinnagottigallu mandal.
- Support under the **Mission for Integrated Development of Horticulture (MIDH)** covers orchard rejuvenation, pack houses and fruit covers; a **price deficit support of ₹4 per kg** was announced for eligible Totapuri growers after the market crash.
- Related initiatives: an **Indian School of Agriculture** at Ramireddypalli by Reliance to give farmers AI-based tools and real-time market alerts, and a stakeholder demand for a **separate Central Mango Board** on the model of the Tobacco Board.

■ The $2.40-Trillion Vision, SIPB Approvals and the Tax Surge

In News: Andhra Pradesh outlined a roadmap to scale its economy from **$200 billion to $2.40 trillion by 2047**, while the **21st State Investment Promotion Board** meeting cleared **28 proposals worth ₹22,178 crore** and GST collections grew **14.10%** year on year.

The cluster strategy

- The vision rests on **23 sector-specific clusters** spanning traditional manufacturing (cement, automotive), material sciences, **rare earth minerals**, AI, data centres, pharma and biomedical sectors.
- A dedicated **quantum ecosystem** is being developed in Amaravati covering cryogenics, material sciences and practical quantum applications.
- An **Indian School of Agriculture** is proposed, modelled on the Indian School of Business, to build an agricultural R&D ecosystem.
- Governance follows the **'P4' model — Public, Private and People Partnership** — pairing better-off families with identified households for mentoring and livelihood support, rather than transfers alone.

SIPB approvals and directives

- The 21st SIPB meeting approved **28 industrial proposals worth ₹22,178 crore** with potential employment for **19,739** people, in energy, IT, food processing, manufacturing and tourism.
- Cumulatively the SIPB has approved **387 projects** representing **₹14.05 lakh crore** and employment potential for **10.79 lakh** people.
- Strategic directives: build a full **semiconductor, chip manufacturing, robotics, quantum and high-performance computing** ecosystem rather than basic electronics assembly; develop **drone and space city clusters**; and position the State as a hub for **rare earth minerals**.
- **Green energy**: investments secured for **113.75 GW** against a target of **160 GW**. A mandatory **six-month timeline** was set for all SIPB-cleared projects to begin construction — the standard answer to the gap between MoUs signed and capital actually grounded.
- Export rankings: **Tirupati district, supported by Sri City, stood 10th nationally** in district-wise exports and **East Godavari 12th**. A **net-zero directive** was issued for Tirumala Tirupati Devasthanams through electric buses, with **511 charging station permissions** granted statewide.

Revenue performance

- Net **GST collections grew 14.10% year on year to ₹3,182.87 crore**, against a national average growth of about **8%**.
- Total **commercial tax revenue rose 18% in the first half of the fiscal year to ₹30,435.98 crore**.
- Rising GST collections are read as evidence of **formalisation** — more transactions entering the tax net — as much as of growth, and matter for **fiscal federalism**: stronger own-tax revenue gives a State more autonomy in welfare spending than dependence on central transfers does.

■ Ports — Doubling Cargo Capacity and the BPCL Ramayapatnam Refinery

In News: Andhra Pradesh is developing **four greenfield seaports** to double the cargo capacity of its **'Other Than Major Ports' to 200 MTPA**, and is pushing BPCL to start a **₹1.45 lakh crore refinery-cum-petrochemical complex** near Ramayapatnam.

The ports

- **Major ports** are governed by the Centre under the Major Port Authorities Act, 2021; all others are **'Other Than Major Ports' (OTMP)** under State maritime boards — the distinction that explains why port policy here is a State subject in practice.
- Existing OTMPs in the State handle **100 MTPA**, equal to the State's only major port at **Visakhapatnam**. Andhra Pradesh holds a **16% share of India's total OTMP cargo, second nationally behind Gujarat**.
- The four greenfield ports are at **Ramayapatnam (Prakasam), Mulapeta (Srikakulam), Machilipatnam (Krishna) and Kakinada**, all targeted to be fully operational by the **end of 2027**.
- Ramayapatnam, Mulapeta and Machilipatnam are being developed as **State ports**; the **Kakinada gateway port** is a multi-cargo facility inside the Kakinada SEZ built by the Aurobindo Group on **PPP**. Machilipatnam is being built by **MEIL**, and the AP Maritime Board issued an **RFP** to finalise the Ramayapatnam operator.
- Hinterland connectivity by rail and road is planned to serve **Telangana, Chhattisgarh, Jharkhand, Karnataka, Odisha and Maharashtra** — the landlocked and semi-landlocked States whose cargo currently travels further to reach a port.

- The market gap being targeted is container handling between **Haldia and the Visakhapatnam-Chennai** stretch, where demand exceeds capacity.

BPCL Ramayapatnam

- Location: between **Prakasam and Nellore** districts near the proposed Ramayapatnam Port; investment **₹1.45 lakh crore**; refining capacity **9 MTPA**; land acquisition of **6,000 acres** in advanced stages.
- Output: about **5.4 MTPA of Euro-6 standard fuels** — motor spirit, high-speed diesel, aviation turbine fuel — and about **3.2 MTPA of petrochemicals**, including **HDPE, LDPE, LLDPE, polypropylene and PVC**.
- The design marks a shift from refineries built for fuel to refineries built for **chemical feedstocks such as ethylene and propylene** — the response to electric vehicles eroding long-run transport fuel demand while plastics and chemicals demand keeps rising.
- It aligns with the national goal of raising India's **petrochemical intensity index from about 5% to 15-20%** over the next decade.
- A **1,500-acre downstream petrochemical park** adjacent to the refinery is a joint initiative of BPCL and **APIIC**, intended to anchor ancillary manufacturing — the classic port-led industrialisation model.

■ Krishna River Water Metro and India's First 3D-Printed Rural Housing

In News: A **Krishna River Water Metro** is proposed between **Vijayawada and Amaravati**, and India's first **3D concrete-printed rural housing pilot** was approved at **Burripalem, Guntur district**.

Water Metro

- A proposed **30 km waterway** from Vijayawada to Amaravati, falling under **National Waterway-4**, modelled on the **Kochi Water Metro** — India's first such system, which integrated boat services into a city's public transport network with electric-hybrid vessels.
- Proposed by the **A.P. Inland Waterways Authority** under the **Water Metro Policy** of the Ministry of Ports, Shipping and Waterways, with preliminary studies by the **Inland Waterways Authority of India**.
- **Phase 1 (Vijayawada to Rayapudi)** needs no major dredging, confirmed by a 2021 feasibility study and trial runs; **Phase 2 (Rayapudi to Amaravati)** requires dredging and a dedicated navigation channel.
- Three National Waterways — **NW-4, NW-79 and NW-104** — pass through the State, with the Krishna and Godavari supporting about **250 operational inland vessels**. NW-4 covers the Krishna and Godavari along with the Kakinada-Puducherry canal system.
- The **National Waterways Act, 2016** declared 111 inland waterways as national waterways; the practical constraint on most of them is **year-round draft**, which is why dredging requirements decide phasing.

3D-printed housing

- **3D Concrete Printing (3DCP)** builds structures by depositing a specially formulated concrete mix in **layers from a computer-controlled nozzle**, with no shuttering or formwork.
- Claimed advantages: **cost-effectiveness, disaster resistance, sharply reduced construction time and far less material wastage**, since concrete is placed only where the design requires it.
- The pilot at **Burripalem, Guntur district** is India's first in a **rural** setting — earlier Indian 3DCP work has been institutional or urban, such as the IIT Madras-incubated post office at Bengaluru.
- The binding questions for scaling are **cost per square foot against conventional brick-and-mortar at Indian wage levels**, the availability of trained operators, and whether the printed mix meets Indian Standard codes for structural concrete — which is why a pilot, rather than a programme, is the right first step.

■ Sanjeevani Programme and Tribal Health Infrastructure

In News: The **Sanjeevani Programme** was launched from **Ganneli in Araku Valley, Alluri Sitarama Raju district**, aimed at eliminating **multidimensional tribal poverty** through health and infrastructure interventions.

The programme

- A specialised emergency network of **150 vehicles and 104 ambulances**, equipped to conduct **42 diagnostic tests on-site** in remote hilly terrain — bringing the laboratory to the patient rather than requiring a journey the terrain makes impossible.

- **₹250 crore** has been earmarked for the **Tribal Health Infrastructure Mission**.
- The **Adivathalli Bata** project runs alongside it, constructing **900 km of remote roads** — because in hill districts the ambulance is useless without the road.
- **Automated drone delivery payloads** are integrated into the framework to move **blood samples and emergency medicines** between inaccessible hamlets and district hospitals; the national precedent is the **ICMR Drone Response and Outreach in North East (i-DRONE)** initiative.

Multidimensional poverty and the tribal context

- **Multidimensional poverty** is measured by NITI Aayog's **National Multidimensional Poverty Index**, built on the global MPI methodology of the **Oxford Poverty and Human Development Initiative and UNDP**, across **three dimensions — health, education and standard of living — and twelve indicators** including nutrition, child mortality, years of schooling, school attendance, cooking fuel, sanitation, drinking water, electricity, housing, assets, bank accounts and maternal health.
- A household is **multidimensionally poor** if it is deprived in at least one-third of the weighted indicators — so a family can be above the income poverty line and still be counted poor, which is the point of the measure.
- Scheduled Tribes record the **highest multidimensional poverty headcount of any social group** in India, and **Alluri Sitarama Raju** is among Andhra Pradesh's most-deprived districts.
- The constitutional framework is the **Fifth Schedule**, which governs Scheduled Areas through the **Governor** and the **Tribes Advisory Council**; **PESA, 1996** extends panchayat provisions to Scheduled Areas, and **Article 275(1)** provides grants-in-aid for tribal welfare.

■ Genome Analysis Centre and the Expansion of Cancer Care

In News: A pilot **genome sequencing facility** was inaugurated at Guntur and a large-scale **Genome Analysis Centre** announced at the proposed **Quantum Valley, Amaravati**, alongside a major expansion of cancer care infrastructure.

The genome initiative

- The **Amaravati Quantum Valley Centre** is to identify the **genetic causes of rare diseases**, support medical research and analyse cancer-related genetic data.
- The **Guntur pilot** was established at the **NATCO cancer centre** inside the Government General Hospital, offering **free genetic and biomarker tests for breast and lung cancer patients** — tests that cost up to **₹25,000** in private laboratories.
- The clinical purpose is **personalised medicine**: identifying the genetic alterations driving a particular tumour allows the drug to be matched to the mutation rather than to the organ, and also flags **hereditary risk** for the patient's family.
- The national context is the **GenomeIndia project**, which completed whole-genome sequencing of **10,000 individuals** across diverse population groups to build a reference database of Indian genetic variation — necessary because global reference genomes under-represent Indian populations.

Cancer screening and infrastructure

- Free screening is under way for **oral, breast and cervical cancers**; of a target population of **4.27 crore**, about **2.65 crore have been screened**, identifying nearly **7,500 new cancer cases**.
- These three are the cancers India screens for because they are detectable by simple examination and are among the most common — **oral cancer** being driven by tobacco and areca nut use, and **cervical cancer** being both screenable and vaccine-preventable through the **HPV vaccine**.
- **Phase 1** established four comprehensive cancer centres at **Guntur, Visakhapatnam, Kurnool and Kadapa** at a cost of **₹311 crore**, equipped with **linear accelerators, brachytherapy and CT simulators**.
- **Phase 2** centres are under development at **Kakinada and Anantapur**, with plans to upgrade a further **11 teaching hospitals** into cancer care centres.
- A **linear accelerator** delivers targeted external beam radiotherapy; **brachytherapy** places the radiation source inside or next to the tumour. Their scarcity outside metros is the main reason cancer patients travel, which is what district-level centres are meant to end.