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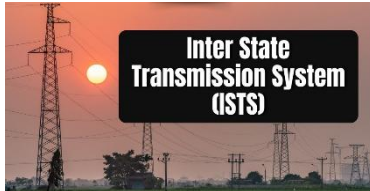
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WHAT IS THE INTER STATE TRANSMISSION SYSTEM (ISTS)



- It is a **high-voltage power transmission network** that enables electricity to flow seamlessly across state borders in India.
- It connects **power-rich regions with energy-deficient areas**.
- This ensures a balanced and efficient distribution of electricity.
- It is **managed by the Central Transmission Utility of India Limited (CTUIL)**, a **100% subsidiary of Power Grid Corporation of India Limited (POWERGRID)** under the **Ministry of Power**.
- **ISTS operates at voltages above 132 kV and reduces transmission losses and enhances grid stability.**
- This system allows solar and wind power to be transmitted nationwide and plays a **crucial role in large-scale ISTS renewable energy projects**.
- **ISTS eliminates state-wise transmission restrictions and creates a unified energy market** where electricity can be supplied based on demand.
- Overcoming geographical constraints, **ISTS makes the power sector more reliable and efficient.**
- **Working:**
 - **Power Generation:** Electricity is generated from **various sources**, including solar farms, wind parks, hydro plants, and thermal stations.
 - **Grid Connection:** The generated power is transmitted to **ISTS substations**, which are high-voltage facilities **managed by the Central Transmission Utility (CTU)**. These substations **step up the voltage** to reduce transmission losses.
 - **High-Voltage Transmission:** The electricity is **transported through a network of 132 kV and above transmission lines** that span multiple states, ensuring minimal energy loss over long distances.



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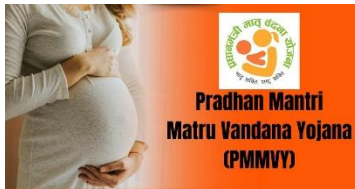


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- **Load Management:** The **Regional Load Dispatch Centers (RLDCs)** and the **National Load Dispatch Center (NLDC)** monitor and regulate electricity flow, ensuring supply matches demand.
- **Distribution to Consumers:** Power is stepped down at state-level substations and supplied to industries, businesses, and residential areas via the **State Transmission Utility (STU)** and local distribution networks.

PRADHAN MANTRI MATRU VANDANA YOJANA (PMMVY)



- It is a **centrally sponsored scheme** under **Mission Shakti's** sub-scheme '**Samarthya**', providing **direct financial assistance** through the **Direct Benefit Transfer (DBT) mode**.
- It is designed to **support pregnant women and lactating mothers**.
- The scheme is to provide **maternity benefits** to women belonging to **socially and economically disadvantaged sections** of society.
- It aims to improve health-seeking behaviour among pregnant women and lactating mothers and ensure **better maternal and child health outcomes** across the country.

Benefits:

- Under PMMVY, a cash incentive of **Rs 5,000** is provided in **two installments directly to the bank/post office account** of pregnant women and lactating mothers **for the first child** in the family.
- The eligible beneficiaries also **receive the remaining cash incentive** as per approved norms towards **Maternity Benefit** under **Janani Suraksha Yojana (JSY)** after institutional delivery so that, on average, a beneficiary gets **Rs 6,000**.
- Cash incentive of **Rs 6,000** is also provided **under PMMVY** to eligible beneficiaries **for a second child** subject to the second child being a girl.

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- In case of miscarriage/stillbirth, the beneficiary would be treated as a fresh beneficiary in the event of any future pregnancy.

The **implementation** of the Scheme is done by **officials of States and UTs through their field functionaries** using the new Pradhan Mantri Matru Vandana Yojana Software (PMMVYSoft) that was launched in March, 2023.

- Under PMMVYSoft, **Aadhaar authentication through UIDAI is done digitally**, and **National Payment Corporations of India (NPCI) verification is ensured** so that funds are directly transferred to their DBT-enabled Aadhaar-seeded bank or post office accounts.

The **criteria for determining socially and economically disadvantaged sections of society** will be the following:

- Women belonging to **scheduled castes and scheduled tribes**;
- Women who are **partially (40%) or fully disabled (Divyang Jan)**
- Women holder of **BPL ration Card**
- **Women beneficiaries under Pradhan Mantri Jan Aarogya Yojana (PMJAY) under Ayushman Bharat.**
- Women holding **E-shram card**
- Women farmers who are **beneficiaries under Kishan Samman Nidhi**
- Women holding **MGNREGA Job Card**
- Women whose **net family income is less than Rs. 8 Lakh per annum**
- Pregnant and **Lactating AWWs/AWHs/ASHAs**
- Any other category as may be prescribed by the Central Government
- Further, all pregnant women and lactating mothers in **regular employment with the central Government or State Government or Public Sector Undertaking or those who are in receipt of similar benefits** under any law for the time being in force shall **not be entitled to benefits under PMMVY.**



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DISTRICT FLOOD SEVERITY INDEX



- It accounts for the historical severity of floods in India based on the number of people they have affected and the spread and duration of such floods.

- **Parameters used**

- It takes into account the **mean duration in days of all flooding events** in a district.
 - Percentage of area that is historically flooded
 - **Total number of deaths**, number of people injured
 - **Population in the district**
- It is developed using the **India Flood Inventory with Impacts (IFI-Impacts)** database containing data of variables representing occurrence of floods & damage due to floods.
 - **India Flood Inventory with Impacts** contains death and damage statistics, and combines population and historically flooded area information sourced from a national hydrologic-hydrodynamic modeling system.
 - Since the district is the most relevant unit for planning and decision making, a DFSI would be of immense value for flood management.

Key findings of District Flood Severity Index

- **Patna** turns out to be number one on the index followed by many districts in the Indo-Gangetic Plain and in Assam.
- **Thiruvananthapuram** is number one in terms of flooding events.
- **Dhemaji, Kamrup, and Nagaon districts in Assam** are three of the five districts in India that have experienced over 178 flooding events, or more than three events per year on an average.
- **Urban flooding** occurs partly because of hydrometeorological reasons and also due to unwise urban development.



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YASHODA AI



- It is an AI Literacy Program for Women titled as “Yashoda AI” from May, 2025.

- **Objective:** To equip women in the Country with AI literacy to enhance digital inclusion and empower them in areas of cyber security, digital privacy and safe online practices.

- It is the **initiative of the National Commission for Women (NCW)** in collaboration with Future Shift Labs (FSL).
- The program aims to go beyond traditional learning by hosting in-depth discussions on critical issues such as **AI-driven crimes, digital privacy, and practical safety strategies.**
- Under this program, about 2500 women from rural and semi-urban locations, including Members of Self-Help Groups (SHGs), Local elected representatives such as Sarpanchs, Pradhans, Parshads, Mayors, MLAs, ASHA workers etc have been imparted training till date.

Key Facts about National Commission for Women

- It was set up as **statutory body** in 1992 under the **National Commission for Women Act, 1990.**
- **Composition:** The Commission shall consist of a **Chairperson, 5 Members,** and a Member-Secretary who are nominated by the Central Government.
- **Term:** The Chairperson and every Member shall hold **office for a period of three years.**
- **Powers:** The Commission, while investigating, **shall have all the powers of a civil court** in respect of the following matters
 - It can summon and enforce the attendance of any person from any part of India and examine him/her on oath.
 - Requiring the discovery and production of any document.
 - Requisitioning any public record or copy thereof from any court or office.



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INDIA'S HERBICIDE REVOLUTION

Crop protection chemicals, commonly referred to as pesticides, are substances applied to crops to safeguard them from damage caused by pests.

These pests may harm crops directly by feeding on them or indirectly by spreading diseases. For instance, the white-backed plant hopper attacks rice crops both by feeding on them and by transmitting the Fiji virus, which leads to stunted plant growth—a problem currently affecting paddy farmers in Punjab and Haryana.

While **insecticides** target such harmful insects, crop protection chemicals also include **fungicides** for fungal diseases like blast in rice and rust in wheat, and **herbicides** to control weeds that compete with crops for nutrients.

This article explores how rising labour shortages and evolving farming practices are driving a rapid shift in India's pesticide market, especially towards herbicides, amid multinational dominance and Indian innovation.

Herbicides: The Fastest-Growing Segment in India's Crop Protection Market

INDIA'S CROP PROTECTION CHEMICALS MARKET		
	Market Size	Annual Growth
Insecticides	₹10,706 cr	5.3%-5.5%
Fungicides	₹5,571 cr	5.5%-6%
Herbicides	₹8,209 cr	10%-11%

Source: Industry estimates for 2024-25. Growth is for last five years.

• India's organised crop protection chemicals market, valued at approximately ₹24,500 crore, is witnessing rapid growth in the herbicide segment.

• While insecticides lead the market at ₹10,700 crore, herbicides follow closely at ₹8,200 crore,

growing at an annual rate of over 10%, the fastest among all segments.

- This space is largely dominated by multinational giants, many of which are backed by Chinese state-owned Sinochem Holdings. However, Indian companies are also making inroads.

Shift Towards Preventive Herbicide Use in Indian Agriculture

- Farmers are increasingly using **pre-emergent herbicides**—sprayed around or just after sowing—to prevent weed growth altogether and maintain clean fields from the outset.



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- Others opt for early **post-emergent herbicides** to target weeds during the crop's sensitive early stages.
- This proactive approach is gaining momentum, especially amid acute farm labour shortages.

Multinational Monopoly and Indian Push in Herbicide Market

- While India has a diverse base of public and private players in seeds and fertilisers, its **crop protection chemicals industry remains dominated by multinational corporations**, raising concerns of monopoly.
 - Despite this, Indian firms are gradually making inroads. Crystal Crop Protection Ltd (CCPL), for example, is developing innovative products through international collaborations.
 - While such developments show promise, India still lacks a dominant global player like China's Sinochem Holdings Corporation, reflecting the long road ahead for Indian companies in breaking the multinational stronghold.
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DECODING CHINA, THE LESSONS FOR A VULNERABLE INDIA

- The **sudden recall of over 300 Chinese engineers from Foxconn's** key iPhone 17 manufacturing facilities in Tamil Nadu and Karnataka is **more than a simple corporate move**.
- It reflects a **deeper, deliberate geo-economic strategy** aimed at constraining India's rise as a global manufacturing power.

China's Calculated Withdrawal: A Strategic Disruption

- The **withdrawal of highly skilled Chinese engineers** from Indian manufacturing hubs is not a bureaucratic anomaly, **it is a targeted intervention**.
- These **engineers brought with them irreplaceable expertise in establishing and fine-tuning high-tech production lines**, a vital resource for a country like India, which is still in the early stages of its industrial ascent.



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- By pulling out these experts, **China has strategically stifled the transfer of technical knowledge**, effectively slowing India's progress toward self-reliant electronics manufacturing.
- This **move is just one element of a broader strategy**. China has also imposed **informal restrictions on exports of rare earth elements**, essential for electric vehicles and electronics, as well as manufacturing equipment critical to India's industrial base.
- These **non-transparent barriers, often implemented through administrative delays or verbal instructions, are difficult to formally contest** but are highly effective in disrupting supply chains, raising costs, and sowing uncertainty.

India's Structural Challenges and Missed Opportunities

- **Underdeveloped Manufacturing Sector**
 - Despite its growing ambitions, **India's manufacturing sector remains underdeveloped in comparison to China's industrial machinery**.
 - The **Make in India** campaign, though visionary, continues to lean heavily on **foreign inputs**.
- **Infrastructure Deficiencies**
 - Infrastructure deficiencies, bureaucratic red tape, and inconsistent policy implementation further **aggravate these challenges**.
 - For India, **this calls for a renewed emphasis on strategic autonomy**, rooted in self-sufficiency and resilience.

Conclusion

- **Beijing's assertive actions are a clarion call for India to focus inward**: to build infrastructure, ease regulatory hurdles, nurture indigenous technology, and develop a self-reliant industrial base.
 - **The time has come for India to move beyond aspirational slogans** and invest deeply in capacity-building, research, and strategic execution.
 - **Only then can it emerge as a true alternative to China's manufacturing empire**. Ultimately, the lesson is clear: the **onus is on India to shape its destiny**.
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BIOCHAR



waste.

- Biochar is a type of charcoal rich in carbon and is produced from agricultural residue and organic municipal solid waste.
- It offers a sustainable alternative to manage waste and capture carbon.
- It is granular material obtained by heating crop residue at 400°C to 600°C in a kiln-shaped structure in the absence of oxygen.

Advantage of Biochar: It can hold carbon in the soil for 100-1,000 years due to its strong and stable characteristics, making it an effective long-term carbon sink.

Potential Applications of Biochar

- **Agriculture:** Applying biochar can improve water retention, particularly in semi-dry and nutrient-depleted soils. This, in turn, can abate nitrous oxide emissions by 30-50%.
- Biochar can also enhance soil organic carbon, helping restore degraded soils.
- **Industries:** In carbon capture applications, modified biochar can adsorb CO₂ from industrial exhaust gases. However, its carbon removal efficiency is currently lower than that of conventional methods.
- **Construction sector:** Biochar can be explored as a low-carbon alternative to building materials and makes building materials a stable carbon sink.
- **Wastewater Treatment:** Biochar offers a low-cost and effective option to reduce pollution.