

Gist of EPW November Week 2, 2022

The Economic and Political Weekly (EPW) is an important source of study material for [IAS](#), especially for the current affairs segment. In this section, we give you the gist of the EPW magazine every week. The important topics covered in the weekly are analyzed and explained in a simple language, all from a [UPSC](#) perspective.

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1. Financial Empowerment of City Governments

Context

The Reserve Bank of India (RBI) recently published a report on municipal finances.

Details

- The report formulated and published by the RBI has compiled the budgetary data of about 201 municipal corporations for the three years ending 2019-20.
- The report is said to be a significant effort as no such measures have been undertaken till date to investigate municipal finances which is one of the most important aspects of fiscal economics and urban development.
- Findings and insights of the report on municipal finances could help make use of available resources in an efficient and optimum manner and also help enhance governance capacity and welfare outcomes.

The neglect of finances of municipal corporations

- Despite the urban local bodies (ULBs) such as the Madras Corporation being established as early as 1687, discussions with respect to their fiscal management have generally been overshadowed by the discussions on the fiscal relationship between the Union and the States.

- Although there are about 221 municipal corporations, 1,683 municipalities, and 2,411 nagar panchayats in the country, the fiscal aspect of municipal bodies is largely neglected.
- Apart from weak finances, the aspect of financial autonomy of the ULBs and municipal corporations is also neglected.
- Further, the financial resources of urban local bodies are scarce, thus there is a large degree of dependence on the Union and the States for the devolution of finances which has impacted the functioning of these bodies.

Significance of finances of municipal corporations

- Municipal corporations and ULBs play an important role in bringing about the overall welfare of the urban population which is said to have crossed 46 crores. In this context, the financial independence and empowerment of these bodies have become extremely crucial.
- At present over 50% of the overall urban population resides in these municipal corporations.
- The importance of the finances of municipal corporations will only increase as a few reports suggest that over 4 crore will be added to the urban population by 2050 and will account for 50% of the overall population of the country.
- Additionally, some studies reveal that 17 of the 20 fastest-growing cities in the world would be in India by 2035.

Implications of inadequate finances for municipal corporations

- The weak finances of municipal corporations will have serious implications on overall urban welfare.
- The neglect of the finances of municipalities, municipal corporations and ULBs has had a heavy toll on the quality of public utilities and the implementation of various welfare schemes.
- Inadequate finances quell the ability of the Municipalities to perform the 18 functions conferred on them by the 12th Schedule of the Constitution which includes activities such as urban planning, regulation of land use, provision of urban facilities, construction of roads and bridges, water supply, public health, etc.
- Inadequate and insufficient financial resources also impact the development of urban infrastructure and services.
- Also, most of the problems associated with the urban sector can be linked to weak financial resources and poor governance structure of these bodies.

Reasons for inadequate availability of financial resources

- One of the main reasons for the problem of finances is the presence of a narrow tax base with property taxes constituting the majority portion of the tax revenues.
- Further, these local governing bodies are significantly dependent on the Union and State governments for their revenues.
- The municipal corporations and ULBs are also constrained by their inability to raise any substantial additional resources from the markets, the main reason for which is the lack of transparency in accounting practices.

Findings of the report

- The recent RBI report suggests that the revenue receipts of the municipal corporations showed a slight improvement to 0.72% of the GDP in 2019-20.
- Out of this, only about 33% account for their own tax revenues such as property and local taxes.
 - Non-tax revenues such as fees and user charges also accounted for 33% of the total revenue receipts.
- Further, the overall share of resources raised through market borrowing was only 0.05% of the GDP.
- The report also notes that the share of revenue expenditure in total expenditure declined to 58% by the end of 2019-20.
- The ratio of revenue expenditure to capital expenditure of the municipal corporations was 2.4 as compared to 5.9 for State governments and 7.1 for the Union government.

Way forward

- The [Fifteenth Finance Commission](#) has recommended the grant of about ₹1.30 lakh crores for ULBs for the five years ending 2025-26. However, experts feel that the requirements are much larger.
- A recent study by the World Bank highlights the fact that Indian cities would require investments worth \$840 billion in the next 15 years till 2036.
 - Out of this, close to \$450 billion is required for providing basic municipal services such as water supply, sewerage, waste management, roads, etc.
 - Another \$300 billion is required for developing mass transits.
- Mobilising such a huge amount of financial resources and fostering investments of such scale would require a significant rehauling of municipal finances to strengthen their financial autonomy.
- Further, legal statutes, which put in place strict regulations so that municipal corporations must not indulge in deficit financing, must be made flexible as they can help mobilise more resources from the financial markets.

- Mobilisation of additional resources helps enable municipal corporations to undertake major projects that improve urban living standards.

2. Electric Vehicle Mobility in India

Details:

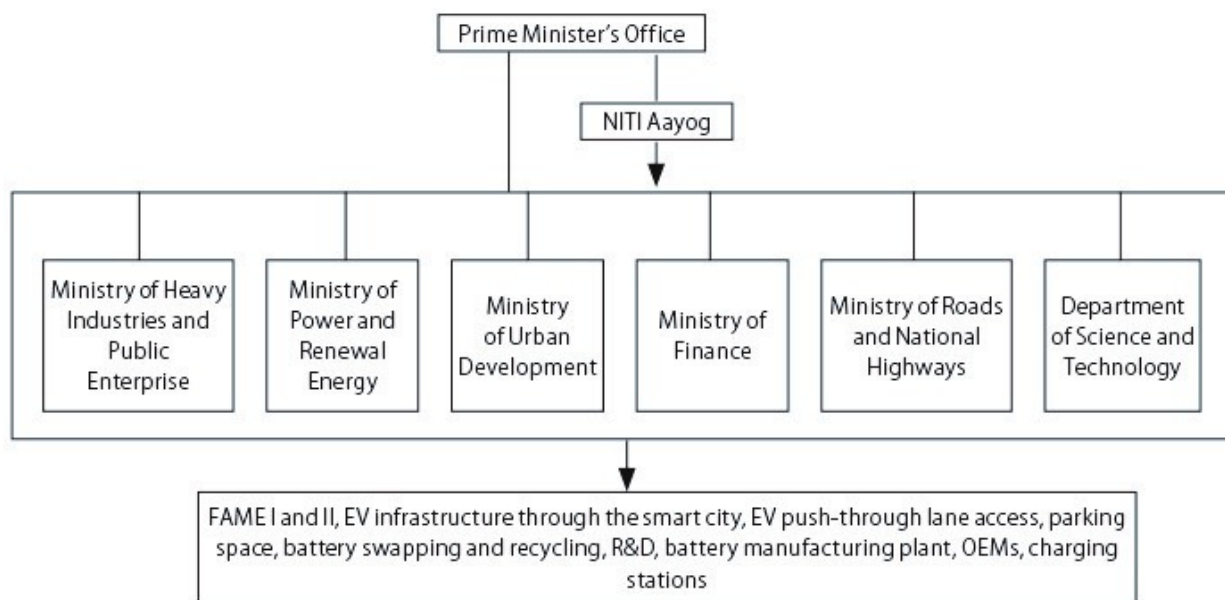
- The conceptual idea behind electric vehicles is quite old. The first fleet of electric taxis was developed in England around 1897 by the name Hummingbirds. After some time France and the United Kingdom introduced a policy for electric vehicles. However, issues of speed, pricing, and battery reliability deferred the earlier adoption of electric vehicles.
- Commercially available electric vehicles can be classified into three main categories:
 - Plug-in hybrid electric vehicles (PHEVs)
 - Hybrid electric vehicles (HEVs)
 - Battery electric vehicles (BEVs)
- PHEVs and HEVs can be powered by electricity or petrol, whereas BEVs are exclusively based on electricity.
- Electric vehicle batteries:
 - The battery plays the most important role in the operation of an electric vehicle.
 - The major battery technologies are:
 - Lead-acid
 - Nickel metal hydride
 - [Lithium-ion](#)
 - Sodium nickel chloride

Electric Vehicles in India:

- Realizing its challenges and responsibilities, India has set some ambitious targets in line with the [Sustainable Development Goals \(SDGs\)](#). For example, India intends to reduce carbon emissions by 1 billion tonnes and expand its renewable energy generation capacity to 500 GW by 2030. Moreover, India has also set the target to reach net-zero carbon emissions by 2070. In this context, the electric vehicle choice appears to be more rational.
- India is a huge automobile market consisting of both home-grown and international players. The electric vehicle market in India is estimated to reach approximately \$206 billion by 2030.
- The market size of electric vehicles in India is currently less than 1% of the total vehicle sales. It should be noted that the sales of electric vehicles in India grew rapidly after the [COVID-19 pandemic](#) with approximately 4,67,000 units sold in 2021. More than half of these sales were registered from the two-wheeler segment.

- The NITI Aayog and the government have taken various measures for the growth of electric vehicles. For instance:
 - GST rates for electric vehicles were reduced to 5%.
 - A special focus has been given to rural access to transportation like e-rickshaw.

Figure 1: Electric Vehicle policy structure



Source: EPW

Issues and Challenges:

- India suffers from technological and infrastructural challenges to emerge as a hub of electric vehicle manufacturing.
- India also has policy issues. For example, it does not have a framework for battery recycling and the second-hand use market.
- There are multiple technical challenges like battery durability, weight and charging period, etc.
- Other issues like high retail charges, negative safety perception, increasing charging cost, and low resale value makes electric vehicles less popular among Indian consumers.
- There is a lack of transparency in the implementation of various electric vehicle policies.
- Moreover, rapid technological evolution, insufficient charging infrastructure, poor public interface, and lack of standards and regulatory framework are other challenges.
- Industrial issues such as less demand for small e-vehicles, non-integrated manufacturing facilities, taxation, porous e-mobility ecosystem, unclear legislative framework, and high research and development (R&D) costs are also hindering the overall market development.

Opportunities in India:

- As per an estimate, India will require approximately 4 lakh public charging stations by 2026 for nearly 2 million electric vehicles.
- Moreover, public places like highways, shopping malls, and workplaces will also need the installation of electric vehicle supply equipment (EVSE).
- There is also a huge opportunity in terms of battery design and development, public charging space, and electric cars in various segments.

Government Initiatives to promote Electric Vehicles:

- **MAKE IN INDIA:** The government incentivizes domestic manufacturing through tax waivers. It also supports Indian start-ups.
- **NATIONAL ELECTRIC MOBILITY MISSION PLAN 2020:** The aim of this initiative was to expedite the adoption of electric vehicles in India and reduce the dependence on fossil fuels through monetary and fiscal support for infrastructure creation.
- **FAME I AND FAME II:** FAME I and II schemes were launched by the government in the years 2015 and 2019, respectively. Their purpose is to incentivize electric vehicle production. They target four areas:
 - Technology development
 - Pilot projects
 - Speed charging infrastructure
 - Demand creation
- **DEENDAYAL E-RICKSHAW SCHEME:** The Ministry of Road Transport and Highways launched this scheme in 2014 to transform intra-city commutes and generate employment. It provides loans at an interest rate of 3% per annum.
- **NATIONAL MISSION ON TRANSFORMATIVE MOBILITY AND BATTERY STORAGE:** It was launched in 2019 to gradually localize the production and research of the entire value chain of electric vehicles.
- **ACCELERATED E-MOBILITY REVOLUTION FOR INDIA'S TRANSPORTATION:** It is an online platform that promotes awareness and provides information about the status of electric vehicle adoption. The main beneficiaries of the initiative are service providers and owners of various electric vehicle technologies, types, insurance, and financing options.

Figure 2: Timeline of Government initiatives with respect to e-mobility



Source: NITI Aayog

Way Forward:

- Implementation of consumer-centric policy measures in a timely manner is required to achieve the vision of 100% e-mobility by 2030.
- Expanding charging infrastructure: Easy access to charging infrastructure is the most crucial element for the widespread acceptance of electric vehicles. The major suggestions for the stakeholders in this regard are:
 - Designing policies and processes that minimize costs associated with land acquisition, operations, and maintenance.
 - Establishing standards for charging compatibility and portability for different types of electric vehicles.
 - Establishing battery swapping standards to ensure seamless and safe operations.
 - Establishing a dedicated authority for electricity distribution to provide e-mobility.
 - Providing tax relief for electric vehicle acquisition and maintenance.
 - Leveraging information and communication technologies to strengthen interoperability and operational efficiency.
 - Installing high-capacity charging stations in public places. The initial steps may be taken by public sector undertakings like the [National Highways Authority of India \(NHAI\)](#).
- Battery swapping and recycling: A policy framework for battery swapping and recycling should be developed.
- Creating public awareness: Public awareness programmes should be organized for information circulation. Some suggestions are:

- Involve all the stakeholders like state governments, manufacturers, distributors, and customers to devise a communication strategy.
- Connect other initiatives with an e-mobility communications strategy.
- Integrated marketing communication should be used to publicize through various channels like radio, satellite television, social media, and outdoor media for widespread awareness.
- Collaborate with regional/local bodies to build a local ecosystem that facilitates switching to electric vehicles for private and public transport.
- Incentivising business organisations for popularising and adopting e-mobility alternatives through the corporate social responsibility route.
- Spread awareness in places like tourist destinations, eco-sensitive zones, and protected areas.

Conclusion:

- Despite several Indian cities witnessing worrying levels of pollution, the adoption of sustainable modes of transportation has not been that swift.
- To address the challenges of climate change and energy security India should focus on the widespread adoption of e-mobility.
- The success of the e-mobility would depend on effective collaboration among all the stakeholders, disciplined implementation, and continuous improvement.

3. Abortion Rights and Marital Rape in India

Context: Supreme Court's recent abortion ruling.

Key Details:

- The Supreme Court on Thursday declared that all women, married and unmarried, are entitled to safe and legal abortions till 24 weeks of gestation under India's Medical Termination of Pregnancy Amendment Act, 2021.
- The Court held that Rule 3B of the Medical Termination of Pregnancy (Amendment) Act, 2021, which details the categories of women who are eligible for termination of pregnancy up to 24 weeks, should be interpreted to include any woman who has undergone a material change of circumstances.
- The Court ruled that exclusion of unmarried women who conceive out of live-in relationship from the Medical Termination of Pregnancy Rules is unconstitutional. "All women are entitled to safe termination of Pregnancy

- The apex court also held that the meanings of the expressions “sexual assault” and “rape” under the rules of the 2021 act included a husband’s act of sexual assault or rape on his wife.
- The court said the meaning of “rape” must be understood as including marital rape, solely for the purposes of the MTP Act. A different bench is hearing an independent challenge to an “exception” in the Indian Penal Code that does not define forcible sex by a man on his wife as rape.

Rule 3B of the Medical Termination of Pregnancy (Amendment) Act, 2021:

- According to Rule 3B, seven categories of women are eligible for termination of pregnancy under Section 3(2)(b) of the act.
- These are survivors of sexual assault, minors, women whose marital status changes during the ongoing pregnancy through widowhood or divorce, women with physical disabilities, mentally ill women, women, whose foetus has a malformation that has substantial risk of being incompatible with life, or if the child is born, it may suffer from physical or mental abnormalities and will be seriously handicapped; and women with pregnancy in humanitarian settings or disaster or emergency situations.
- The High Court of Delhi previously ruled that an unmarried woman whose pregnancy arose out of a consensual relationship, was not covered by any of the categories under Rule 3B of the MTP Rules.
- The Supreme Court was thus called upon to answer the substantial question of law regarding the interpretation of Rule 3B of the MTP Rules which unanimously held that Rule 3B should be interpreted as extending to any woman who has undergone a material change of circumstances.

Various Judgments on Women’s Bodily Autonomy:

- Previous Supreme Court decisions have noted how pregnancy creates a burden upon women’s bodies.
- The Supreme Court in *K S Puttaswamy v Union of India* case noted that a woman’s freedom of choice, whether to bear a child or abort her pregnancy should fall in the realm of privacy, and that the right to bodily integrity is an important facet of the right to privacy.
- In *Suchita Srivastava v Chandigarh Administration* case, the Supreme Court held that the ability to exercise reproductive choices, whether to procreate or to abstain from procreating, is a part of a woman’s right to privacy, dignity, and bodily integrity.
- In *High Court of Bombay on its Own Motion v State of Maharashtra*, case held that compelling a woman to continue an unwanted pregnancy violates her bodily integrity, aggravates her mental trauma and has a deleterious effect on her mental health.

Significance of this judgment:

- This is a landmark decision that places women at the very centre of the abortion decision.
- It centred abortion on a woman's own estimation of her circumstances and highlighted women's bodily autonomy.
- Supreme Court observed that if Rule 3B(c) was to be interpreted such that its benefits extended only to married women, it would perpetuate the stereotype that only married women indulge in sexual intercourse.
 - This shows the role of the judiciary to step in and use the appropriate tools of interpretation to achieve the demands of justice.
- It also held that marital rape would be rape for the purposes of the MTP Act.
 - It observed that any other interpretation would have the effect of compelling a woman to give birth and raise a child with a partner who inflicts mental and physical harm upon her.
- This signifies that women's bodies are not a means to an end. Given how pregnancy depends and affects the body, every woman has the right to decide if it is right for her, both in the immediate and long term.
- The observation regarding the long-term effects cast a spotlight on how having a child is a lifelong commitment and requires both mental and physical commitment, which a woman ought to be able to evaluate on her own terms.

4. Climatic Trends, Cropping Pattern Shifts, and Migration of Rice in India**Details:**

- India is highly vulnerable to [climate change](#) due to its large agricultural sector and its small farms.
- The "Declaration on Forests and Land Use", where 127 nations committed to "halt and reverse forest loss and land degradation" by 2030 was skipped by India.
- India's 22% forest cover is restricted to the hilly, island, and three plain states.
- Food crops occupy the major part of India's total farmland with rice and wheat claiming almost 39% of the gross cropped area (GCA). They also use large amounts of water and nitrogenous fertilizers.
- India, China, and Russia emit approximately 35% of the atmospheric methane (CH₄). Methane causes 80 times as much warming as an equal amount of Carbon Dioxide (CO₂). The largest generators of CH₄ are animals. Rice is also a source of CH₄ emissions.
- Agriculture in India occupies nearly 63% of commercially available land and provides livelihood to nearly 50% of its population.

- Wheat cultivation was prioritized in northwestern India during the [Green Revolution](#). It should be noted that rice is a monsoon crop that requires a hot and wet climate. It is a staple in the low-lying, rain-fed states of eastern India. However, rice cultivation has shifted westwards over a period of time.

Rice Cultivation:

- Three-fourths of the rice cultivated across the world requires raising seedlings in a nursery which are later transplanted to puddled fields. This procedure is known as puddling and requires extensive irrigation and water management.
- Some Indian states that are moving towards rice were conventionally specialized to cultivate wheat or produced pulses, millets, and oilseeds. It is observed that only an impervious layer of soil which is an outcome of repeated puddling operations restricts water infiltration and can suppress weed growth in these coarse and permeable soils that are not suitable for rice.
- Puddling that causes CH₄ emission consumes a large amount of water. It is estimated to be around 3,000–5,000 litres per kilogram (kg) of rice.
- India is the largest consumer of groundwater in the world. Approximately 90% of the groundwater is extracted for the purpose of irrigation. The extraction of water requires power from fossil fuels which is further responsible for CO₂ emissions.
- As per international norms, the rice-wheat rotation of northwest India is the major reason behind India becoming a water-stressed country.
- Moreover, the delayed rice encroaches into the wheat season and compels the farmers to undertake [stubble-burning](#) activities for quick land clearance thereby adding to CO₂ and CH₄ emissions.
- It is often argued that rice poorly responds to fertilizer usage and causes soil degradation. Moreover, its association with rice makes the future of rice grim. Despite these facts, rice is replacing wheat and other nutritious crops.
- The infrastructure and institutions also support rice cultivation and prevent its price from falling in the face of large-scale production.
- As per a 2016 report, agriculture accounts for 14% of India's emissions following electricity, manufacturing, and construction.
- Total agricultural emissions (given in the table below) have increased in absolute terms, despite their share declining since 1994 (MoEF&CC 2021).

CONSTITUENT	SHARE (in percent)
Carbon Dioxide (CO ₂)	78.6%
Methane (CH ₄)	14.4%

Nitrous Oxide(N₂O) 5.1%

Other gases 1.9%

- Primary sources of greenhouse gas emissions from farming are:
 - Livestock (54.6%)
 - N₂O from soils (19.0%)
 - Anaerobic rice cultivation in continuously flooded fields (17.5%)
 - Burning of stubble (2.1%)

Analysis of rice acreage change in recent times:

- Rice and various food and cash crops are grown in India in the Kharif season, together accounting for the 63% of the gross cropped area (GCA). However, the share of the rabi season's food production is increasing due to more manageable irrigation from stored water.
- The 5 food crops namely rice, maize, millet, pulses, and oilseed cover nearly half of the Kharif acreage. The remaining crops are cash crops, small millets, minor pulses and oilseed, perennials, and horticulture.
- The share of rice (out of the five crops) has increased from 61 % to 63%, particularly in the states of Andhra Pradesh and Tamil Nadu in the south and Haryana, Gujarat, Punjab, and Uttar Pradesh in the north-west.
- In various eastern states, its share dwindled, remaining almost stable at 100% in Jharkhand and at 95% in Odisha.
- Rice also lost its share in the drier southwestern states of Maharashtra and Karnataka as well as Madhya Pradesh. It was also observed that millets were neither raised in the eastern states nor in Punjab in 2000 and by 2019, they lost share in the states where they were grown, declining on an average from 15% to 8%.

Factors behind rice acreage change:

- The major factor is the pre-sowing rainfall in the neighbouring states. For instance, rainfall in Madhya Pradesh influences planting in Chhattisgarh, Jharkhand, and Gujarat due to river linkages.
- Reservoir volume also promotes rice acreage.
- Groundwater is also a factor in determining the cultivation of crops. For instance, receding groundwater restricted the cultivation in the states of West Bengal, Bihar, and Haryana whereas the positive interactions of its depth with well-irrigation helped in increasing its acreage in both Punjab and Haryana.

- Minimum Support Price ([MSP](#)) is a significant factor in determining crop cultivation.
- It was also found that changes in rainfall pattern, frequency, and intensity have contributed to rice area expansion in the west.
- River management policy has promoted rice in newly emerging states like Gujarat.
- However, increased input costs, fertilizers, and labour have a negative impact on the expansion of the area.

Associated concerns and the way ahead:

- Deep-water paddy located in eastern states causes large emissions. Evacuation of rice from the natural habitat for rice; evacuation leaves behind unutilized wetlands. Water-saturated oxygen-poor wetlands result in the breeding of methanogenic microbes that are the largest natural source of atmospheric CH₄ in the world.
 - To deal with such a situation, a sound wetland policy, with CH₄ capture for fuel, may be explored.
- There is a belief that rainfall changes and saline water intrusion might shift rice cultivation from eastern states, particularly coastal areas.
 - In such cases, techniques like the [system of rice intensification \(SRI\)](#), direct seeding, low tillage, mid-season wetting, etc. can be used in western (dry) regions.
- Another concern is about the usefulness of large rice production. Though production has grown fast relative to the population, consumption has not grown at the same pace since 2001. This shows a dietary shift from rice.
- Moreover, the procurement of rice by the government at a large scale has also created pressure on the public budget.
 - Producing high volumes needs a critical assessment and rational analysis.

Conclusion:

- It is observed that climatic changes at the regional levels have shifted the cropping pattern away from millets.
- Indian agriculture is moving towards rice cultivation but also accompanying migration of rice away from the low-lying wetlands of the east to the irrigated fields of the west. This requires a change in land-use policy.
- Adaptation on a real-time basis is required for closer surveillance of weather and crop association. Moreover, observing water tendencies and understanding the agronomic, behavioural, and public–political responses will be important in the future.