SOCIAL ISSUE

Women Participation in STEM

Recently, India-Israel Women in Science, Technology, Engineering and Mathematics (STEM) conference was held. The need for introducing flexible work times and gender-neutral pays to enhance women participation in STEM was highlighted.

STEM

- **About**
    1. The STEM acronym was introduced in 2001 by scientific administrators at the U.S. National Science Foundation (NSF).
    2. The organization previously used the acronym SMET when referring to the career fields in those disciplines or a curriculum that integrated knowledge and skills from those fields.
    3. It is a curriculum based on the idea of educating students in 4 specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach.
    4. India is one of the countries that produce the highest number of scientists and engineers, the growth of STEM has picked up significantly over the last few years. Under Article 51A of the Constitution of India, it is a duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform.

- **Significance:**
    1. A robust STEM education creates critical thinkers, problem-solvers, and next-generation innovators.
    2. According to the National Science Foundation, it is predicted that 80% of the jobs created in the next decade will require some form of math and science skills.

Key Points

Participation of Women in STEM:

- About 43% of STEM graduates in India are women, which is the highest in the world, but their share in STEM jobs in India is a mere 14%.
- In Indian STEM, the primary concern has never been with the number of women graduates, but with the proportion of those who ultimately land STEM jobs.
- S&T has translated into the economic sphere and institutions are structured so, Science & Technology (S&T) could become a changemaker in society by introducing flexible work times, and gender-neutral pays to enhance women participation in STEM.
- Greater women's participation in the tech sector will make women more strong and influential, giving a boost to their socio-economic situation in the society.

Reasons for the Low Participation:

- Stereotypes: The paucity of women in STEM is not merely due to skill inadequacy, but also a result of assigned stereotypical gender roles.
- Patriarchy: There are patriarchal attitudes in hiring practices or awarding fellowships and grants etc.
- Society: Lack of role models, pressures to conform to societal norms and trappings of domesticity.
- Stress: Stressors related to marriage, childbirth etc.
- Household Responsibility: Responsibility related to running of households and elder care.
- Physical Safety: Physical safety during the commute to work.
- Harassment: Sexual and other types of harassment in workplaces, etc.

Initiatives to Promote Women Participation:

- **Vigyan Jyoti Scheme:**
    1. It is launched by the Department of Science & Technology (DST).
    2. It is intended to create a level-playing field for the meritorious girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM) in their higher education.
    3. It also offers exposure for girl students from the rural background to help to plan their journey from school to a job of their choice in the field of science.

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- **GATI Scheme:** The Gender Advancement for Transforming Institutions (GATI) will develop a comprehensive Charter and a framework for assessing Gender Equality in STEM.
- **Knowledge Involvement Research Advancement through Nurturing (KIRAN):**
  1. Launched in 2014-15, the scheme provides opportunities for women scientists in moving up the academic and administrative ladder.
  2. One of the programmes under the KIRAN scheme — 'Women Scientist Scheme' — provides career opportunities to unemployed women scientists and technologists, especially those who had a break in their career.

Way Forward

- The problem needs to be addressed at two levels – at societal level which requires long term effort and the policy and institutional level, which can be started with immediate effect.
- There is an immediate need to invest in supporting infrastructure, incentivising institutions to promote gender equity, transparency in decision making etc. to bridge the persisting gender imbalance in STEM majors.
- As a first step, however, schools need to break the 'gendered notions of intelligence' and encourage girls not only to take science at secondary and higher secondary level but also to pursue their career in STEM. This would help not only in women being able to chase their dreams but science itself would be benefitted from other points of view.
- While the situation is definitely improving, and the increase in numbers of women in STEM is indicative of this, the road is yet long. We have a long way to go.

POLITY

Constitution Day: 26th November

The Ministry of Law & Justice has launched 'Online Course on Indian Constitution' on the eve of 'Constitution Day' as a part of celebrations of 'Azadi Ka Amrit Mahotsav' for 75 years of India's Independence. The online course aims to enhance the awareness of the constitutional values to understand the fundamental rights and duties.

It will also help the citizens familiarize with the glorious constitutional journey and to understand the supreme law of the land including the right to life, personal liberty and privacy issues.

Key Points

About:

- It is celebrated on 26th November every year.
- It is also known as National Law Day.
- On this day in 1949, the Constituent Assembly of India formally adopted the Constitution of India that came into force on 26th January 1950.
- The Ministry of Social Justice and Empowerment on 19th November 2015, notified the decision of the Government of India to celebrate 26 November as 'Constitution Day'.

Framing of Constitution:

- In 1934, M N Roy first proposed the idea of a constituent assembly.
- Under the Cabinet Mission plan of 1946, elections were held for the formation of the constituent assembly.
- The Constitution of India is framed by the Constituent Assembly. The Constituent Assembly of India appointed a total of 13 committees to deal with different tasks related to the framing of the constitution.
- There were 8 major committees and the rest were minor ones. The list of major committees and their heads are mentioned below:
  1. Drafting Committee – B. R. Ambedkar
  2. Union Power Committee – Jawaharlal Nehru
  3. Union Constitution Committee – Jawaharlal Nehru
  4. Provincial Constitution Committee – Vallabhbhai Patel
  5. Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas – Vallabhbhai Patel.

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6. Rules of Procedure Committee – Rajendra Prasad
7. States Committee (Committee for Negotiating with States) – Jawaharlal Nehru
8. Steering Committee – Rajendra Prasad

Facts about the Constitution of India:

- World's lengthiest Constitution.
- Federal System with Unitary Features.
- Parliamentary Form of Government.
- The framing of the Constitution took over 2 years, 11 months and 18 days.
- The original copies of the Indian Constitution weren't typed or printed. They have been handwritten and are now kept in a helium-filled case within the library of the Parliament.
- Prem Bihari Narain Raizada had written the unique copies of the Structure of India.
- Originally, the Constitution of India was written in English and Hindi.
- The basic structure of the Indian Constitution stands on the Government of India Act, 1935.
- The Constitution of India has also borrowed some of its features from a number of countries.

GOVERNANCE

Women Related Data: NFHS 5

Recently, the latest data from the National Family Health Survey (NFHS 2019-21) has been released.Earlier in 2020, the first-phase data of the NFHS-5 2019-20 was released by the Ministry of Health and Family Welfare, which provided data on various issues related to women in india.

Key Points

Prevalence of Child Marriage:

- The share of women aged 20-24 who married before turning 18 has declined from 27% to 23% in the last five years.Child marriage is a key determinant of high fertility, poor maternal and child health, and lower social status of women.
- West Bengal and Bihar, with around 41% such women each, had the highest prevalence of girl child marriage.
- The maximum reduction in the proportion of underage marriages was observed in Rajasthan, Madhya Pradesh, and Haryana.

Rampant Anaemia:

- As many as 57% women aged 15-49 were anaemic in 2019-21, compared to 53% in 2015-16, while the same for men rose from 22.7% to 25%.
- The most formidable increase—8.5% was observed for children aged 6-59 months (67.1%).
- Among larger states, West Bengal and Kerala reported the highest and lowest prevalence, respectively, of anaemic women.
- Child anaemia rates worsened the most in Assam, Mizoram, Chhattisgarh, and Odisha.

Improving Amenities:

- All states, except Manipur, Meghalaya, Assam and Jharkhand, had over 90% population with access to improved drinking water sources.
- Bihar, Jharkhand etc states had almost doubled the access since 2015-16, but most fell below the 75% mark.

Women who own House:

- The number of women who own a house or land in Delhi, either alone or jointly, has significantly dipped over the past five years.
- While the percentage of women who had a house or land registered in their name in 2015-16 was around 35%, it dipped to 22.7% in 2020-21.

Women who have a Bank Account:

- It has gone up 8% and women who have a mobile phone that they use is up by 7%.

Access to Internet:

- The percentage of women who have ever used the internet was around 64% as compared to 85% men. This data was not available in the previous survey.

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Participation in the Household Participation:
- It has gone up from around 74% in 2015-16 to 92% now. The participation of married women in household decisions includes health care for self, making major household purchases, and visits to her family or relatives, etc.

Out-of-Pocket Expenditure:
- It went from Rs 8,518 to Rs 2,548 in five years. Average out-of-pocket expenditure has seen a significant improvement in the per delivery in a public health facility.

Rise in Obesity:
- Obesity among both men and women has risen. While 41.3% of women are now overweight or obese, this figure is 38% for men.
- The rise in the percentage of men who are overweight or obese, however, has been faster in men than in women.

High Malnutrition:
- The share of under-five children who were stunted (too short for age), wasted (low weight for height), or underweight has declined.
- However, every third child still suffers from chronic undernourishment, and every fifth child is acutely malnourished.
    1. Stunting: Meghalaya had the prevalence, followed by Bihar while Rajasthan, Madhya Pradesh, Jharkhand recorded declines of 5-7% since 2015-16.
    2. Wasting: Bihar had the highest prevalence of underweight children, followed closely by Gujarat.

National Family Health Survey (NFHS)
- The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- The Ministry of Health and Family Welfare (MoHFW), Government of India has designated the International Institute for Population Sciences (IIPS) Mumbai, as the nodal agency for providing coordination and technical guidance for the survey.IIPS collaborates with a number of Field Organizations (FO) for survey implementation.
- **The survey provides state and national information for India on:**Fertility, Infant and child mortality, the practice of family planning, Maternal and child health, Reproductive health, Nutrition, Anaemia, Utilization and quality of health and family planning services
- **Each successive round of the NFHS has had two specific goals:**
    1. To provide essential data on health and family welfare needed by the Ministry of Health and Family Welfare and other agencies for policy and programme purposes.
    2. To provide information on important emerging health and family welfare issues.
- The funding for different rounds of NFHS has been provided by USAID, the Bill and Melinda Gates Foundation, UNICEF, UNFPA, and MoHFW (Government of India).

Way Forward
The NFHS findings are a reminder of the urgent need to close gaps in girls' education and address the pathetic nutritional status of women and children.
Current times require integrated and coordinated efforts from all health institutions, academia and other partners directly or indirectly associated with the health care services to make these services accessible, affordable and acceptable to all.

PRELIMS FACT

National Milk Day: 26th November
Recently, the Ministry of Animal Husbandry & Dairying has celebrated the National Milk Day (NMD) on 26th November.National Gopal Ratna Awards were conferred to the winners of the respective stakeholders of Dairy sector and also launched IVF (In Vitro Fertilization) Lab at Dhamrod, Gujarat and Hessarghatta, Karnataka.
Every year, the first day of June is observed as World Milk Day.
Key Points
About:

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- NMD is celebrated to commemorate the birth Anniversary of Dr. Verghese Kurien (Milk Man of India).NMD 2021 commemorates the 100th birth anniversary of Dr. Kurien.
- The day celebrates the importance of milk in a person's life. And to promote the benefits related to the milk & milk industry and to create awareness among people about the importance of milk and milk products.

Dr. Verghese Kurien (1921-2012):
- He is known as the 'Father of White Revolution in India'.
- He is famous for his 'Operation Flood', which is known as the world's largest agricultural program.
- He established 30 institutions that are run by various farmers and workers.
- He also played a key role in the establishment and success of Amul Brand.
- Because of his efforts only, India became the largest producer of milk in 1998, surpassing the U.S.
- He also helped manage the Delhi Milk Scheme and corrected the prices. He also helped India become self-sufficient in edible oils.
- He was honoured with several awards, including the Ramon Magsaysay Award (1963), Krishi Ratna (1986) and World Food Prize (1989).
- He is also the recipient of India's highest civilian awards- Padma Shri (1965), Padma Bhushan (1966) and Padma Vibhushan (1999).

Operation Flood:
- **About:**
  1. It was launched on 13th January, 1970. It was the world's largest dairy development programme.
  2. Within 30 years, the operation helped double milk available per person in India, making dairy farming India's largest self-sustainable rural employment generator.
  3. The operation gave farmers direct control over the resources they create, helping them direct their own development. This was achieved not only by mass production, but by production by the masses. It is also now known as the "White Revolution".
- **Phases of the White Revolution:**
  1. Phase I (1970-1980): This phase was financed by the sale of butter oil and skimmed milk powder donated by the European Union through the World Food Program.
  2. Phase II (1981 to 1985): During this phase, the number of milk sheds increased from 18 to 136, milk outlets were expanded to about 290 urban markets, a self-sustaining system was set up that included 4,250,000 milk producers spread across 43,000 village cooperatives.
  3. Phase III (1985-1996): This phase enabled the dairy cooperatives to expand and gave a finishing touch to the programme. It also strengthened the infrastructure required to procure and market increasing volumes of milk.
- **Objectives:**
  1. Increase milk production ("a flood of milk").
  2. Increase rural incomes.
  3. Reasonable prices for consumers.
- **Significance:**
  1. It helped dairy farmers direct their own development, placing control of the resources they create in their own hands.
  2. It has helped India become the largest producer of milk in the world in 2016-17.
  3. Currently, India is the world's largest milk producer, with 22% of global production.

Indian Dairy Sector
- **About:**
  1. India being the world's largest milk producing country, accounts for more than 22.0% of the world and 57% of Asia's total milk production.
  2. The milk production of India has grown from 17 million tonnes in 1951 to 187.7 million tonnes in the year 2018-2019.

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- **Significance:**
  1. Dairy is the only agri-product in which around ~70-80% final market value is shared with farmers and it accounts for approximately one-third of rural household income in India.
  2. It improves farmer livelihoods, creates jobs, supports agricultural industrialization and commercialization, and enhances nutrition for the masses.
- **Challenges:**
  1. Lack of proper packaging and labeling system of milk and milk products.
  2. Lack of Market Intelligence to understand the mindset of entrepreneurs.
  3. Consumer perception/Brand Building is also a major challenge.
  4. Cold chain (transportation) and storage facilities are not effectively in operation.
- **Related Initiatives:**
  1. **Gopal Ratna Awards**: They are National Awards for the Cattle and Dairy sector, the awards have been launched to promote the best herd of Indigenous Breed and practicing best management practices.
  2. **e-Gopala (Generation of wealth through Productive Livestock) App:** It is a comprehensive breed improvement marketplace and information portal for direct use of farmers.
  3. **National Action Plan on Dairy Development 2022:** It seeks to increase milk production and double the income of dairy farmers.
  4. **National Animal Disease Control Programme & National Artificial Insemination Programme:** It was launched to control and eradicate the Foot & Mouth Disease (FMD) and Brucellosis amongst the livestock in the country,
  5. **Pashu-Aadhar**: It is a unique ID on a digital platform for traceability for the animals.
  6. **Rashtriya Gokul Mission**: It was launched in 2019 for the setting up of 21 Gokul Grams as Integrated Cattle Development Centres.

DAILY ANSWER WRITING PRACTICE

Qns. The design of anti-poverty policies for the urban poor needs to be looked at in the context of overall urban planning and institutional frameworks. Discuss. (250 words)
Ans:
Introduction
Urban poverty in India is over 25 percent; close to 81 million people in urban areas live below the poverty line. Cities in urban India are flooded with the "poor" like Sumer. Over the years, due to high migration, the poverty in the country is transiting largely from rural to urban.
The Tamil Nadu government released its first-ever draft "Resettlement and Rehabilitation Policy" for public comment. The draft policy aims to "ensure that slum dwellers are treated fairly and humanely when they are resettled from objectionable lands

Body
In the next decade urbanisation in India is set to reach 50 per cent. According to a survey by the UN State of the World Population report in 2007, by 2030, 40.76% of country's population is expected to reside in urban areas.
Causes for urban poverty
- **High vulnerability:**
  1. Indian cities are vulnerable to multiple disasters like urban floods, urban heat islands, air pollution, inaccessibility of potable water etc.
  2. For instance, When the monsoon hits Mumbai this June, the city, which is already fighting the coronavirus pandemic, will be staring at another major challenge: vector-borne diseases.
  3. People living in slum areas – 'urban poor' are also prone to suffer from waterborne diseases such as typhoid and cholera, as well as from more fatal ones like cancer and HIV/AIDS.

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4. Also, women and children living in slums are prone to become victims of social evils like prostitution, beggary and child trafficking. Slum dwellers in general and regardless of gender, often become victims of such social evils.

- **Proliferation of slums:–** land to people ratio in cities has been exacerbated. Also there is lack of hygienic and sanitation in slums leading to various health problem living there.
- **Non-inclusive development**: Urban poor are not receiving the benefits of the development – rich are getting richer with development while poor are getting poorer. E.g. India is quite far behind in inclusivity index.
- **Degradation of environment and habitat**:Urban commons like lake, urban forests, green areas in Cities are adversely affected due to the need for development, for instance, Aarey forests in Mumbai.
- **Development at the cost of poor**:The peri-urban areas where tribes live are being occupied for establishments of industries without proper compensation and rehabilitation.
- **Hectic life**: as per a survey people in mega cities are spend more time in office than home. Family life has been affected adversely.
- **Lastly**, hunger, malnourishment, lack of quality education, high infant mortality, child marriage, child labourare some of the other social problems prevalent for urban poor.

Way Forward

- **Mobilising Localised Resources:**Given the scale of urbanisation, the focus on urban employment generation programmes should be in coordination with local governments.
  1. This will require actors at the local level to have more resources at their disposal.
  2. Resource mobilisation could be enabled by the formation of local alliances, involving elected representatives, trade unions, entrepreneurs and community groups
  3. This can also be the key to solving other problems faced by cities.
- **Localised Employment-Intensive Investment Policies**:A major local initiative would be to design and implement employment-intensive investment policies. In this pursuit:
  1. Local enterprise formation needs to be an integral part of the strategy, with converging interests for workers and entrepreneurs on issues related to technology and productivity enhancement.
  2. Also, Small and micro enterprises which are the fulcrum of industrialisation, need extra support to balance the interests between labour and capital as neither have collective bargaining powers.
- **Prioritising Urban Infrastructure**:There is a need to prioritise urban infrastructure as it accounts for a large share of total investments in the overall economy.
  1. A labour- intensive approach to building municipal infrastructure can be a cost-effective alternative to capital intensive-approach as wage rates are low.
  2. Infrastructure investments would spur employment, generate earnings and contribute to small enterprise formation.
  3. Construction of low-cost housing is another activity that can be carried out using labour-intensive methods, while yielding substantial collateral benefits for urban dwellers.
- **Launching of Urban Employment Scheme:**There is need for immediate launch of an urban employment scheme oriented toward building large-scale medical, health and sanitation infrastructure in cities and towns across India.
- **Provision of Social Security:** There is a need to provide livelihood safety access to urban areas. The livelihood safety net must have comprehensive coverage. Such a net, provided by the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), exists only in rural areas
- **Promote Cooperation:** An urban livelihood scheme can be launched within the existing fiscal space. If not, the Union and States can provide resources together and empower the urban local bodies.
- **State Interventions:** Himachal Pradesh has launched the Mukhya Mantri Shahri Ajeevika Guarantee Yojana (MMSAGY) with the objective of enhancing livelihood security in

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urban areas by providing 120 days of guaranteed wage employment to every household at minimum wages in FY 2020-21.

- **Minimum Wages For Urban Workers:** Setting a separate minimum wage for rural and urban areas does not cause migration to urban areas since the higher cost of living in urban areas has an offsetting effect.
- **Focus on Service Delivery:** The focus must shift from asset creation to service delivery. Restricting it to asset creation or wage-material ratios may be suboptimal in urban settings.
- **Increase Incentives to Reduce Migration:** Focusing on rural development to increase employment opportunities in rural areas and to enhance the provision of services like education, health, electricity and water and sanitation services are effective means to control rural to urban migration.

Conclusion

Given the economic contraction, there is a need to generate more jobs and reduce vulnerabilities by providing decent wages & job security in urban areas. Traditionally, governments have addressed this issue from a sectoral viewpoint given the contemporary realities, the need is to approach this from a rural-urban perspective. Thus, the present crisis calls for a multi-pronged strategy to tackle the issue of urban jobs.

DAILY QUIZ

Q1. Along the banks of which one of the following rivers is the Kartarpur Gurudwara?
- **a. Ravi**
- b. Jhelum
- c. Chenab
- **d. Satluj**

Q2. Consider the following statements about Enforcement Directorate:
1. It is a law enforcement and economic intelligence agency.
2. It is part of the Department of Financial Services, Ministry of Finance.

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

Q3. In the Indian context, what is the implication of ratifying the 'Additional Protocol' with the 'International Atomic Energy Agency (IAEA)'?
- **a. The civilian nuclear reactors come under IAEA safeguards.**
- b. The military nuclear installations come under the inspection of IAEA.
- c. The country will have the privilege to buy uranium from the Nuclear Suppliers Group (NSG).
- d. The country automatically becomes a member of the NSG.

Q4. With reference to Rashtriya Gokul Mission, consider the following statements:
1. It was launched in 2014 to conserve and develop indigenous bovine breeds.
2. It is being implemented through the "State Implementing Agency' Livestock Development Boards.

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

Q5. Hazara is an ethnic group from
- a. Myanmar
- b. New Zealand
- c. Azerbaijan
- **d. Afghanistan**