

COVER STORY

Healthcare & National Health Policy 2017

SPECIAL ISSUES**1****Analysis of DBT in Fertilizer**

Will the implementation of DBT in the fertilizer sector be as successful as that in LPG?

2**Law Commission Report on Hate Speech**

The report seeks to widen the definition of hate speech and suggesting appropriate amendments to the criminal law.

3**Defects in Foodgrain Procurement**

Despite record foodgrain production farmers suffer because of large-scale irregularities in the Procurement process.

4**Deforestation & Road Transport Development**

Trees had been felled to make way for the construction & widening of roads. Is this Practice is sustainable?

Governance Issues

- ◆ **Ban on BS III Vehicle: Is it Judicial Overreach?**
- ◆ **Implications of New Norms in Corporate Political Funding**
- ◆ **Sahayak System**

International Issues

- ◆ **China Reaches Out to West Asia**
- ◆ **Crimes of Apartheid**
- ◆ **India-Nepal Fuel Pact**
- ◆ **Scotland Exit from BREXIT: Implications**

Environmental Issues

- ◆ **Light Pollution**
- ◆ **Living Status to Rivers**
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Science Issues

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Aadhaar enabled Fertilizer Distribution System (AeFDS)

OBJECTIVES: ENSURE TIMELY & CORRECT DISTRIBUTION OF FERTILIZERS ACROSS VALUE CHAIN

- Ban on BS III Vehicle: Is it Judicial Overreach?
- Implications of New Norms in Corporate Political Funding

WHAT DOES THE ORDER SIGNIFY?

■ According to Prof AK Goyal, IIT Delhi, in order to ensure that a river is treated like a living person, it should be considered in its entirety. For example, a river will not just mean the river, but also its floodplains, all tributaries, including natural and artificial drains, opening into it. "No pollution should enter these drains because these are organs of the body. If one is damaged, it can become cancerous for the river," he added.

WILL IT BE EFFECTIVE?

➤ Instead of assigning human status to the water bodies, the government needs to first tackle some basic issues like setting up sewage treatment plants, as raw sewage is the biggest problem these rivers are facing today. Veena Srinivasa, hydrologist

➤ The move will hopefully help the common man understand that rivers are not just divine entities but also living entities. But then, it will be a real challenge to clean the Ganga. Real change can come if religious heads start an awareness campaign on the need to clean up the rivers. CR Babu, prof emeritus, DU

Yamuna, legal experts said, will mean that if anyone is found polluting the rivers, it will amount to harming a human being. "By this order, the court has recognised 'fifth generation rights' which are not limited to humans, but extend to the habitat," said senior lawyer K H Gupta.

■ The order will give a new dimension to laws framed for protection of the environment," he added.

- Mining in Himalayas and its Impact
- Miscellaneous News



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COVER STORY

Healthcare & National HEALTH POLICY 2017

Context

India is expected to rank amongst the top three healthcare markets in terms of incremental growth by 2020. In 2015, Indian healthcare sector became the fifth largest employer, both in terms of direct as well as indirect employment, with total direct employment of 4,713,061 people.

Rising income levels, ageing population, growing health awareness and changing attitude toward preventive healthcare is expected to boost healthcare services demand in India. The government aims to develop India as a global healthcare hub and increase well being of the Nation.

To achieve that Policy support is necessary with the evolving trends, changing health priorities and rising economic growth. Recently the Government of India released new National Health Policy 2017 with renewed Goals, Principles and Objectives.

The present article analyses the current status of the Health care sector in India, Government initiatives in the past and achievement made so far. Further, the current issues facing healthcare sector and how National Health Policy 2017 devises a framework to address them has been analyzed.

Introduction

Healthcare has become one of India's largest sectors - both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well as private players.

Indian healthcare delivery system is categorised into two major components - public and private.

- ▶ **Public:** The Government, i.e., public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centres (PHCs) in rural areas.
- ▶ **Private:** The private sector provides majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities.

Public Health Policies (National Health Policy of 1983 and the National Health Policy of 2002) have served well in guiding the approach for the health sector in the Five-Year Plans. Now 14 years after the last health policy NHP2002, the context has changed in four major ways.

- ▶ **First**, the health priorities are changing. Although maternal and child mortality have rapidly declined, there is growing burden on account of non-communicable diseases and some infectious diseases.
- ▶ **The second** important change is the emergence of a robust health care industry estimated to be growing at double digit.
- ▶ **The third** change is the growing incidences of catastrophic expenditure due to health care costs, which are presently estimated to be one of the major contributors to poverty.
- ▶ **Fourth**, a rising economic growth enables enhanced fiscal capacity. Therefore, a new health policy responsive to these contextual changes is required.

Recently, the Government of India declared a new National Health Policy 2017 with the primary aim to inform, clarify, strengthen and prioritize the role of the Government. It will further shape the health systems in all its dimensions i.e. investments in health, organization of healthcare services, prevention of diseases and promotion of good health through cross sectoral actions, access to technologies, developing human resources, encouraging medical pluralism, building knowledge base, developing better financial protection strategies, strengthening regulation and health assurance.

Status, Initiatives and Achievements of National Health Sector

Healthcare Market in India

- ▶ The overall Indian healthcare market is worth around US\$ 100 billion and is expected to grow to US\$ 280 billion by 2020.
- ▶ Healthcare delivery, which includes hospitals, nursing homes and diagnostics centres, and pharmaceuticals, constitutes 65 per cent of the overall market.
- ▶ The Healthcare Information Technology (IT) market which is valued at US\$ 1 billion currently is expected to grow 1.5 times by 2020.
- ▶ Over 80 per cent of the antiretroviral drugs used globally to combat AIDS (Acquired Immuno Deficiency Syndrome) are supplied by Indian pharmaceutical firms.
- ▶ India requires 600,000 to 700,000 additional beds over the next five to six years, indicative of an investment opportunity of US\$ 25-30 billion. Given this demand for capital, the number of transactions in the healthcare space is expected to witness an increase in near future.
- ▶ A total of 3,598 hospitals and 25,723 dispensaries across the country offer AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy) treatment, thus ensuring availability of alternative medicine and treatment to the people.
- ▶ The Indian medical tourism industry is pegged at US\$ 3 billion per annum, with tourist arrivals estimated at 230,000. The Indian medical tourism industry is expected to reach US\$ 6 billion by 2018, with the number of people arriving in the country for medical treatment set to double over the next four years.
- ▶ With greater number of hospitals getting accredited and receiving recognition, and greater awareness on the need to develop their quality to meet international standards, Kerala aims to become India's healthcare hub in five years.

Government Initiatives

- ▶ **India's Universal Health Plan** that aims to offer guaranteed benefits to a sixth of the world's population will cost an estimated Rs 1.6 trillion (US\$ 23.72 billion) over the next four years.
- ▶ **Major initiatives** taken by the Government of India to promote Indian healthcare industry are as follows:
 - In the Union Budget 2017-18, the overall health budget increased from INR 39,879 crore (US\$ 5.96 billion) (1.97% of total Union Budget) to INR 48,878 crore (US\$ 7.3 billion) (2.27% of total Union Budget). In addition, the Government of India made following announcements in the Union Budget 2017-18.
 - Harmonise policies and rules for the medical devices industry to encourage local manufacturing and move towards improving affordability for patients.
 - Modify the Drugs and Cosmetics Act to promote generics and reduce the cost of medicines.
 - Convert 1.5 lakh sub centres in Indian villages to health and wellness centres.
 - Set short and medium term targets for key health indicators and bring down the Maternal Mortality Rate to 100 by 2018-2020 and Infant Mortality Rate to 28 by 2019.
- ▶ **AYUSH** Ministry is working with various agencies, institutions and Ayurveda researchers and practitioners across the globe to turn India into a global hub for knowledge, research, practice and developmental projects on traditional medicines.
- ▶ **Traditional Medicines:** The Union Cabinet has approved signing of an agreement with the World Health Organisation (WHO) under which WHO will develop technical documents on traditional medicines which is expected to lead to better acceptance of Indian systems of medicines at an international level.
- ▶ **SEHAT:** Unique initiative for healthcare 'Sehat' (Social Endeavour for Health and Telemedicine) has been launched at government run Common Service Centres (CSC) to empower rural citizens by providing access to information, knowledge, skills and other services in various sectors through the intervention of digital technologies and fulfilling the vision of a 'Digital India'.
- ▶ **National Deworming initiative** aimed to protect more than 24 crore children in the ages of 1-19 years from intestinal worms.
- ▶ **National Health Assurance Mission**, would provide all citizens with free drugs and diagnostic treatment, as well as insurance cover to treat serious ailments.
- ▶ **Mission Indradhanush** aims to immunize children against seven vaccine preventable diseases namely diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B by 2020. Government has set a target of 95 percent immunization cover by end of 2016.
- ▶ **E-health initiative**, which is a part of Digital India drive aims at providing effective and economical healthcare services to all citizens. The programme aims to make use of technology and portals to facilitate people maintain health records and book online appointments with various departments of different hospitals using eKYC data of Aadhaar number.

Achievements so far**► Millennium Development Goals (MDGs)**

- India is close to reaching the MDGs with respect to maternal and under 5 mortality.
- MDG-5 target is to reduce Maternal Mortality Ratio (MMR) by three quarters between 1990 and 2015. From a baseline of 556 in 1991, India has achieved Maternal Mortality Ratio (MMR) of 167 by 2011-13 and is likely to achieve the target of 139 in the future.
- In case of under-5 mortality rate (U5MR) the MDG target is 42. From a baseline of 126 in 1990, the nation has reached an U5MR of 49 in 2013.
- Nutrition status is an important underlying cause of mortality and morbidity especially for young children. To achieve MDG goal for eradicating hunger, proportion of underweight children should have decreased to 26% by 2015.
- India has been able to reduce proportion of underweight children below five years of age to 29.4% in 2013-14 from the estimated 52% in 1990. However, percentage of underweight children <3 years (weight for age) is higher in rural areas (44%) compared to urban areas (30%).

► Population Stabilization

- India has shown consistent improvement in population stabilization, with a decrease in decadal growth rates, both as a percentage and in absolute numbers.
- Eleven of the 20 large States have achieved a TFR of at or below the replacement rate of 2.1 and three are likely to reach this soon.
- The challenge is now in the remaining six States of Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand and Chhattisgarh. These States account for 42% of India's population and 56% of annual population increase.
- The persistent challenge on the population stabilization front is the declining sex ratio. India has Child Sex Ratio (0-6 years) of 919 females per 1000 males and it is worse in urban areas (905) compared to rural areas (923). States having Child Sex Ratio less than the National average are Haryana (834), Punjab (846), Jammu & Kashmir (862), Delhi (871) and Maharashtra (894).

Issues and Challenges**► Rural Urban Disparity**

- The difference between rural and urban indicators of health status and the wide inter-state disparity in health status is significant.
- Clearly the urban rural differentials are substantial and range from childhood and go on increasing the gap as one grows up to 5 years.
- Disparity is there in rural areas in practically all social sector services.
- For the children growing up in rural areas the disparities naturally tend to get even worse when compounded by the widely practiced discrimination against women, starting with foeticide of daughters.

► Exclusion

- In spite of overall achievement it is a mixed record of social development specially failing in involving people in imaginative ways.

- The classes in many States have had to suffer the most due to lack of access or denial of access or social exclusion or all of them.
 - This is clear from the fact that compared to the riches, the poorest had 2.5 times more IMR and child mortality, TFR at double the rates and nearly 75% malnutrition, particularly during the nineties.
- ▶ **Poor Health Access in Urban Areas**
- It is estimated that urban slum population will grow at double the rate of urban population growth in the next few decades. India may have by 2022 a total urban population of close to 600 million living in urban areas with an estimated 145 million living in slums in 2001. It gives a straight message to enhance health care services in Urban areas.

India Health Report: Nutrition 2015 by WHO

Govt released the 'India Health Report: Nutrition 2015' prepared by Transform Nutrition Consortium that analyses the current situation with nutrition at the national and state level in India.

The report shows that India still struggles to tackle malnutrition but the country has made major improvements in the last 10 years. The country meets two of the eight targets set by World Health Organisation (WHO).

Here are 10 facts about the report:

- ▶ Around 55 percent of Indian women aged between 15 and 49 have anaemia or low blood cell count.
- ▶ Over 38 percent of **children** in India have stunted growth and 18.6 percent children under three years have low birth weight (under 2.5 kilograms).
- ▶ Around 63 percent of mothers in India, who have children aged under 36 months, have received three or more antenatal checkups.
- ▶ **Vaccination** has also not reached its target as only 65.3 percent children of 12 to 23 months have received full immunisation.
- ▶ Malnutrition is still prevalent in the country, as only 50.5 percent **infants** of six to eight months receive solid, semi-solid and soft food.
- ▶ The report also shows that 69.5 percent of Indian children aged between six to 35 months are suffering from anaemia.
- ▶ It also shows that as many as 44.7 percent of girls aged between 15 to 18 have low Basal Metabolic Rate (BMR).
- ▶ The report also points out that infant malnutrition might be a result of early marriage. It reveals that around 30 percent of women, aged 20 to 24, had been married before the age of 18.
- ▶ Infant health has improved in India in the last 10 years as awareness about the correct baby diet has educated the mothers. At present, around 64.9 percent infants, aged under five months, are exclusively breastfed.
- ▶ India's situation of malnutrition among children may pose bigger threats in health care for the country in the future. Only 21.3 percent of children under three years of age have received supplementary food recommended by Integrated Child Development Services (ICDS) for 21 days, a month.

▶ **Burden of Disease**

- India is having an unfinished agenda of addressing infectious diseases, nutritional deficiencies, escalating epidemic of non-communicable diseases (NCDs), accidents/injuries and on safe motherhood.
- Overall, communicable diseases contribute 28% of the entire disease burden, while non-communicable diseases (60%) and injuries at (12%) now constitute the bulk of the country's disease burden.

- Persistent levels of TB transmission and incidence of drug resistance are new challenges. The fact that 29.4% of under-five children still suffer from malnutrition despite proportion of underweight children aged less than three years showing a declining trend, points to the need for addressing this on an accelerated footing with emphasis on caring practices.
- Anaemia in women is another area of concern as it has a multiplier effect through birth of low birth weight babies, which affects the mental and physical growth in children.
- The rising occurrence of Non-Communicable diseases in India is a public health challenge. WHO estimates that these diseases (with mostly preventable risk factors) account for 60% of all deaths and significant morbidity in India.
- The occupational health needs are largely unaddressed for both formal and informal sector. This needs focus bearing in mind, that there are 263 million agricultural workers in India.
- Like nutrition, adolescent health also has an inter-generational effect. 70% of preventable adult deaths from non-communicable diseases are linked to risk factors that start in adolescence.
- Injuries and communicable diseases in 10-14 years age group were the prominent causes of disability and death.
- Outcomes of sexual behaviors and mental health for 15-19 years of age group are now assuming greater prominence.
- There has been a steady rise in mental illnesses in the country. According to a recent publication, one in every four women and 10% men suffer from depression in India. Against this backdrop, there is a shortfall of 8,500 psychiatrists, 6,750 psychologists, 22,600 psychiatric social workers and 2,100 psychiatric nurses and these needs can be addressed by family physicians only to some extent.
- Increase in life expectancy has increased the requirement of geriatric care. The elderly (population above 60 years) comprise 103.8 million or 8.6% of total population and 8% of them are confined to bed or home.
- Another related issue is the growing need of palliative care, requiring culturally appropriate and cost effective family centered approach.

National Health Policy 2017

Goal

- ▶ NHP 2017 builds on the progress made since the last NHP 2002. The policy envisages as its goal, the attainment of the highest possible level of health and well-being for all at all ages, through a preventive and promotive health care orientation in all developmental policies, and universal access to good quality health care services without anyone having to face financial hardship as a consequence.
- ▶ This would be achieved through increasing access, improving quality and lowering the cost of healthcare delivery.
- ▶ The policy recognizes the pivotal importance of Sustainable Development Goals (SDGs).

Key Policy Principles

- ▶ **Professionalism, Integrity and Ethics:** The health policy commits itself to the highest professional standards, integrity and ethics to be maintained in the entire system of health care delivery in the country, supported by a credible, transparent and responsible regulatory environment.
- ▶ **Equity:** Reducing inequity would mean affirmative action to reach the poorest. It would mean minimizing disparity on account of gender, poverty, caste, disability, other forms of social exclusion and geographical barriers. It would imply greater investments and financial protection for the poor who suffer the largest burden of disease.
- ▶ **Affordability:** As costs of care increases, affordability, as distinct from equity, requires emphasis. Catastrophic household health care expenditures defined as health expenditure exceeding 10% of its total monthly consumption expenditure or 40% of its monthly non-food consumption expenditure, are unacceptable.
- ▶ **Universality:** Prevention of exclusions on social, economic or on grounds of current health status. In this backdrop, systems and services are envisaged to be designed to cater to the entire population including special groups.
- ▶ **Patient Centered & Quality of Care:** Gender sensitive, effective, safe, and convenient healthcare services to be provided with dignity and confidentiality. There is need to evolve and disseminate standards and guidelines for all levels of facilities and a system to ensure that the quality of healthcare is not compromised.
- ▶ **Accountability:** Financial and performance accountability, transparency in decision making, and elimination of corruption in health care systems, both in public and private.
- ▶ **Inclusive Partnerships:** A multi-stakeholder approach with partnership & participation of all non-health ministries and communities. This approach would include partnerships with academic institutions, not for profit agencies, and health care industry as well.
- ▶ **Pluralism:** Patients who so choose and when appropriate, would have access to AYUSH care providers based on documented and validated local, home and community based practices. These systems, inter alia, would also have Government support in research and supervision to develop and enrich their contribution to meeting the national health goals and objectives through integrative practices.
- ▶ **Decentralization:** Decentralisation of decision making to a level as is consistent with practical considerations and institutional capacity. Community participation in health planning processes, to be promoted side by side.
- ▶ **Dynamism and Adaptiveness:** Constantly improving dynamic organization of health care based on new knowledge and evidence with learning from the communities and from national and international knowledge partners is designed.

Objectives

- ▶ Improve health status through concerted policy action in all sectors and expand preventive, promotive, curative, palliative and rehabilitative services provided through the public health sector with focus on quality.

- ▶ **Progressively achieve Universal Health Coverage:**
 - Assuring availability of free, comprehensive primary health care services, for all aspects of reproductive, maternal, child and adolescent health and for the most prevalent communicable, non-communicable and occupational diseases in the population.
 - Ensuring improved access and affordability, of quality secondary and tertiary care services through a combination of public hospitals and well measured strategic purchasing of services in health care deficit areas, from private care providers, especially the not-for profit providers.
 - Achieving a significant reduction in out of pocket expenditure due to health care costs and achieving reduction in proportion of households experiencing catastrophic health expenditures and consequent impoverishment.
- ▶ **Reinforcing trust in Public Health Care System:**
 - Strengthening the trust of the common man in public health care system by making it predictable, efficient, patient centric, affordable and effective, with a comprehensive package of services and products that meet immediate health care needs of most people.
- ▶ **Align the growth of private health care sector with public health goals:**
 - Influence the operation and growth of the private health care sector and medical technologies to ensure alignment with public health goals.
 - Enable private sector contribution to making health care systems more effective, efficient, rational, safe, affordable and ethical.
- ▶ **Specific Quantitative Goals and Objectives:**
 - The indicative, quantitative goals and objectives are outlined under three broad components and are aligned to achieve sustainable development in health sector in keeping with the policy thrust.
 - Health status and programme impact,
 - Health systems performance, and
 - Health system strengthening.
- ▶ **Health Research:** The National Health Policy recognizes the key role that health research plays in the development of a nation's health. In knowledge based sector like health, where progress happen daily, it is important to increase investment in health research.

Health Status and Program Impact

Life Expectancy and Healthy Life

- ▶ Increase Life Expectancy at birth from 67.5 to 70 by 2025.
- ▶ Establish regular tracking of Disability Adjusted Life Years (DALY) Index as a measure of burden of disease and its trends by major categories by 2022.
- ▶ Reduction of TFR to 2.1 at national and sub-national level by 2025.

Mortality by Age and/ or Cause

- ▶ Reduce under Five Mortality to 23 by 2025 and MMR from current levels to 100 by 2020.
- ▶ Reduce infant mortality rate to 28 by 2019.
- ▶ Reduce neo-natal mortality to 16 and still birth rate to "single digit" by 2025.

Reduction of disease prevalence/ incidence

- ▶ Achieve global target of 2020 which is also termed as target of 90:90:90, for HIV/AIDS i.e., 90% of all people living with HIV know their HIV status, 90% of all people diagnosed with HIV infection receive sustained antiretroviral therapy and 90% of all people receiving antiretroviral therapy will have viral suppression.
- ▶ Achieve and maintain elimination status of Leprosy by 2018, Kala-Azar by 2017 and Lymphatic Filariasis in endemic pockets by 2017.
- ▶ To achieve and maintain a cure rate of >85% in new sputum positive patients for TB and reduce incidence of new cases, to reach elimination status by 2025.
- ▶ To reduce the prevalence of blindness to 0.25/ 1000 by 2025 and disease burden by one third from current levels.
- ▶ To reduce premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 25% by 2025.

Health Systems Performance**Coverage of Health Services**

- ▶ Increase utilization of public health facilities by 50% from current levels by 2025.
- ▶ Antenatal care coverage to be sustained above 90% and skilled attendance at birth above 90% by 2025.
- ▶ More than 90% of the newborn to be fully immunized by one year of age by 2025.
- ▶ Meet need of family planning above 90% at national and sub national level by 2025.
- ▶ 80% of known hypertensive and diabetic individuals at household level maintain, controlled disease status by 2025.

Cross Sectoral Goals Related to Health

- ▶ Relative reduction in prevalence of current tobacco use by 15% by 2020 and 30% by 2025.
- ▶ Reduction of 40% in prevalence of stunting of under-five children by 2025.
- ▶ Access to safe water and sanitation to all by 2020 (Swachh Bharat Mission).
- ▶ Reduction of occupational injury by half from current levels of 334 per lakh agricultural workers by 2020.
- ▶ National/ State level tracking of selected health behavior.

Health Systems Strengthening**Health Finance**

- ▶ Increase health expenditure by Government as a percentage of GDP from the existing 1.15% to 2.5% by 2025.
- ▶ Increase State sector health spending to > 8% of their budget by 2020.
- ▶ Decrease in proportion of households facing catastrophic health expenditure from the current levels by 25%, by 2025.

Health Infrastructure and Human Resource

- ▶ Ensure availability of paramedics and doctors as per Indian Public Health Standard (IPHS) norm in high priority districts by 2020.
- ▶ Increase community health volunteers to population ratio as per IPHS norm, in high priority districts by 2025.
- ▶ Establish primary and secondary care facility as per norms in high priority districts (population as well as time to reach norms) by 2025.

Health Management Information

- ▶ Ensure district-level electronic database of information on health system components by 2020.
- ▶ Strengthen the health surveillance system and establish registries for diseases of public health importance by 2020.
- ▶ Establish federated integrated health information architecture, Health Information Exchanges and National Health Information Network by 2025.

NHP 2017 - Health Care Governance*Role of Centre & State*

- ▶ One of the most important strengths and at the same time challenges of governance in health is the distribution of responsibility and accountability between the Centre and the States.
- ▶ The policy recommends equity sensitive resource allocation, strengthening institutional mechanisms for consultative decision-making and coordinated implementation, as the way forward.
- ▶ Besides, better management of fiduciary risks, provision of capacity building, technical assistance to States to develop State-specific strategic plans, through the active involvement of local self-government and through community based monitoring of health outputs is also recommended.
- ▶ The policy suggests State Directorates to be strengthened by HR policies, central to which is the issue that those from a public health management cadre must hold senior positions in public health.

Role of Panchayati Raj Institutions

- ▶ Panchayati Raj Institutions would be strengthened to play an enhanced role at different levels for health governance, including the social determinants of health. There is need to make Community Based Monitoring and Planning (CBMP) mandatory, so as to place people at the center of the health system and development process for effective monitoring of quality of services and for better accountability in management and delivery of health care services.

Improving Accountability

- ▶ The policy would be to increase both horizontal and vertical accountability of the health system by providing a greater role and participation of local bodies and encouraging community monitoring, program evaluations along with ensuring grievance redressal systems.

Role of the Private Sector

- ▶ Foreigners in increasing numbers are now coming to India for private health care. They come from the Middle East, Africa, Pakistan, and Bangladesh, for complex pediatric cardiac surgery or liver transplants—procedures that are not done in their home countries. They also come from the United Kingdom, Europe, and North America for quick, efficient, and cheap coronary bypasses or orthopedic procedures.
- ▶ The recent remarkable growth of the private health sector in India has come at a time when public spending on health care at 0.9% of gross domestic product (GDP) is among the lowest in the world and ahead of only five countries—Burundi, Myanmar, Pakistan, Sudan, and Cambodia. This proportion has fallen from an already low 1.3% of GDP in 1991 when the neoliberal economic reforms began.

- ▶ Yet India ranks among the top 20 of the world's countries in its private spending, at 4.2% of GDP. Employers pay for 9% of spending on private care, health insurance 5-10%, and 82% is from personal funds. As a result, more than 40% of all patients admitted to hospital have to borrow money or sell assets, including inherited property and farmland, to cover expenses, and 25% of farmers are driven below the poverty line by the costs of their medical care.
- ▶ Despite the suspicions of the people who use the service that many private providers of health care perform unnecessary diagnostic tests and surgical procedures, Indians are choosing the private sector in overwhelming numbers. This is because the public alternative is so much worse, with interminable waits in dirty surroundings with hordes of other patients.
- ▶ Many medicines and tests are not available in the public sector, so patients have to go to private shops and laboratories. Each harassed doctor may have to see more than 100 patients in a single outpatient session. Some of these doctors advise patients, legally or illegally, to "meet them privately" if they want more personalized care.

Critical analysis of the Policy

Policy is being commended for its strategic shift in focus towards wellness and greater role of government. But the main issue with Indian policies have been their lackadaisical implementation and absence of accountability ensuring mechanisms. The present policy also seems to suffer from that.

Healthcare Funding Mechanism

- ▶ **Thailand provided Universal Health Coverage** with expenditure of just 4.1% of the GDP, as against India's 3.9% (combination of public and private expenditure).
- ▶ It is possible because 80% of this 4.1% is government spending because it mostly uses public hospitals.
- ▶ **The UK's National Health Service:** Hospitals are owned by the state and services are free at the point of delivery.
- ▶ **Germany:** Workforce contributes to a fund which is used to finance healthcare. It has about 180 autonomous health insurance funds.
- ▶ **US:** The public avails of healthcare services at private hospitals and the cost is reimbursed by insurance, also from private companies.
 - ▶ It does not make **Right to Health a fundamental right or a legal right**. Unless there is legal obligation there will be no accountability on government.
 - ▶ It does not talk of **Universal Health Coverage that guarantees free, cashless health services** to all the citizens of the country irrespective of the type of care needed. This is the minimum standard that most of the countries are adopting now a days.
 - ▶ It does acknowledge that UHC is the way to go, but makes a clear commitment only in primary care. In secondary and tertiary care, which in fact accounts for most of the catastrophic expenses, that push people into poverty - some irreversibly - it's not as unequivocal.
 - ▶ the implementation of the policy will be fraught with formidable challenges because of the disparate health infrastructure landscape in the country, particularly in the poor states, and the need for aligning existing systems in the states with a national plan of action.
 - ▶ Public health is a state subject and providing healthcare is a responsibility of the states. With greater financial devolution to states how the financing will be shared will be another issue.

- ▶ Only nearly 11% of registered health professionals work in public sector and very few in rural areas. How to bring them to public sector in itself will be a challenge.
- ▶ Regulatory mechanisms of the health sector in itself needs a overhaul with MCI in dire state. The new bill is still pending in Parliament.
- ▶ Regulation of private sector services will be very important to ensure that health services are affordable. Mechanisms for this will have to be planned with great care so that it does not interfere with the autonomy of private sector. Lessons from countries like **Japan, Germany** which have efficiently controlled costs by regulating the private sector can be very useful.

Way Forward

India is a land full of opportunities for players in the medical devices industry. The country has also become one of the leading destinations for high-end diagnostic services with tremendous capital investment for advanced diagnostic facilities, thus catering to a greater proportion of population. Besides, Indian medical service consumers have become more conscious towards their healthcare upkeep. India offers vast opportunities in R&D as well as medical tourism. To sum up, there are vast opportunities in healthcare infrastructure in both urban and rural India to improve.

A policy is only as good as its implementation. The National Health Policy 2017 envisages that an implementation framework be put in place to deliver on these policy commitments. Such an implementation framework would provide a roadmap with clear deliverables and milestones to achieve the goals of the policy. India will have to find models suitable to it by learning from world and based on its own analysis. States capacity to provide services is very much important and there is a need to usher in spirit of competitive federalism in this sector also.

ECONOMIC ISSUE

Defects in Foodgrain PROCUREMENT POLICY

Context

Indian farmers are the most vulnerable lot. They not only suffer from crop loss due to hailstorm, untimely or poor rainfall, or pest attack but also at the times of bumper crop productions. The same has happened in Ganjam district of Odisha state. Despite record paddy production in the last Kharif season, farmers are suffering because of large-scale irregularities in the government's paddy procurement process.

Objective of public procurement policy

The Government policy of procurement of Food grains has broad objectives of:

- ▶ Ensuring **MSP to the farmers.**
- ▶ **Availability of food grains to the weaker sections at affordable prices.**
- ▶ Keeping the **prices under check** through effective market intervention.
- ▶ Adding to the overall **food security** of the country.

How the procurement process works?

The foodgrain procurement works into two parts, first is announcement of MSP and then procurement of foodgrain on MSP.

Centralized (Non-DCP) Procurement System:

- ▶ Procurement is done by FCI or state agencies. State agencies then handover procured foodgrains to FCI for storage and subsequent procedure.

Decentralized (DCP) Procurement:

- ▶ Introduced in 1997.
- ▶ Under DCP system, the State Government of India/its agencies procure, store and distribute (against Government of India's allocation for TPDS & Other Welfare Schemes) rice /wheat/coarse grains within the state. The excess stocks (Rice & wheat) procured by the State /its agencies are handed over to FCI in Central Pool.
 - ▶ **Announcement of MSP:** Before the harvest during each Rabi/Kharif Crop season, the Government of India announces the **minimum support prices (MSP)** for procurement on the basis of the recommendation of the **Commission of Agricultural Costs and Prices (CACP).**
 - ▶ **Procurement:**
 - **Open ended procurement policy for Wheat and Paddy:** FCI, the nodal central agency of Government of India, along with other State Agencies undertakes procurement of wheat and paddy under price support scheme.

- ❑ **Open ended procurement policy:** Whatever food grains are offered by the farmers, within the stipulated procurement period and which conforms to the quality specifications prescribed by Government of India, are purchased at MSP. If the farmers get prices better than the support price from other buyers such as traders / millers etc., the farmers are free to sell their produce to them. FCI and the State Government/its agencies ensure that the farmers are not compelled to sell their produce below support price.
- ❑ **Coarse grains** are procured by State Government Agencies for Central Pool as per the direction issued by Government of India on time to time.

What are the problems with procurement policy?

Government procurement suffers from the problems of exclusion of sharecroppers, not covering the whole produce, poor infrastructure for procurement. Shanta Kumar Committee has also said that the only 5-6% of farmers get the benefits of procurement, these too are concentrated in north-western states. The recent incident of Ganjam district also highlights other problems.

- ▶ **Faulty calculations:** Though FCI decides procurement targets annually on consultation with states, but they many a times do not reflect the ground realities of production. For example in 2016-17 Kharif season the paddy production in Ganjam was around nine lakh tonnes. But ironically, the government target was to procure three lakh tones.
- ▶ **Delay in opening of Procurement places:** Shanta Kumar Committee has said the procurement centers open with delay, are not distributed across the states, are far away and sometimes very few. This creates hurdles for selling the foodgrains.
- ▶ **Exclusion of sharecroppers:** Sharecroppers are left out of the paddy procurement process, only farmers are registered for the procurement process.
- ▶ **Poor storage infrastructure:** Since many states and FCI suffer from poor storage infrastructure, they does not sincerely **open ended procurement policy**, because it will be difficult for them to store foodgrains, which can lead to wastage and they will have to bear the cost.
- ▶ **Collusion among state government agencies and private players:** Private players in order to procure at lower rates collude with government agencies. This force farmers to sell at lower rates. This generally happens where farmers lobbies are weak.
- ▶ Delay in payments also create problems for farmers.

All these factors not only creates problems for farmers but also affects agriculture system. The government's pledge to double the farmers income by 2022 sound hollow under such circumstances. In absence of remunerative prices investment in agriculture declines, farmers fall into debt trap, the families and rural economy suffers.

Case study of Ganjam District

According to the Rushikulya Rayat Sabha (RRS) and the Odisha Chasi Surakshya Abhiyan (OCSA) despite record paddy production in the last Kharif season, farmers in Ganjam, are suffering because of large-scale irregularities in the government's paddy procurement process.

According to these organisations, the 2016 Kharif paddy yield in Ganjam district is the highest in the past 20 years.

But ironically, the government target is to procure three lakh tonnes from Ganjam district thus rest of the foodgrain will have to be sold at less rate to dubious vendors.

As per government norms, 18 quintals of paddy is procured per acre of irrigated land and 12 quintals from an acre of non-irrigated land. “At several places in Ganjam district, farmers have resorted to use of SRI or other scientific methods of agriculture due to which their yield is 25 to 28 quintals per acre. Due to lack of proper machinery, the farmers are unable to sell off their paddy at good rates and at many places stored paddy has started to germinate.

What should be done?

There is a need to ensure efficient procurement policy, which focuses on the overall food security and agriculture sector. Food procurement must be seen as a component of the overall agriculture system which ties to ensure remunerative prices for farmers, ensure food security and price stability. It requires:

- ▶ **Greater professionalism in procurement planning:** While making estimates for procurement proper analysis of the market situation, area under wheat and paddy, estimated production all should be taken into consideration.
- ▶ **Infrastructural arrangements** should be made at enough number of places with proper facilities for foodgrains, farmers to avoid overcrowding, wastage.
- ▶ **Grievance redressal system** for farmers so that they can approach some authority if they are facing some difficulties in procurement and to ensure **proper implementation of open ended procurement policy of foodgrains.**
- ▶ **Diversification of agriculture:** After green revolution the production of wheat and food grains increased substantially and public procurement works for these crops only. It creates problem of plenty. Therefore there is a need to diversify food production to horticulture, pulses and coarse cereals to ensure competitive pricing for all and nutrition security. For this government must provide support for other crops.
- ▶ **Improve Storage facilities:** Augmentation of storage facilities and implementation of **Negotiable Warehousing Receipts (NWR)** mechanism so that farmers are not forced to sell at low prices. Both of these steps have been recommended by Shanta Kumar Committee.
- ▶ **Focus on eastern states** which have low procurement rates and farmers are much more vulnerable there.
- ▶ **Increase exports:** 2016-17 economic survey suggests to deregulate agriculture export market. It will allow exporters to buy from market and will ease the pressure on government and farmers will be able to get better prices.
- ▶ **Reforms in agriculture marketing** which will help in turning agriculture into a business, rather than only a means of livelihood. It will help in proper forecasting of demand, will help making informed decisions by farmers about which crop should be sowed and help in getting remunerative returns.
- ▶ **Revitalize food processing sector:** so that wastage of food is reduced and supply chain is streamlined. It will boost farmers income, minimize distress sale and can bring in contract farming which if properly regulated can bring returns for framers.

All these steps will ensure that agriculture turns into profitable venture and becomes part of virtuous circle. It will also help agriculture to move away from the support of government (which can be reserved only for certain emergency situations only).

SCIENCE ISSUE

Are Injectable Contraceptives ADVISABLE



In 2015, the Ministry of Health and Family Welfare (MoHFW) announced the introduction of three new contraceptive methods - Progestin-only Pills, Centchroman and injectable contraceptives - to the basket of contraceptive choices in the National Family Planning Programme (NFPP). However, the introduction of DMPA has led to concern in terms of the possible side effects of the injectable contraceptive and the likelihood of women making uninformed choices. This has led to the demand of greater debate on the issue of family planning, role of men in planning, right of women to make informed choices.

What are injectable contraceptives and why they have been introduced?

What: A contraceptive, (also called “birth control”) is used to prevent pregnancy. Injectable contraceptives are given using injections containing hormone formulations. **Depo-Provera (medroxyprogesterone acetate) or DMPA is a similar injectable contraceptive.**

NFPP: started in 1952.

- ▶ Aims not only achieve **population stabilization** goals but also promote **reproductive health** and reduce **maternal, infant & child mortality and morbidity**.
- ▶ **Objectives** are stated through various policies like National Population policy – 2000, National Health Policy etc.

Emphasis on

- ▶ **Spacing methods** like IUCD, oral contraceptives, condoms.
- ▶ **Limiting methods of tubectomy and vasectomy.**
- ▶ **Emergency Contraceptive pills:** Increasing male participation and promoting Non scalpel vasectomy.

Why: The government has estimated that if the current unmet need for family planning could be fulfilled within the next five years, India can avert 35,000 maternal deaths and 12 lakh infant deaths.

There is a direct correlation between the number of contraceptive options available and the willingness of women to use them. Studies indicate that an addition of a contraceptive method leads to an increase of up to 12% in contraceptive usage.

Given that NFHS-4 data show that the use of contraceptives has declined, we must ensure that women and men are provided with more choices of contraception.

What are the benefits of DMPS?

DMPA has several benefits which made government to include it into the list of contraceptives to be provided.

Family planning: It will increase the basket of choices available to women and help them in planning separation between the children, which will further help in improving the maternal and child health indicators.

Will help women move away from sterilization: The ministry is trying to change the fact that female sterilisation remains the more popular choice, accounting for over 75% of contraceptive use in India. It disempowers them and therefore **sterilisation should be the last choice.**

Medical benefits:

- ▶ Very effective, long acting, reversible.
- ▶ Easy to maintain privacy, no daily pill-taking is required.
- ▶ Allows some flexibility in return visits. Client can return as much as 2 weeks early or late than due date for injection.
- ▶ Quantity and quality of breast milk is not affected. Can be used by nursing mothers as soon as 6 weeks after childbirth.

Administrative benefits: It is easy to administer.

What are the concerns being raised?

Side-effects on women health

- ▶ Changes in menstrual bleeding pattern, like irregular spotting or bleeding, scanty periods are common, rarely heavy bleeding may occur. Amenorrhoea (the absence of menstrual periods in a woman during her reproductive years), especially after first year of use, may be disturbing in some women.
- ▶ Breast tenderness, weight gain, acne and depression are bothersome side-effects.
- ▶ Return of fertility may take up to 9 months after the last injection which is longer than other reversible contraceptive methods.
- ▶ Requires another injection every 1-3 months.
- ▶ Does not protect against sexually transmitted diseases including HIV/AIDS. Studies from Africa have shown that **the risk of HIV infection may increase** for women who have been administered injectable contraceptives.
- ▶ There has been concern about the effect of an injectable contraceptive on bone density and it has to be categorically stated that the bone marrow density is reversible.

Administrative issues:

- ▶ **Preparedness of the government health system:** DMPA may be easy to administer, but health workers need to be capable of assessment before administering it and of managing side effects that some women may experience.
- ▶ **Failure in implementation of present NFPP options:** Regular stock-outs of oral contraceptives and condoms, lack of training to the auxiliary nurse midwife or ANMs on intrauterine contraceptive devices (IUCDs), instances of lack of informed consent for post-partum IUCD, and the rampant violation of the guidelines for sterilisation, which in 2014 led to the deaths of 13 women, all reflect **gaps in implementing and monitoring such programmes.** All these may pervade into new method or these can be used to force women to go for DMPA and in both the cases it will be wrong on women.

- ▶ **Low adoption rate in private sector:** Experience from the private sector, where these contraceptives had been made available previously, shows that very few women had opted for injectable contraceptives.

Biasness against and exploitation of women

- ▶ **Informed choice in safe manner:** It is argued that since women are generally poor and not aware of the alternatives available, will be fooled to go for DMPA and thus denying her the opportunity of informed choice.

Role of men in family planning:

- ▶ In 2005, the National Family Health Survey-3 (NFHS) revealed that 1% Indian men were opting for sterilisation services (vasectomy).
- ▶ In the last 10 years, this number has gone down to 0.3%.
- ▶ The acceptance of male methods of contraception is marred by many myths and misconceptions, such as loss of virility and libido.
- ▶ **Benefits of involvement of men:** It can act as a catalyst towards improving maternal and child health indicators, increasing contraceptive uptake, and enabling women to exercise their autonomy and reproductive rights.

- ▶ **Perpetuates bias against women in family planning:** Why didn't the government put all its efforts into promoting **male vasectomy**, which is a safer option and less of a problem for women.

Accusations of crony capitalism: There are serious concerns raised that some agencies are pushing this for profit.

How to address the concerns?

Introducing modern methods of family planning is a major part of (RMNCH+A) strategy. Government must try to ensure that every woman makes informed choices under RMNCH+A strategy and proper training and capacity building of the staff is done to minimize adverse effects.

- ▶ Health Ministry is taking quality assurance seriously and is in the process of doing away with the camp approach and is progressing in a phased manner.
- ▶ It is being ensured that there is information provided to the couple on all the contraceptives available in the basket of choices.
- ▶ The Ministry will introduce the drug in a phased manner and only make injectable contraceptives available when there is capacity to deliver counselling at the health facility.
- ▶ WHO and other professional bodies have said that injectable contraceptives are safe.

Further, the Ministry is aware that male participation needs to increase and a programme specifically designed to increase male participation is required.

Conclusion

The real conversation we should be having is about prioritising men's participation in family planning. We need to stop referring to family planning and sexual and reproductive health and rights as women's issues. They are as much men's issues, society's issues, moral issues, ethical issues, and issues of social justice and human dignity. Till then proper training, monitoring and grievance redressal mechanisms must be established so that women can make proper informed choice.

INTERNATIONAL ISSUE

China Reaches Out to WEST ASIA

Context

In a bid to maximize China's absorption of the West Asian nation's comparative advantage in terms of high technology China is in the middle of a complex diplomatic dance with West Asia, by engaging rivals such as Syria, Saudi Arabia, Israel and Iran all at the same time.

China is faced with a complicated geopolitical situation, and the Middle East is not in the core area of China's diplomatic interests. To strengthen its economic power and partnership in a low-profile manner is the right strategy for China's Middle East policy.

Present Scenario of West Asia

West Asia has been a sensitive and conflict prone region, especially since the early 20th century with the discovery of oil. It was also an enduring space for conflict during the Cold War.

More recently, the phenomenon of the “Arab Spring” added another dimension to the existing geopolitical challenges in the region.

The relationship between the two crucial regional players—Saudi Arabia and Iran—has worsened, making the situation even more complex.

There have been allegations of Saudi-Iran proxy wars taking place in Syria, Iraq and Yemen. The increasing Iranian activism in the region and its rising capability, along with rapprochement with the West, has alarmed the Gulf Cooperation Council (GCC) states thus inhibiting the chances of any dialogue between the two sides. Intra GCC tensions have also surfaced in recent times.

Increased intervention by external players has been another characteristic feature of recent political developments in the region. Another important feature has been the rise of the Islamists on the political horizon of the region.

The escalation of conflict in West Asia has created anxiety among major oil importers in Asia, particularly India, China, Japan and South Korea. These Asian economic giants are heavily dependent upon the energy supplies from the Gulf region. There has been a concern among the Asian oil importers over the possibility of disruption in production and supplies of oil and gas in the face of growing unrest in the region. While energy supplies from the Gulf to these countries have not been affected thus far, but the recent drop in oil prices notwithstanding, apprehensions about wild fluctuation in energy prices over the medium to long term, as a result of instability in the region, continue to persist.

China's Policy in West Asia

The basic building block of Chinese policy remains the development and expansion of economic and trade links. There is clear and long-standing evidence of an expanding Chinese economic presence throughout the region - from the massive energy markets of Saudi Arabia and the infrastructure developments in Iran to the domination of trade with Lebanon.

China's emphasis on a classic conservative support for state sovereignty, non-interference in domestic affairs and a "no enemies" policy offer a stark contrast to the interventionist policies of the West in the past century. This policy reflects China's own parochial interests as well as a formula that enables Beijing to enhance its economic and political power broadly, even in such polarised regions as the Middle East.

China is one of the top buyers of oil from Saudi Arabia and a key trading partner of Israel. China has remained a trusted ally of Iran even during the time of economic sanction(s) on it.

Further China's economic ties with West Asia assumed greater significance after the induction of One Belt, One Road initiative. West Asia plays a major role in this Silk Road revival plan.

China – Israel Comprehensive Partnership

- ▶ China and Israel has recently got engaged into innovative comprehensive partnership.
- ▶ China's focus in the partnership is on maximizing absorption of Israel's technology in hi-tech and other advanced domains.
- ▶ The partnership proves to be timely and in sync with China's "Made in China-2025" strategy to tap the potential of Internet, Big Data and robotics to help advance its manufacturing sector.
- ▶ Other top priorities of the two countries include clean energy, agriculture, finance, space, investment and medical services. Israel also expressed hopes in joining China's Belt and Road initiatives.

China – Saudi Arabia Comprehensive Strategic Partnership

- ▶ Unperturbed by the complex web of rivalries and friendships, the Chinese are also aiming high in building ties with the region's controversial heavyweight, Saudi Arabia.
- ▶ China and Saudi Arabia has signed 15 agreements and memorandum of understandings on Sep 2016 ranging from understandings on energy development and oil storage to cooperation promises on housing development and water resource issues. Meanwhile, Huawei, a leading global ICT solutions provider from China received an investment license from Saudi Arabia.
- ▶ With energy, and infrastructure investments by China as the centre, the two countries ended up signing agreements and letters of intent worth around \$65 billion involving investment, energy, space and other areas.
- ▶ China will support the Kingdom's "Saudi Vision 2030" plan — a blueprint for reducing Riyadh's dependence on oil, and reliance on other drivers of the economy such as infrastructure development — where China is a world leader — apart from health, education and tourism.

China – Iran

- ▶ Iran has historically been one of China's most significant trading partners engaged in trade over land and sea.

- ▶ Chinese leaders and entrepreneurs are reinvigorating the history of close economic ties between the two countries which is also being boosted by US sanction on Iran in recent time.
- ▶ The two government ambitiously agreed to increase bilateral trade from \$55 billion to \$600 billion over the next decade.
- ▶ China's decision to increase bilateral trade with Iran, however, coincides with recent economic problems in China. Last year, China's 6.9 percent increase in GDP marked its slowest growth rate in a quarter century. Likewise, the economic activity of China's manufacturing and services sectors experienced a slowdown. Despite these challenges at home, China has continued to place a high value on its increased trade and investment in Iran.
- ▶ China sees Iran as a Middle Eastern partner in ensuring the United States is not dominant in the Middle East. Moreover, China's partnership with Iran and the recent multilateral negotiations over Iran's nuclear program may have been mutually reinforcing.
- ▶ The trade and investment trends emerging in the aftermath of the Iran nuclear deal provide a valuable window into China's possible strategic ambitions in the Middle East.
- ▶ In the midst of economic challenges at home and brewing tensions in the Middle East, President Xi's historic visit to Iran in Jan 2016 and the new \$600 billion trade deal may be part of China's larger strategy of sustaining a balance of power against the United States while reaping the economic benefits of a more globally integrated Iranian economy.

China - Syria

- ▶ China's expanded support for Syria is a powerful indicator of Beijing's growing power projection capacity in the Middle East.
- ▶ By expanding China's influence in the Middle East/North Africa region, Chinese policy makers can demonstrate to their own people and to the international community that China is on the verge of becoming a superpower with global geopolitical reach.
- ▶ The Syrian Crisis has brought a golden opportunity to advance a normative agenda that bolsters China's influence in the developing world.
- ▶ The Chinese government's active involvement in resolving the Syrian conflict has also allowed Beijing to assert itself as a major diplomatic arbiter in the Middle East.
- ▶ Joint military exercises, military weapons procurement and China's involvement with Syria to crackdown on Islamic State, Jabhat al-Nusra and moderate rebel groups are some positive contribution to China.
- ▶ Chinese diplomatic assistance in Syria to rally international support for its pro-Assad military campaign and boost its prospects of membership in the Beijing-led Shanghai Cooperation Organization (SCO). China has responded to Iran's diplomatic overtures by providing support for Assad in the UN and endorsing Iran's SCO membership goals.

Conclusion

- ▶ Beyond its obvious need to secure long-term oil supplies and take steps to curb radical Islam in a key area, China will increasingly take action to protect its strategic interests in the Middle East and Africa and farther afield. For instance, its decision to build its first overseas military base in Djibouti, East Africa.

- ▶ However, China's policy in the Middle East has a proven ability to conduct fruitful ties with a range of players in the region, and even maintain parallel relations with bitter enemies (Iran and Saudi Arabia; Israel).
- ▶ Based on this potential, it would be appropriate to promote joint initiatives for China, Israel, and the pragmatic states, so as to maximize existing and developing potential and highlight China as a significant player in advancing regional stability by means of an economic strategy that incurs limited risks.
- ▶ In the Middle East, it is clear that China has decided it cannot simply watch from the sidelines. For now the talk is about investment and trade. However, as it involves itself more, Beijing will come under pressure to take sides politically and to do more to promote regional stability. How deftly it handles the competing pulls will determine the trajectory of the global leadership it aspires to.

ECONOMIC ISSUE

Analysis of DBT in FERTILIZER



Direct Benefits Transfer (DBT) means the transferring of benefits from several schemes of the central government in the form of subsidy, stipend, scholarship or other monetary benefits, directly to the beneficiary's bank account.

After the success in pilot programme for DBT in fertilizers, the Centre is now planning to implement the direct benefit transfer scheme in the fertilizer sector to provide Rs. 75,000 crore annual subsidy to farmers.

In the current article, the mechanism of Subsidy, concept of direct benefit transfer and the introduction of DBT in the fertilizer sector have been analyzed.

Introduction

- ▶ Subsidy has been defined as the money granted by state, public body, etc., to keep down the prices of commodities, etc. Subsidies constitute an important fiscal instrument for modifying market-determined outcomes.
- ▶ Under the 'Direct Benefits Transfer' or 'DBT', the entitled benefit from several schemes of the central government in the form of subsidy, stipend, scholarship or other monetary benefits is directly transferred to the beneficiary's bank account which will eventually be linked to an 'Aadhaar' number.
- ▶ Last year in 2016-17 Budget, the government had announced to introduce direct benefit transfer of fertilizer subsidy to farmers on pilot basis in 16 districts of the country. After success of the Pilot projects, the government is preparing plans for implementing the DBT in fertilizer sector, especially urea subsidy, that will add the annual fertilizer subsidy bill to around Rs. 75,000 crore.
- ▶ Besides that, to make country self-sufficient in fertilizer, the government is reviving all closed urea plants across the country.

Subsidies provided in India

- ▶ **Direct subsidies** are given in terms of cash grants, interest-free loans and direct benefits. For example- **Direct farm subsidies** are the kinds of subsidies in which direct cash incentives are paid to the farmers in order to make their products more competitive in the markets. Direct farm subsidies are helpful as they provide a purchasing power to the farmer and can significantly help in raising the standards of living of the rural poor.

- ▶ **Indirect subsidies** are provided in terms of tax breaks, insurance, low-interest loans, depreciation write-offs, rent rebates. For example- **Indirect farm subsidies:** These are the farm subsidies which are provided in the form of cheaper credit facilities, farm loan waivers, reduction in irrigation and electricity bills, fertilizers, seeds and pesticides subsidy as well as the investments in agricultural research, environmental assistance, farmer training etc
- ▶ **Subsidies to Agriculture Sector - Fertilizers subsidy means** distribution of cheap chemical or non-chemical fertilizers among the farmers. It amounts to the difference between price paid to manufacturer of fertilizer (domestic or foreign) and price, received from farmers. This subsidy ensures:
 - Cheap inputs to farmers,
 - Reasonable returns to manufacturer,
 - Stability in fertilizer prices, and
 - Availability of fertilizers to farmers.

Fertilizer Subsidy Scenario

- ▶ Urea is highly subsidized. Farmers pay approximately Rs. 5,360 per ton, and the government pays Rs. 11,760 per ton. The correct proportions in which Nitrogen (N), Phosphorus (P), and Potassium (K) should be used are 4:2:1. However, the skewed subsidy regime, resulting in farmers paying lesser for urea compared to phosphorus and potassium, had led to urea overuse.
- ▶ As a consequence, fertilizer use in India is taking place in the ratio 8.2:3.2:1. For each unit of K, instead of 4 units of N, which are required, 8.2 units of N are being put into the soil. The incremental output of the excessive 4.2 units of N is zero or somewhat negative.
- ▶ India purchases about 50 lakh metric tonnes of excess urea, leading to farmers and the government wastefully spend Rs. 2,680 crore and Rs. 5,860 crore respectively, further putting constraint on government's resources.

Direct Benefit Transfer in Fertilizers

- ▶ DBT aims to target the beneficiaries accurately and reduce corruption. It eliminates waste in subsidy transfer.
- ▶ DBT covers 121 districts presently.
- ▶ In 2016-17 Budget, the government had announced to introduce direct benefit transfer of fertilizer subsidy to farmers on pilot basis in few districts of the country.
- ▶ The government is preparing plans for implementing the DBT in fertilizer sector, especially urea subsidy, adding the annual fertilizer subsidy bill around Rs. 75,000 crore.
- ▶ The Government informed that the pilot project to introduce DBT in Fertilizer Sector has been undertaken in 16 districts and has been completed successfully.
- ▶ Enthused by its success from pilot program, the Center is now planning to implement the direct benefit transfer scheme in the fertilizer sector to provide Rs. 75,000 crore annual subsidy to farmers.
- ▶ To make country self-sufficient in fertilizer, the government is reviving all closed urea plants across the country.
- ▶ That apart, the National Fertiliser Ltd (NFL) will set up new plants for manufacturing of potash and bentonite sulphur in Gujarat and Panipat respectively by end of 2017.

Other schemes in which DBT is provided

- ▶ **26 Schemes:** DBT currently covers 26 schemes which include 17 scholarship schemes and various other schemes like Indira Gandhi Matritiva Sahyog Yojana, Dhanlakshmi scheme, Janani Sureksha Yojana, housing subsidy for Beedi workers, stipend for SC/ST for coaching, guidance and vocational training, stipend to trainees under the skill development scheme in left extremism affected 34 districts.
- ▶ **3 Pension Schemes:** Three pension schemes for old age, disability and widow pension schemes have been included under DBT from 1 July, 2013.
- ▶ **MGNREGA:** The benefits of MGNREGA is being deposited directly in the bank accounts of beneficiaries from 1st October, 2013.
- ▶ **Post Office:** The DBT is expanded to include post office and schemes run through Post office Accounts from 1st October, 2013. Beneficiaries can get DBT transferred to their postal account as well.
- ▶ **Banking Correspondents:** For those areas where there is no bank and the post office is yet not ready, the Central Government is deputing 'banking correspondents' who are representatives of banks to help villagers open bank accounts. The Banking Correspondent carries a small machine called 'Micro ATM' with them. The villager gives his/her thumb impression and his or her account is opened after verification and money can be withdrawn thereafter.
- ▶ **DBT for LPG:** The Government has launched Direct Benefit Transfer for LPG scheme from 1st June, 2013. In order to avail of this benefit, the beneficiary must have an LPG account and a bank account which are linked with the Aadhaar number. All Aadhaar linked domestic LPG consumers get an advance subsidy amount of Rs. 435/- in their bank account as soon as they book the first subsidized cylinder even before delivery. Once the first cylinder is delivered to such consumers, subsidy eligible on date of delivery will again get credited in the bank account, which will then be available for the purchase of the next cylinder at market rate.
- ▶ Public Sector Marketing Companies that provide the cylinders also provide the facility on their websites to check whether the Aadhaar number has been attached to LPG consumer number/bank account.

DBT Model

The Direct Benefit Transfer (DBT) being implemented in fertilizer subsidy payment is slightly different from the normal DBT being implemented in LPG subsidy.

What steps needed to make DBT in Fertilizer same as LPG Subsidy

Replicating the DBT model in fertilisers requires more than just a robust system of identification for eliminating fictitious/duplicate beneficiaries. This would mean, firstly, capping the number of bags on which the subsidy is payable, based on a reasonable assessment of requirement. That, in turn, would depend on the specific fertiliser as well as the crop and location where it is grown – making it more complicated than the straight 'one product-12 cylinders' formula in DBT for LPG.

Thus, the per acre fertiliser requirement in wheat and paddy may be two bags of urea, one bag of DAP and half a bag of MOP. But for potato, this could be 2 bags each of urea and DAP, and one bag of MOP. The annual requirement for a wheat-paddy farmer in Punjab would, then, be 4 bags of urea, two bags of DAP and one bag MOP per acre. If the subsidy is limited to five acres — as the UP government has done for seeds — the farmer's total entitlement comes to 20 bags of urea, 10 bags of DAP and 5 bags of MOP.

Implementing the Pahal-DBT model in fertiliser will also require arriving at indicative non-subsidised market rates, linked to international prices. At current per-tonne landed costs of \$ 225 for urea, \$ 400 for DAP and \$ 270 for MOP – and adding 5 per cent import duty and average domestic handling-cum-distribution costs of Rs. 3,000 – the corresponding per-bag prices would be roughly Rs. 950, Rs. 1,575 and Rs. 1,110 respectively. The total annual outlay for a paddy-wheat farmer, based on the above rates and bag requirements, would work out to around Rs. 40,300 over five acres.

- ▶ Under the DBT in fertilizer sector, the subsidy will be released to the fertilizer companies instead of the beneficiaries, after the sale is made by the retailers to the beneficiaries.
- ▶ In other words, whenever a farmer buys fertilizer at a subsidized price, the subsidy component (which is often the double of what the farmer pays) get deposited by the government to the fertilizer company's account through the farmer's account.
- ▶ At present direct transfer of subsidy to beneficiaries like in LPG cannot be introduced in fertilizer sector as the beneficiaries and their entitlement is not clearly defined. Multiple subsidized products, urea and 21 grades of Phosphatic & Potassic fertilizers have different subsidy rates. The subsidy rate in respect of urea varies from company to company due to different production processes, energy efficiencies of plants, vintage etc.
- ▶ As the amount of subsidy in some fertilizers, particularly urea is more than double the MRP, it will be a huge financial burden on the farmers to pay the MRP and subsidy upfront and receive the subsidy amount subsequently.
- ▶ According to officials, the new scheme will authenticate the beneficiary (farmer) through his Aadhaar number, voter ID or Kisan Credit Card, and will link the digital land records to identify the precise area where the subsidized fertilizer is meant to be used. Since the scheme runs parallel to the Central government's soil health card programme, the districts where the fertilizer DBT programmes are piloted will also see farmers getting tailor made advices on optimal quantity of fertilizers that they need to apply in the land that has been tagged to the farmer in the official records. While the farmers are free to ignore this advice, it will help the government track unusually high quantity of fertilizer purchases by any individual or on behalf of any specific farm land.

Features of Aadhar Enabled Fertilizer Distribution System (AeFDS)

AeFDS involves distribution of exact fertilizer quantities to farmers based on their extent of the land holdings (acreage) and soil fertility status.

Objectives

- ▶ To ensure timely and correct distribution of fertilizers through Aadhaar.
- ▶ To monitor the distribution of fertilizers across the value chain from manufacturers till farmers.
- ▶ Deliver exact fertilizer quantity crop-wise to farmers based on their Soil Health Cards (SHCs).
- ▶ Streamline fertilizer distribution across the value chain reducing malpractices/ hoardings.
- ▶ Facilitate the farmers in availing direct subsidy in long run.

Salient features

- ▶ **Citizen centricity:** The real beneficiaries of AeFDS are the farmers. Through AeFDS, they can receive their due entitlement of fertilizers or buy fertilizers without any difficulty anywhere anytime.
- ▶ **Adaptability:** The program can be easily implemented using Aadhaar platform. This when integrated to land and soil health databases shall complete the requisite set-up for the program.
- ▶ **Sustainability:** Compared to the actual savings in subsidy in AeFDS, the installation costs for initial aids and equipments are negligible including the recurring costs.
- ▶ **Scalability:** The AeFDS program is easily scalable and replicable.

Challenges in its proper implementation

With the launch of DBT, the NPS for urea and, likewise, the nutrient-based scheme (NBS) under which manufacturers of P&K fertilisers are paid subsidy will have to

go. This will require manufacturers and other stakeholders such as distributors and retailers to be put on advance notice to enable them adjust to the new dispensation of having to sell fertilisers at market-based prices.

The infrastructure for supply of gas to all plants needs to be put in place to ensure a level-playing field. If a gas pipeline does not reach any plant, forcing it to use higher cost feedstock, it won't survive under the DBT regime. The Jagdishpur-Phulpur-Haldia gas pipeline project, which is intended to meet gas requirements of a number of plants in eastern Uttar Pradesh, Bihar, Jharkhand and West Bengal, must be commissioned ahead of the D-day.

A number of high-cost units are under public sector undertakings (PSUs) such as the Fertiliser Corporation of India, Brahmaputra Valley Fertiliser Corporation and Madras Fertilisers. Some are lying closed for many years, while others are making losses. Under market-based pricing, when unit-specific support (currently given under NPS) will no longer be available, the losses of loss-making units will increase and the chances of reviving closed units will become dim. Therefore, the government will have to think through a 'special package' for them to remain viable.

At present, 50% of urea production and 20% of P&K fertilisers are subject to movement and distribution controls. The freight cost is separately reimbursed as subsidy to the manufacturers. Under DBT dispensation, these controls and freight subsidy will have to go, even as the cost of moving fertilisers to consumption points has to be reflected in the selling price.

Disallowance of inter-district movement of fertilisers under iFMS may restrict fertiliser availability at retailers point. In many cases, the hired warehouse in one district is nearer to retailer in adjoining district. For optimizing costs, companies may move material from rakes to godown network and wholesalers and moved to retailers in the state across the district boundaries. Currently, the wholesalers' districts are captured in iFMS. Under DBT, if the supplying wholesaler is not from the same district as that of DBT district, then the quantities supplied by them to the retailers of DBT district could be ignored for subsidy payment. The restriction will increase the cost in the field causing undue burden on companies. Therefore, there is need for continuation of inter-district movement of fertilisers in the interest of the farmers to get fertilisers without delay.

Currently, outstanding subsidy dues to manufacturers running into thousands of crores of rupees are a routine affair. They manage by extra borrowings from banks or issuing of bonds by the government against subsidy receivables. To let this happen under DBT would be disastrous. The government will have to make adequate provisions and ensure that no dues are pending to farmers.

GOVERNANCE ISSUE

Ban on BS III Vehicle: IS IT JUDICIAL OVERREACH?


Context

Supreme Court in late of March 2017 banned the sale of BS-III category vehicles from April 1 due to concerns on vehicular emission stating that health of people is far, far more important than the commercial interests of manufacturers. The ban on BS-III vehicles imposed by the Supreme Court will cost commercial vehicle and two-wheeler makers nearly "Rs. 3,000 crore", according to market research firm CRISIL. The ban impacted over 8 lakh vehicles in stock and has implication on employment and ancillaries units connected with car makers. In this context, it is important to analyze if this is a case of Judicial Overreach or not.

Judicial overreach

Our constitution is based on separation of power between three wings of the state, i.e. Executive, Legislature and Judiciary. However, separation of power does not mean that each wing works in water tight compartments rather there is weak separation of power between wings of the state with each one having some features of other two. Judicial overreach is a situation where the court go beyond weak separation of power and encroaches upon the role of the legislature by making laws and role of executive by making rules.

The line between Judicial activism and Judicial Overreach is very narrow. In simple terms, when Judicial activism crosses its limits and becomes Judicial adventurism it is known as Judicial Overreach. Judicial activism denotes a more active role taken by Judiciary to dispense social justice. Some examples of Judicial Activism are Reforms in Cricket, SIT on Black money. But some cases of Judicial Overreach may include ordering the creation of a National Disaster Mitigation Fund while national and state disaster response funds already exist—the judiciary has appropriated for itself a role far beyond its primary duties of dispensing justice and interpreting laws. This lead Finance Minister to make a statement in Rajya Sabha that step by step, brick by brick, the edifice of India's legislature is being destroyed by the judiciary.

Power of Judicial activism and consequent Judicial overreach comes from Invention of the 'basic structure doctrine' in the 'Keshavanad Bharati case' (1973) by which Supreme Court further extended the scope of Judicial Review, incorporation of due process of law instead of procedure established by law, institutionalization of PIL. This is over and above power of Judicial Review is incorporated in Articles 226 and 227 of the Constitution insofar as the High Courts are concerned. In regard to the Supreme Court Articles 13, 32 and 136 of the Constitution, the judiciary in India has come to control by judicial review every aspect of governmental and public functions.

Understanding the Ban

To understand, one needs to appreciate that there is a short- and long-run aspect to this story and also that the dynamic gains in the long run might actually outweigh the static losses today. More stringent and properly designed environmental regulations can actually trigger innovation that may partially or in some instances more than fully offset the costs of complying with them.

A BS-III ban was always in the offing, with India starting to pivot towards the Euro emission norms since 2000. Firms thus had ample time to adjust for such regulations. Second, a domestic ban such as this might actually be great news for the co-creation of new emission technologies with the ecosystem of upstream auto-component suppliers in the Indian automobile industry. In fact, one can expect more intense technology transfer partnerships between domestic and foreign firms. Third, this BS-III ban could actually trigger a flurry of environmentally friendly technologies and entrepreneurial experiments in this sector given India’s fast growing but fuel-guzzling, emission-spewing automobiles.

Bharat Stage Norms

These norms were introduced in India in 2000, when the Bharat Stage norms were adopted by the government, based on the European emission norms. Each stage specifies a certain limit on the pollutants released, which is controlled by the type of fuel made by the oil companies and the up-gradations and modifications made by the auto firms to their vehicles to control the pollutants released from the vehicle.

Present Scenario:

- ▶ India had enforced Bharat stage III norms across the country since October 2010. In 13 major cities, Bharat stage IV emission norms were put in place since April 2010. Currently, BS-IV petrol and diesel are being supplied in whole of Northern India covering Jammu and Kashmir, Punjab, Haryana, Himachal Pradesh, Uttarakhand, Delhi and parts of Rajasthan and western UP. The rest of the country has BS-III grade fuel.
- ▶ From 1 April, 2016, all of Goa, Kerala, Karnataka, Telangana, Odisha, Union Territories of Daman and Diu, Dadra-Nagar-Haveli and Andaman & Nicobar started getting BS-IV fuel. The rest of the country is scheduled to get supplies of BS-IV from 1 April, 2017.

Indian Emission Standards (4-Wheel Vehicles)			
Standard	Reference	YEAR	Region
India 2000	Euro 1	2000	Nationwide
Bharat Stage II	Euro 2	2001	NCR*, Mumbai, Kolkata, Chennai
		2003.04	NCR*, 13 Cities†
		2005.04	Nationwide
Bharat Stage III	Euro 3	2005.04	NCR*, 13 Cities†
		2010.04	Nationwide
Bharat Stage IV	Euro 4	2010.04	NCR*, 13 Cities†
Bharat Stage V	Euro 5	(to be skipped)	
Bharat Stage VI	Euro 6	2020.04 (proposed)	Entire country

* National Capital Region (Delhi)
 † Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad, Pune, Surat, Kanpur, Lucknow, Sholapur, Jamshedpur and Agra

In present case it is not that Supreme Court has passed judicial order circumventing Executive domain. BS IV standards are suppose to cover entire country by April, 1, 2017 and it has been known since long as per policy of the government based on Saumitra Chaudhuri Committee for Auto fuel vision policy 2025. The bench observed that the automobile companies knew about the BS-IV notification in 2014 and firms should have scaled down the production of BS-III vehicles. Hence, this might not be the case of Judicial Overreach and court has just implemented what was in the books for long.

Conclusion

In the current context, it cannot be termed as judicial overreach but environmental activism. However, taking a broader look at judicial activism it can be interpreted as activism given that state capacity is weak in delivering of what is entitled to citizen. Judicial activism could be looked upon as an attempt to fill the vacuum created by missing Executive. Courts are the last resort to citizens of this country when Executive and Legislature fail to live up to their expectations.

GOVERNANCE ISSUE

Implications of New Norms in CORPORATE POLITICAL FUNDING

Context

Recently before the passing of Finance bill 2017 government moved amendments to finance bill. These amendments among other includes Section 182 of the Companies Act, regarding funding of political parties by corporate entities. This amendment has far reaching implication on ways in which cooperate finance political parties.

About Corporate funding

- ▶ Donation by corporate bodies is governed by the **Companies Act, 2013. Section 182 of the Act** provides that:
 - A company needs to be at least three years old since the date of its existence to be able to donate to a political party.
 - Companies can donate a maximum of 7.5% of the average net profits they made during three immediately preceding financial years.
 - Such contribution must be disclosed in the profits and loss accounts of the companies.
 - No contribution shall be made without obtaining the approval of the board of directors by passing a resolution.
 - If a company contravenes the provisions of this section, it may be held liable to a pay fine which may extend up to five times the amount contributed in default and every officer guilty of such contravention may be imprisoned for a term which may extend to six months and with fine which may extend up to five times the amount contributed in default.

What the amendment is all about?

Currently, a company may contribute up to 7.5% of the average of its net profits in the last three financial years, to political parties. The company is required to disclose the amount of contributions made to political parties in its profit and loss account, along with the name of the political parties to which such contribution was made.

The amendments to **the Finance Bill, 2017 propose to remove:**

- ▶ The limit of 7.5 percent of net profit of the last three financial years, for contributions that a company may make to political parties.
- ▶ The requirement of a company to disclose the name of the political party to which a contribution has been made.

- ▶ This contribution can only be made through a cheque, bank draft, electronic means, or an electoral bond.
- ▶ The Companies Act would be amended to do away with the current requirement to disclose the names of beneficiary political parties in companies' profit and loss statements. The amount of donation, however, still needs to be disclosed.

Note that Finance Bill, 2017 contains provisions to introduce electoral bonds to make contributions to political parties. Electoral bonds will be bonds issued by notified banks, for an amount paid through cheque or electronic means.

Impact Analysis

On the face of it, the move seems to make the political funding system more opaque. However, diving deep, it actually makes sense to remove these restrictions as it allows accounted money from corporate to flow into the political system rather than unaccounted money that finds its way into the system dubiously filtered through multiple channels. Further, these donation as per amendments have to be only made through formal means like cheque, Bank Draft, Electronic means etc. This will add to transparency and traceability of funds accumulated by a political party.

The move may fare better on merit in comparison to the previous system in place where large amount of unaccounted cash found its way into the political parties' funding through anonymous donations. Political parties have to file income tax returns, and the funding will be on record. Increase in corporate funding can also not be classified as a conflict of interest unless proven otherwise.

The current move can be dissected on two major aspects. Firstly, limitless donations are only allowed through digital and cheque route which means accounted money is transferred to the party's accounts. The facility would seem to allow larger donations from single channel corporate donations as against multiple channel individual donations which are difficult to track as corporate donors are answerable to more bodies than individuals.

The attempt is to clean political finance. All efforts, including electoral bonds and curbing cash donations over Rs. 2,000, are a move in that direction. A clean finance of political parties is necessary for good governance by any political party coming to power. It should be remembered that corruption starts from Top, i.e. if the minister is corrupt then bureaucracy and lower level workforce also become corrupt. In order to target overall corruption it is important to target political corruption which lead to money based politics to win elections. Such political system makes election a kind of investment where politicians get elected to recover their investment through illegitimate means. This corruption goes down to bureaucracy and lower level workforce. This measure is in right direction to make political finance more transparent, traceable and accountable.

Counter View

Section 182 of companies Act also contains these two provisions:

- ▶ No political donation can be made unless the board of directors passes a resolution authorise such a payment.
- ▶ Any body of individuals may form a registered political party under Section 29A of the Representation of the People Act, 1951 by making an application to the Election Commission for registration and the income of political parties is exempt form taxation via Section 13A of the Income Tax Act of 1961.

So, today, directors of a company could form a political party and siphon off company money without having to disclose the donation in the company books. Further, the money would be parked for them, tax-free, as long as the political party is registered under Section 29A of the Representation of the People Act, 1951.

Neither the company nor the party will pay tax on those profits that are “donated” to the said party. The directors could then spend the money on themselves via the party and call it “party expenditure” or could pay themselves money out of the party funds as and when they need it.

The pre-existing system made things quite transparent. Anyone can find the financial statements of all companies online via the Ministry of Corporate Affairs portal at www.mca.gov.in. For a small inspection fee, a person can easily find out who has paid who and how much money. The pre-existing system was not just transparent; it was quick, efficient and accessible. It allowed the information to be accessed, not just by academics, journalists and NGOs but also by the general public.

But with the amendments in Finance Bill 2017, things have changed slightly. A person can still inspect the financial statements of the company, but he/she will only be able to see the amount of money donated to a political party, but not the party to which the money has gone to. This information is something that a company’s own shareholders may not have access to as it no longer needs to be disclosed in the annual financial statement. Also the Bill now gets rid of the cap.

This becomes highly problematic for many reasons. A company is an artificial creature created by law for the sole purpose of fulfilling the mandate of its shareholders. This is why it ends up having certain rights that regular people do. One such is the right to conduct political activity like making contributions to parties.

The right doesn’t come directly to the company, but the right is vested in the company as an extension of the right possessed by its shareholders. This means disclosures are important. Every shareholder has the right to know what political activities are being carried on in their names.

Unless this is disclosed publicly, they will never have access to that information, thereby resulting in a situation where people are contributing to political parties against their will.

By allowing the companies to not disclose the political party, the government is encouraging secrecy. This will only help those political parties and companies that want to cozy up to each other. Companies can now channel unlimited money from their profits to political parties without disclosing the name of the parties to whom this money is being sent to. The minority shareholders who don’t have a control of the board, or small shareholders in public companies, may not even know what political activity is being carried on in their name.

Conclusion

The move by the government seems to have both possible positive and possible negative effects. The negatives seem to be more serious in theory, whether this apprehension will materialize is the question that could be answered in long run. But, the way in which new regime is ushering transparency in political funding the move may be with good intent. Addressing the loopholes should be considered at the earliest.

INTERNATIONAL ISSUE

Crimes of Apartheid



*The UN Economic and Social Commission for Western Asia (ESCWA) just released a significant report on Israeli apartheid practices. The report, **Israeli Practices towards the Palestinian People and the Question of Apartheid**, authored by professors and influential engaged scholars Richard Falk and Virginia Tilley, offers the international community and UN member states a very concise and clear conclusion: "Israel has established an apartheid regime that dominates the Palestinian people as a whole."*

What is Apartheid and Crimes of Apartheid?

The name of the crime comes from a system of racial segregation in South Africa enforced through legislation by the National Party (NP), the governing party from 1948 to 1994.

The government classified all peoples in three separate races: White, coloured and blacks. Each race had its rights and limitations. The white minority controlled the much larger black majority. The rights, associations, and movements of the majority black inhabitants and other ethnic groups were curtailed, and white minority rule was maintained.

This system of domination and separation became **known as "apartheid"**.

- ▶ **International Convention on the Suppression and Punishment of the Crime of Apartheid** defines the crime of apartheid as "inhuman acts committed for the purpose of establishing and maintaining domination by one racial group of persons over any other racial group of persons and systematically oppressing them."
- ▶ **Rome Statute of the International Criminal Court** defines them as as **inhumane acts of a character similar to other crimes against humanity** "committed in the context of an institutionalized regime of systematic oppression and domination by one racial group over any other racial group or groups and committed with the intention of maintaining that regime."

The crime of Apartheid is one of the crimes against humanity under Rome Statute.

Why Israel has been accused of apartheid?

In 2017, UN diplomat Rima Khalaf published a report, **Israeli Practices towards the Palestinian People and the Question of Apartheid**, which argued that the Israeli system may constitute the Crime of Apartheid.

United Nations Economic and Social Commission for Western Asia (ESCWA), report of 2017 makes the 'grave charge' that Israel is guilty of apartheid not only in the West Bank, Gaza and East Jerusalem — the Occupied Territory — but also within its own boundaries and against the Palestinian refugees.



Israel - Palestine Conflict

1918-48 The British governed Palestine after the end of the first world war and the defeat of the Ottoman Empire, which had ruled the region. The British promised self-rule to the Arabs but also backed the creation of a Jewish homeland in the region.

1948-67 After the war that followed Israel's declaration of its state in May 1948, the West Bank and East Jerusalem was governed by Jordan, and Gaza was governed by Egypt.

1967-93 During the Six-Day War, Israel occupied the West Bank and Gaza, and captured and later annexed East Jerusalem. It imposed military rule over the **Palestinian territories**.

1993 The Oslo accords were signed between Israel and Palestine, leading to the creation of the Palestinian Authority. The PA was given control over some West Bank cities, but Israel military control was maintained over 60% of the West Bank.

Fig.: 1

What are the reasons for Israel practicing a policy of discrimination:

- ▶ **Character of the state:** In 1948 Israeli state was defined in its basic laws as the “Jewish and Democratic State”. Therefore Israel is a religious state and through policies of discrimination and suppression tries to maintain the Jewish character of the state.
- ▶ **Demographic threat:** If the 12 million Palestinians — exiles and refugees included — would be citizens of this one-state Israel, then they would dwarf the six million Jews in the country.

What are the policies of the state which tantamount to apartheid?

The report illustrates that the principal method that Israel uses to impose its apartheid regime occurs through the strategic fragmentation of the Palestinian people.

- ▶ The fragmented Palestinian population resides in four different locations and domains, and four different sets of laws apply to them:
 - Civil law, with restrictions, governing Palestinians who are citizens of Israel;
 - Permanent residency law governing Palestinians of Jerusalem;
 - Military law governing Palestinians in the occupied West Bank and Gaza; and
 - Denial of the right of return to the Palestinians in exile.
- ▶ Palestinians inside Israel can acquire “citizenship” but not “nationality”; the latter is exclusively for Jews. They have to face restrictive zoning laws, and find themselves unable freely to buy land.
- ▶ East Jerusalem Palestinians, as permanent residents have no legal standing to challenge Israeli law, have to constantly prove that they live in the city and that they do not have any political ambitions.
- ▶ The latest law — the Muezzin Bill — imposes limits on the Muslim call to prayer in Israel and East Jerusalem.

Article 7(a) of the Basic Law prohibits any political party from considering a challenge to the State’s Jewish character. Since this description of the Israeli state renders Palestinians as second-class citizens, their voting rights are reduced to merely an affirmation of their subordination as they can’t challenge the laws discriminating against them. As the UN report suggests, ‘An analogy would be a system in which slaves have the right to vote but not against slavery’.

In a 2007 report also, United Nations Special Rapporteur for Palestine John Dugard stated that “elements of the [state of Israel’s] occupation constitute forms of colonialism and of apartheid, which are contrary to international law.”

What should be done?

States have a collective duty: not to recognise an apartheid regime as lawful; not to aid or assist a state in maintaining an apartheid regime; and to cooperate with the UN and other states in bringing apartheid regimes to an end.

However, to do so, only a ruling by an international tribunal would make the assessment of crime of apartheid truly authoritative. Guaranteeing such ruling by an international tribunal should be an ultimate duty of the Palestinians, their supporters, and the global governance institutions, while maintaining their acts of resistance towards dismantling the Israeli settler colonial regime and military occupation.

The ECSWA report make two specific suggestions:

- ▶ Ask that the International Criminal Court (ICC) investigate the situation in Israel.
- ▶ The report asks that member states allow ‘criminal prosecutions of Israeli officials demonstrably connected with the practices of apartheid against the Palestinian people’.

Which if implemented can help in reigning the alleged apartheid regime.

For India, the timing and the conclusion of the report, both have to be weighed in its strategic calculations. India’s relations with Israel are on the upswing and support for Palestine cause has been lukewarm in recent. The main dilemma is whether to be realpolitik or idealistic. Till the Israel-Palestine issue is not solved, Israel security threat remains, India and world will continue to face such issues. Therefore there is a need to focus on the humanitarian aspect of the conflict, till final solution is not reached.

SOCIAL ISSUE

Human Development Report: 2016



The 2016 Human Development Report focuses on how human development can be ensured for everyone—now and in the future. Its vision draws from and builds on the 2030 Agenda for Sustainable Development that the 193 member states of the United Nations endorsed last year and the 17 Sustainable Development Goals that the world has committed to achieve.

It argues that to ensure human development for everyone, a mere mapping of the nature and location of deprivations is not enough. Some aspects of the human development approach and assessment perspectives have to be brought to the fore. The Report also identifies the national policies and key strategies that will enable every human being to achieve basic human development and to sustain and protect the gains. And addressing the structural challenges of the current global system, it presents options for institutional reforms.

The report gives an excellent definition of Human development which requires a mention. The report conveys five basic messages and mentions an action agenda to achieve Human Development.

What is Human Development?

Human development is about enlarging freedoms so that all human beings can pursue choices that they value. Such freedoms have two fundamental aspects—freedom of well-being, represented by functionings and capabilities, and freedom of agency, represented by voice and autonomy.

Functionings are the various things a person may value being and doing—such as being happy, adequately nourished and in good health, as well as having self-respect and taking part in the life of the community. Capabilities are the various sets of functionings (beings and doings) that a person can achieve. Agency is related to what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important.

Measurement of Human Development

- ▶ The composite **Human Development Index (HDI)** integrates three basic dimensions of human development. Life expectancy at birth reflects the ability to lead a long and healthy life. Mean years of schooling and expected years of schooling reflect the ability to acquire knowledge. And gross national income per capita reflects the ability to achieve a decent standard of living. To measure human development more comprehensively, the Human Development Report also presents four other composite indices.

- ▶ The **Inequality-adjusted HDI** discounts the HDI according to the extent of inequality.
- ▶ The **Gender Development Index** compares female and male HDI values.
- ▶ The **Gender Inequality Index** highlights women's empowerment.
- ▶ The **Multidimensional Poverty Index** measures non-income dimensions of poverty.

HDR 2016

The 2016 Human Development Report focuses on how human development can be ensured for everyone—now and in the future.

Given that broader context, the Report then raises two fundamental questions: who has been left out in progress in human development and how and why did that happen. It emphasizes that poor, marginalized and vulnerable groups—including ethnic minorities, indigenous peoples, refugees and migrants—are being left furthest behind. The barriers to universalism include, among others, deprivations and inequalities, discrimination and exclusion, social norms and values, and prejudice and intolerance.

The Report also clearly identifies the mutually reinforcing gender barriers that deny many women the opportunities and empowerment necessary to realize the full potential of their lives.

To ensure human development for everyone, the Report asserts that merely identifying the nature of and the reasons for the deprivation of those left out is not enough.

The Report rightly recognizes that national policies need to be complemented by actions at the global level.

Report conveys five basic messages

- ▶ **Universalism is key to human development, and human development for everyone is attainable:** What humanity has achieved over 25 years (since HDI came into existence) gives hope that fundamental changes are possible. Some of the impressive achievements have been in regions or areas that once were lagging. Even though the global population increased by 2 billion—from 5.3 billion in 1990 to 7.3 billion in 2015—more than 1 billion people escaped extreme poverty, 2.1 billion gained access to improved sanitation and more than 2.6 billion gained access to an improved source of drinking water. All these promising developments give the world the hope that things can be changed and that transformations are possible.
- ▶ **Various groups of people still suffer from basic deprivations and face substantial barriers to overcoming them:** One person in nine in the world is hungry, and one in three is malnourished. Such basic deprivations are common among various groups. Women and girls, ethnic minorities, indigenous peoples, persons with disabilities, migrants—all are deprived in the basic dimensions of human development. Groups of people who remain deprived may be the most difficult to reach—geographically, politically, socially and economically. Surmounting the barriers may require greater fiscal resources and **development assistance**, continuing gains in technology and better data for monitoring and evaluation.
- ▶ **Human development for everyone calls for refocusing some analytical issues and assessment perspectives:** Voice and autonomy, as parts of freedom of agency and freedom of well-being, are integral to human development. The ability to deliberate, participate in public debates and be agents in shaping one's life and environment is fundamental to human development for everyone.

The primary focus of the human development approach has largely been on the freedom of well-being. But as well-being was realized, emphasizing freedom of agency has become more important.

- ▶ **Policy options exist and, if implemented, would contribute to achieving human development for everyone:** A four-pronged national policy approach can ensure that human development reaches everyone. First, universal policies are needed to reach those left out, Second, even with the new focus on universal policies, some groups of people have special needs that would not be met. These situations require specific measures and attention. Third, human development achieved does not mean human development sustained. Thus human development will have to be resilient. Fourth, people who have been left out will have to be empowered, so that if policies and the relevant actors fail to deliver, these people can raise their voice, demand their rights and seek to redress the situation.
- ▶ **A reformed global governance, with fairer multilateralism, would help attain human development for everyone:** We live in a globalized world where human development outcomes are determined not only by actions at the national level, but also by the structures, events and work at the global level. The shortcomings in the current architecture of global systems pose challenges for human development on three fronts. The distributional consequences of inequitable globalization have promoted the progress of some segments of the population, leaving poor and vulnerable people out. Globalization is also making those left out economically insecure. And people are suffering in lingering conflicts. In short, all these undermine and limit national efforts and pose as barriers to human development for everyone. Global institutional reforms should encompass the broader areas of regulation of global markets, the governance of multilateral institutions and the strengthening of global civil society with each area reflecting specific actions.

An Action Agenda

The 2030 Agenda and the Sustainable Development Goals are critical steps towards human development for everyone. Building on its analysis and findings, the Report suggests five-point action agenda to ensure human development for everyone. The actions cover policy issues and global commitments.

- ▶ **Identifying those who face human development deficits and mapping where they are:** Identifying those who have been left out of the progress in human development and mapping their locations are essential for useful advocacy and effective policymaking. Such mapping can help development activists demand action and guide policymakers in formulating and implementing policies to improve the well-being of marginalized and vulnerable people.
- ▶ **Pursuing a range of available policy options with coherence:** Human development for everyone requires a multipronged set of national policy options: reaching those left out using universal policies, pursuing measures for groups with special needs, making human development resilient and empowering those who are left out. Country situations differ, so policy options have to be tailored to each country. Policies in every country have to be pursued in a coherent way through multi stakeholder engagement, local and sub-national adaptations and horizontal (across silos) and vertical alignment (for international and global consistency).
- ▶ **Closing the gender gap:** Gender equality and women's empowerment are fundamental dimensions of human development. Gender gaps exist in capabilities as well as opportunities, and progress is still too slow for realizing the full potential of half of humanity. At a historic gathering in New York in September 2015

some 80 world leaders committed to end discrimination against women by 2030 and announced concrete and measurable actions to kickstart rapid changes. Now is the time to act on what has been promised and agreed.

- ▶ **Implementing the Sustainable Development Goals and other global agreements:** The Sustainable Development Goals, critical in their own right, are also crucial for human development for everyone; the 2030 Agenda and the human development approach are mutually reinforcing. Further, achieving the Sustainable Development Goals is an important step for all human beings to realize their full potential in life. The historic Paris Agreement on climate change is the first to consider both developed and developing countries in a common framework, urging them all to make their best efforts and reinforce their commitments in the coming years. The UN Summit for Refugees in September 2016 made bold commitments to address the issues facing refugees and migrants and to prepare for future challenges. The international community, national governments and all other parties must ensure that the agreements are honoured, implemented and monitored.
- ▶ **Working towards reforms in the global system:** To move towards a fairer global system, the agenda for global institutional reforms should focus on global markets and their regulation, on the governance of multilateral institutions and on the strengthening of global civil society. Reform agenda should be advocated vigorously and consistently by bolstering public advocacy, building alliances among stakeholders and pushing through the agenda for reform.

Human Development Report adds the dashboards into the Statistical Annex.

The dashboard approach has become popular for monitoring development outcomes.

The 2016 Human Development Report experiments with two new colour-coded tables also termed dashboards, Life-course gender gap and Sustainable development.

The colour-coded tables evaluate progress of human development by exposing the levels and changes of various indicators. The Life-course gender gap dashboard focuses on gender equality and women's empowerment.

The Sustainable development dashboard underscores the environmental, economic and social aspects of sustainable development. Though it does not convey a definitive conclusion on country achievements, the dashboard approach can be effective in presenting and visualizing data on selected indicators. The approach could be extended to other areas of human development.

Sustainable development dashboard contains a selection of indicators that cover environmental, economic and social sustainable development. It mixes indicators on level and rate of change. Environmental sustainability indicators included are related to renewable energy consumption, carbon-dioxide emissions, forest areas and fresh water withdrawals. Economic sustainability indicators look at natural resource depletion, national savings, external debt stock, government spending on research and development and diversity of economy. Social sustainability is captured by changes in income and gender inequality, by changes in multidimensional poverty and by the old-age dependency ratio projected to 2030.

Three colour-coded partial grouping of countries is used to visualize achievements of countries in these indicators. The intention is not to suggest the thresholds or target values for these indicators but to allow a crude assessment of country's performance relative to others. Countries are divided according to the value of each indicator into three groups of approximately equal sizes (terciles).

Thus there is the top third, the middle third and the bottom third of countries. A distinct colour is attached to a group of countries with similar level of performance. The darker shade of green represents the top third group; the moderately shaded green represents the middle third; and the lighter shade of green represents the bottom third of countries. Partial grouping of countries applies to all indicators listed, except for forest area (% of total land area). Although the area of land covered by forest is a key piece of

information for forest policy, it was not used directly for country grouping in this dashboard. The size of forest area depends on many geological, geographical and historical factors, thus not only on the undertakings of the current generation. Instead we are assessing the change in forest area as a measure of the importance of forests in a country or a region. It aids monitoring the extent of planned and unplanned deforestation, as well as restoration and rehabilitation of forests.

HDI of India

India was ranked 131 in the 2016 Human Development Index (HDI) among the 188 countries. India scored 0.624 and was placed in medium human development category.

India’s HDI rank value in 2015 stood at 0.624, which had increased from 0.580 in 2010.

Its life expectancy at birth stood at 68.3 years in 2015 and the Gross National Income (GNI) per capita \$5,663.

On the perception of feeling safe 69% answered “yes”, while on freedom of choice, 72% female responders answered they were “satisfied” as compared to 78% for male.

India’s score for overall life satisfaction was 4.3 on a scale of 1-10.

On perceptions about government, 69% said they had trust in the national government for the 2014-15 period while 74% said they have confidence in the judicial system.

HDI rankings: How India compares with BRICS peers

The UN Human Development Report 2016 ranks India 131 out of 188 countries, based on 2015 data. Despite making major progress, India still ranks third among South Asian countries—behind Sri Lanka and Maldives. Among the BRICS nations, India’s improvement in HDI is the second-best after China which has recorded the highest at 48%.

Gender Inequality Index

Rank	Country	Seat share of women in Parliament (%)	Participation in the labour force	
			Women*	Men
52	Russia	14.5	56.6	71.7
92	Brazil	10.8	56.3	78.5
37	China	23.6	63.6	77.9
90	South Africa	41.2	46.2	60.2
125	India	12.2	26.8	79.1

*% of women 15 yrs and above

Multidimensional Poverty Index

	Population near multidimensional poverty (%)	Population in severe multidimensional poverty (%)	Intensity of deprivation
Brazil	6.7	0.3	40
China	22.7	1.0	43.3
India	18.2	27.8	51.1
South Africa	17.1	1.3	39.6
Russia	-	-	-

Inequality adjusted Human Development Index

	Human Development Index (HDI)	Inequality adjusted HDI	Overall loss (%)
Russia	0.804	0.725	9.8
Brazil	0.754	0.561	25.6
China	0.738	NA	NA
South Africa	0.666	0.435	34.7
India	0.624	0.454	27.2

Source: UN Human Development Report 2016

Fig.: 2

Conclusion

From a human development perspective, we want a world where all human beings have the freedom to realize their full potential in life so they can attain what they value. In the ultimate analysis, development is of the people, by the people and for the people. People have to partner with each other. There needs to be a balance between people and the planet. And humanity has to strive for peace and prosperity. Human development requires recognizing that every life is equally valuable and that human development for everyone must start with those farthest behind. The 2016 Human Development Report is an intellectual contribution to resolving these issues.

ECONOMIC ISSUE

Fat Tax:

CONCEPT ANALYSIS



Recently 11-member group including secretaries of the health, sanitation and urban development had met with Prime Minister and advocated for a "fat tax," which could play a role in countering diseases such as diabetes and obesity and heart disorders.

What is Fat Tax?

A fat tax is a tax or surcharge that is placed upon fattening food, beverages or on overweight individuals. A fat tax that aims to discourage unhealthy diets and offset the economic costs of obesity and other diseases associated with unhealthy consumption.

Numerous studies suggest that as the price of a food decreases, individuals get fatter. In fact, eating behavior may be more responsive to price increases than to nutritional education.

Implications of introducing Fat Tax

- ▶ **Revenue Effect:** The additional revenue from the fat tax should be diverted to the health budget. This will help increase public spending on health, which is just 1.16% of the GDP now. If approved, such food products could attract higher tax under the proposed goods and services tax (GST).
- ▶ **Health Effect:** A study published in the Lancet Journal last year found India to be among the top five countries with an obesity problem. India is home to over 40 percent of the global underweight population, but is also the third most obese country in the world, with 41 million obese people. According to National Family Health Survey data for 2015-16, the number of obese people has doubled in the past decade. A WHO study too found that 22% of children in India were obese and unhealthy.

Challenges

Last year, Kerala became the first state in India to impose a "fat tax" of 14.5 percent on burgers, pizzas, doughnuts and tacos served in branded restaurants. In 2016, Philadelphia became the first major city in the United States to impose a soda tax.

But implementing a "fat tax" could be a problem. Denmark was forced to roll back a similar tax in 2011, with people going in for cheaper alternatives.

Gujarat too is reportedly planning to follow suit based on the Kerala model. It will be interesting to see whether the system of "one nation-one tax" on which the GST is based would also find place for the fat tax.

To implement a fat tax, it is necessary to specify which food and beverage products will be targeted. This must be done with care, because a carelessly chosen food tax can have surprising and perverse effects. For instance, consumption patterns suggest that taxing saturated fat would induce consumers to increase their salt intake, thereby putting themselves at greater risk for cardiovascular death. Current proposals frequently single out sugar-sweetened drinks as a target for taxation. Cross-sectional, prospective, and experimental studies have found an association between obesity and the consumption of sugar-sweetened drinks.

Since the poor spend a greater proportion of their income on food, a fat tax might be regressive. Such imposition on food items consumed by low income group may have severe consequences on country like India where around 20% of population still live under poverty and average per capita income is around 90,000 only. To make a fat tax less burdensome for the poor, proponents recommend earmarking the revenues to subsidize healthy foods and health education. Additionally, proponents have argued that the fat tax is less regressive to the extent that it lowers medical expenditures and expenditures on the targeted foods among the poor. Indeed, there is a higher incidence of diet-related illnesses among the poor than in the general population. In short, careful consideration and scientific study before imposition any such tax on food item is the key.

The introduction of food taxes and subsidies to promote a healthy diet constitutes a cost-effective and low-cost population-wide intervention that can have a significant impact. The working theory behind such a tax justifies that it can work well for markets with high demand elasticity for unhealthy snacks and drinks.

This high demand is essential to generate considerable tax revenue, which should then be used to finance initiatives like advocating and subsidising access for healthier options; an ostensibly ideal socio-economic zero-sum.

The fat tax is being levied under the Kerala Value Added Tax, 2005, at the rate of 14.5 per cent and is applicable to “burgers, pizza, tacos, doughnuts, sandwiches, burger-patties, pasta, bread-filling and other cooked food items sold by restaurants having a brand name or trade mark registered under the Trade Marks Act, 1999. While a burger, pizza or a taco could be taxed per se, the “term other cooked food items” could open a pandora’s box to ascertain what could be considered as a “food item”. Cooked food would include something like French fries even though it doesn’t find express mention in the provision. But it is unclear as to whether the fat tax will apply to chicken soup, for instance, served at such a branded restaurant regardless of its nutritious value.

Conclusion

It is to be principally presumed that the fat tax is reasonable and in public interest, and hence, hopefully, a calculated and well-studied measure. However, similar to Delhi government’s odd-even drives, the measure of its effectiveness is something that can only be determined in the longer run.

ENVIRONMENTAL ISSUE

Light Pollution



Context

Recently Earth Hour has been organized to encourage individuals, communities, households and businesses to turn off their non-essential lights for one hour, from 8:30 to 9:30 p.m. towards the end of March, as a symbol for their commitment to the planet.

Thus hereby analyzing the concept, negative impacts of light pollution.

Definition

- ▶ Light Pollution (Photopollution, Luminous Pollution) is the excessive, misdirected and prolonged use of artificial lights in a way that results in brightening of night skies, disrupting natural cycles and activities of wildlife, health problems in humans as well as preventing humans from observing stars and other planets.
- ▶ Too much light indoors also is classified as indoor light pollution if it is wasteful and it has effect on the health of people living in that room.
- ▶ More than 80% of humanity lives under skies saturated with artificial light, scientists recently calculated. In the United States and western Europe, that figure goes up to 99 percent of the population, most of whom cannot discern the Milky Way in the night sky.

Forms of Light Pollution

- ▶ **Glare:** First, a light that is too bright often causes glare, or a visual discomfort when looking at the light.
- ▶ **Sky glow:** Second, too many external artificial lights causes the night sky to glow. You can see this when looking down at a well lit city. The sky above the city is brightened.
- ▶ **Light trespass:** Third, a big bright light shining on one area usually trespasses and shines on unwanted areas. For example, if you live in the middle of the city and you are trying to go to sleep, the lights coming from outside artificial lights can prevent you from going to sleep because the light trespasses into your room, making it look almost like daytime.
- ▶ **Clutter:** Fourth, when you have too many lights bunched up together or when the lights are grouped in confusing ways, it can make you dizzy or confused looking at them.

What causes Light Pollution?

- ▶ The light pollution is not only caused by the street lights that are always on at night, but also by lights that people keep on at their homes. For Example: Security floodlights that come on at night to avoid darkness around their homes.
- ▶ Some businesses with large windows purposely leave all the lights on at night contributing into light pollution.

- ▶ Light pollution is also caused by advertising lights which are kept on throughout night. The blinking lights at some store names reflect more to our eyes.
- ▶ Bright light from stadium and other sporting locations makes us to feel like day light affecting more to the dark night.
- ▶ Lights from vehicles running on Highway also cause light pollution.

Effects of Light Pollution

- ▶ Too much light pollution has consequences: it washes out starlight in the night sky, interferes with astronomical research, disrupts ecosystems and has adverse health effects.
- ▶ In **disrupting ecosystems**, light pollution poses a serious threat in particular to nocturnal wildlife, having negative impacts on plants and animal physiology.
- ▶ It can confuse the migratory patterns of animals, alter competitive interactions of animals, change predator-prey relations, and cause physiological harm.
- ▶ With respect to **adverse health effects**, many species, especially humans, are dependent on natural body cycles called circadian rhythms and the production of melatonin, which are regulated by light and dark (e.g., day and night).
- ▶ If humans are exposed to light while sleeping, melatonin production can be suppressed. This can lead to sleep disorders and other health problems such as increased headaches, worker fatigue, medically defined stress, some forms of obesity due to lack of sleep and increased anxiety. And ties are being found to a couple of types of cancer.
- ▶ Artificial lighting has been shown to disturb the reproductive cycles of some animals and the migration of birds that navigate using the stars, and to disorient night-flying insects.
- ▶ For humans, circadian rhythms that regulate hormones and other bodily functions can also be thrown out of whack by too much light at night.
- ▶ Health effects are not only due to over-illumination or excessive exposure of light over time, but also improper spectral composition of light (**e.g., certain colors of light**).
- ▶ **With respect to energy** wastage, lighting is responsible for at least one-fourth of all electricity consumption worldwide. Over illumination can constitute energy wastage, especially upward directed lighting at night. Energy wastage is also a waste in cost and carbon footprint.
- ▶ It also **loses touch with the natural rhythms of life**. When we live in a 24 hour culture, with the skies brightly lit all the time, we lose touch with the natural rhythms of life where periods of rest and darkness are alternated with periods of activity. Instead, we are encouraged to be active all the time. This can result in us feeling of anxiousness, stress and over worked. It is hard to get the rest and repose that we need when everyone else is working or playing hard.

Solutions to the light pollution

- ▶ **Changing the bulbs in the street lamps:** Street lighting is often lit by sodium vapor bulbs. Lowering the pressure in these bulbs results in a light that is less bright, yet still perfectly fine for illuminating the streets. These less bright bulbs are also less disruptive to species of animals living nearby.
- ▶ **Downward facing street lights:** These lamps turn light down onto the pavement (and so do their job) but are hooded to prevent it from being scattered into the sky. When the light from the bulb only falls downwards, rather than streaming up into the sky, its effect on light pollution will be negligible.

- ▶ **Reducing air pollution:** Light pollution is significantly worsened by the presence of dust and polluting gases in the air, as these can be lit up by the city below and cause a fiery glow in the air. Reducing the amount of fumes sprays and so on that we release into the air will thus help in our fight against light pollution.
- ▶ **Switching lights off at night:** Turn off unnecessary lights both at home and in commercial premises sounds simple, but turning our lights off at bedtime, whether at home or in a business, is the easiest solution to the problem of light pollution. Our sleeping patterns will then be much more regular and if we want to read in bed, we can use a dim reading light which does not contribute to light pollution.
- ▶ **Dark hours:** Initiatives such as ‘earth hour’, which encourage people to turn off all of their electrical appliances for an hour every week, can significantly reduce the amount of light pollution in the atmosphere. These initiatives have the added benefit of saving electricity and energy – which also help to battle climate change.
- ▶ **Cultivating an interest in astronomy:** Getting ourselves and our kids interested in astronomy will help us to appreciate the beauty and wonder of a dark sky. Learning to know and love the stars above self – and perhaps engaging in a little observational astronomy – is a great way to motivate ourselves in the fight against light pollution.

National Programme for LED-based Home and Street Lighting

- ▶ The *National Programme for LED-based Home and Street Lighting* was launched to cover 100 cities by March 2016, and the remaining ones by March 2019, targeting 770 million bulbs and 35 million street lights. However, it seems street lights will be upgraded to LED ahead of schedule.
- ▶ Lighting demands 18% of the electricity consumed in India. This is against a global average of just 13%. A large-scale LED adoption will bring the figure for India down to the global average, significantly cutting down the need to build more energy plants.
- ▶ If one also accounts for installing LED bulbs in domestic and commercial sectors, the opportunity at hand is to save a mammoth 100 billion kWh per annum (\$7 billion a year).

How LED is Different?

LED lighting is very different from other lighting sources such as incandescent bulbs and CFLs. Key differences include the following:

- ▶ **Light Source:** LEDs are the size of a fleck of pepper, and a mix of red, green, and blue LEDs is typically used to make white light.
- ▶ **Direction:** LEDs emit light in a specific direction, reducing the need for reflectors and diffusers that can trap light. This feature makes LEDs more efficient for many uses such as recessed down lights and task lighting. With other types of lighting, the light must be reflected to the desired direction and more than half of the light may never leave the fixture.
- ▶ **Heat:** LEDs emit very little heat. In comparison, incandescent bulbs release 90% of their energy as heat and CFLs release about 80% of their energy as heat.
- ▶ **Safer:** LEDs are much cooler than incandescent lights, reducing the risk of combustion or burnt fingers.
- ▶ **Longer lasting:** The LEDs have very long life, almost 50 times more than ordinary bulbs, and 8-10 times that of CFLs, and therefore provide both energy and cost savings.
- ▶ **Easier to install:** Up to 25 strings of LEDs can be connected end-to-end without overloading a wall socket.

Street lighting LED Benefits

- ▶ Solar LED street lighting provides a high quality, sustainable lighting solution for people in remote areas who don't have access to the conventional electricity grid.
- ▶ This solution extends their day after the sun has set at an affordable cost, increasing the level of safety on roads and streets and allowing for more economic and social activity.
- ▶ The solution is also valuable in the "sun-rich" cities in and around the equator that can take advantage of the many hours of sunlight to supplement the capacity of their conventional electricity grid, addressing growing concerns about their ability to meet the steep increase in energy demand.

Conclusion

- ▶ Lighting up the road and streets in remote areas that do not have access to the conventional electricity network, literally lights up the lives of the people who live there. Light after sunset enhances the quality of their lives in many ways: it makes their living environment a safer place; it gives them the opportunity to continue economic activity after dusk and engage more in (outdoor) social activities.
- ▶ However, the need of the hour is to educate the people about the light pollution and its consequences which also should be stepped up and taught in all schools similar to water, air and land pollution.
- ▶ Government policies on the use of lights must be stepped in a way that forces consumers to buy more energy-reduced light (and also not too much bright lights).
- ▶ Too much light also has negative impact on visibility other than reflection. The need is to make smart choices to improve visibility in the night without splashing too much light into the sky.
- ▶ Individual must also begin to install motion sensor-lights and bulbs in their homes, so that they are not kept 'on' all night. Garden and landscape lights must be used effectively and should not be too bright to cause disturbances to others.

ECONOMIC ISSUE

New Model Bilateral INVESTMENT TREATY

Context

- ▶ *Law Commission submitted Draft model on Bilateral Investment Treaty in its 260th report. The revised model was approved by the Cabinet in 2015.*
- ▶ *It will replace the existing Indian Model BIT and be used for re-negotiation of existing BITs and negotiation of future BITs and investment chapters in Comprehensive Economic Cooperation Agreements (CECAs)/Comprehensive Economic Partnership Agreements (CEPAs)/Free Trade Agreements (FTAs).*

India's bilateral investment treaty (BIT) programme is part of a larger trade and investment agenda of the Indian government to boost investor confidence and increase investment flows into and out of the country.

What is BIT?

- ▶ A BIT is a treaty between two countries that sets out to provide certain basic protections to the investors of one state investing in another. For instance, most such treaties provide investors a guarantee of “fair and equitable treatment” — the clause, to draw an analogy from constitutional law, is broadly akin to the right of equality and protection against arbitrary state action.
- ▶ Other protections include: **rights against “expropriation”**, both direct and indirect, of an investors' investment; and a **Most Favored Nation (MFN)** provision, which guarantees an investor a treatment not less favorable than a treatment afforded to any other investor claiming rights under any other BIT.
- ▶ A BIT increases the comfort level and boosts the confidence of investors by assuring a level playing field and non-discrimination in all matters while providing for an independent forum for dispute settlement by arbitration. In turn, BITs help project India as a preferred foreign direct investment (FDI) destination as well as protect outbound Indian FDI.
- ▶ The first BIT was signed by India on March 14, 1994. Since then, till date, the Government of India has signed BITs with 83 countries. These BITs were largely negotiated on the basis of the Indian Model BIT of 1993.

Why it needs to be revised?

- ▶ **White Industry case:** It was only in end-2011 that India faced its first adverse arbitral award arising out of a BIT in the White Industries case. White Industries argued that it had been denied “effective means” of enforcing its rights in relation to its investment, a protection incorporated into the India-Australia BIT by virtue

of an MFN clause it contained. The arbitral tribunal accepted the plea and India was forced to pay a huge price for the delays caused by its judicial system.

- ▶ **Subsequent notices of arbitration:** The award opened a Pandora's Box and since then 17 investors have issued notices of arbitration against India. These include Vodafone, which was at the receiving end of a retrospective tax amendment annulling a Supreme Court decision in favour of Vodafone, and Telenor, whose investment in India was in 2G licences that stood cancelled in pursuant to a Supreme Court order.
- ▶ Further, **considerable socio-economic changes** have taken place since 1993 when the Model text of BIT was first approved. The nature of government regulation concerning foreign investment has evolved.
- ▶ During the last few years, significant **changes have occurred globally regarding BITs**, in general, and investor-state dispute resolution mechanism in particular.
- ▶ On account of all these, the government published a Draft Model proposing to renegotiate the BITs it had already entered into in line with the draft.

Features of Revised model BIT

- ▶ The essential features of the model BIT include an “enterprise” based definition of investment, non-discriminatory treatment through due process and national treatment to foreign investors.
- ▶ Protections against expropriation- It maintains that India or any other country cannot nationalize or expropriate any asset of a foreign company unless the law is followed, is for the public purpose and fair compensation paid.
- ▶ Dispute resolution tribunal-provision is made for a refined Investor State Dispute Settlement (ISDS) provision requiring investors to exhaust local remedies before commencing international arbitration, and limiting the power of the tribunal to awarding monetary compensation alone. Further, it states that dispute-resolution tribunals, including foreign tribunals, can question ‘public purpose’ and re-examine a legal issue settled by Indian judicial bodies.
- ▶ The model excludes matters such as government procurement, taxation, subsidies, compulsory licenses and national security to preserve the regulatory authority for the Government.
- ▶ The new Indian Model BIT text will provide appropriate protection to foreign investors in India and Indian investors in the foreign country, in the light of relevant international precedents and practices, while maintaining a balance between the investor's rights and the Government obligations.
- ▶ The Treaty seeks to promote and protect investments from either country in the territory of the other country with the objective of increasing bilateral investment flows.
- ▶ The Treaty encourages each country to create favourable conditions for investors of the other country to make investments in its territory and to admit investments in accordance with its laws.

Issues with Model draft of BIT

A number of countries, including the US, Canada and the European Union (EU) nations, have raised the issue of “international arbitration” against the Bilateral Investment Treaty draft approved by cabinet.

- ▶ India's BIT mandates foreign companies and related aggrieved parties to seek international arbitration, only if they have exhausted all domestic dispute redressal mechanisms or legal options. However, partner countries are demanding an unconditional access to international arbitration.
- ▶ While India recognizes local and foreign investors on an equal footing, all countries are expecting for special treatment for their investors.
- ▶ Further, the revised model is criticized on the ground of several provisions such as-
 - ▣ Providing an extremely narrow definition of investment.
 - ▣ Deleting the MFN clause.
 - ▣ Providing for the exhaustion of remedies on the one hand and for the decision of the court to be binding on the arbitral tribunal on the other.
 - ▣ Providing for a number of exceptional self-judging state actions, which would not be within the purview of challenge before an arbitral tribunal set up pursuant to the dispute resolutions contained in the BIT.

Law Commission's recommendation

- ▶ The LCI recommends a modification from a highly narrow 'enterprise-based definition' of investment to a broader and universally accepted 'asset-based definition'.
- ▶ The MFN must not be incorporated since India might chose to provide differential benefits to trading partners based on the extent of incoming investment from a country.
- ▶ Incorporate a "denial of benefits" clause, wherein an investor is denied the benefits of a treaty should it be involved in corrupt practices or should it act contrary to the laws of the country.
- ▶ Any measures which the state considered to be in furtherance of the objectives such as public health, environment, public order, public morals, improving working conditions, ensuring the integrity and stability of the financial system, banks and financial institutions etc. would not be subject to scrutiny before an arbitral tribunal.

Conclusion

The new 2015 Model aims "to provide appropriate protection to foreign investors in India and Indian investors in the foreign country, in the light of the relevant international precedents and practices, while maintaining a balance between the investors rights and the Government obligations."

INTERNATIONAL ISSUE

Scotland Exit from BREXIT: IMPLICATIONS



Scottish First Minister Nicola Sturgeon plans to call another vote on independence. Her reasoning: Scots didn't vote for BREXIT and are now being sidelined, exposing a "democratic deficit" that only breaking away from the U.K. can ultimately fix. Whereas British PM Theresa May says that this is not feasible and advisable because UK is busy with BREXIT negotiations and Scots interests are better served with UK. She also accused Scottish First Minister of "tunnel vision nationalism". All this leads to greater analysis of why Scots are demanding 2nd referendum.

Why Scotland is demanding second referendum?

Part of the argument for independence is that the Scots and the English are fundamentally different people who want different things; another is that the U.K. forces Scots to do things against their will.

- ▶ During the **BREXIT referendum** Scotland voted for 'No' (63% saying no to BREXIT). The overall result of the referendum was 'Yes'. Now the Scot people feel that their economic concerns are being ignored, the only way to fix the "democratic deficit" is to gain full independence.
- ▶ Scotland has voted for more socialist-leaning parties in recent decades, and now finds itself under a Conservative, English government.

Scots want to remain part of the single EU market, as it will be very much helpful for their economy especially the **financial sector**.

The main issue is of perception, as one the Scottish politicians say, "Everything we were promised [in the first referendum] did not materialise: we were told we would be listened to, we were an important part of the Union, but we have been disregarded and ridiculed on the same lines as before and during the referendum."

What is the current mood of voters?

- ▶ Recent polls have suggested a movement in favor of independence, though not the clear majority the SNP (Scottish National Party) originally were awaiting before seeking a new vote.
- ▶ A survey published in first week of March showed Scots were evenly split between going it alone and sticking with the status quo, while one in the Herald newspaper on Monday put support for remaining in the U.K. at 52 percent versus 48 percent for independence.
- ▶ In the first independence referendum, in September 2014, Scots voted 55 percent to 45 percent in favor of the union with England, Wales and Northern Ireland.

What are the factors against independence movement?

- ▶ **Economic consequences:** The SNP had been highlighting the significance of retaining single market access to the EU, but this, clouded the fact that the **U.K. domestic market** was worth **“four times more to Scottish firms” than Europe.**
 - Theresa May also says that at present Scottish whisky represents just 1% share in Indian market, because of high tariffs of 150%. With BREXIT, UK going for fresh trade negotiations with India and other Commonwealth countries and group, Scottish drink industry will benefit much more than being in EU.
 - Also Scotts economy is dependent on oil and with oil prices low, the financial position of an independent Scot will be quite weak.
- ▶ **UK vs EU:** Also though Scotts voted for ‘no’ to BREXIT, but that does not mean they will favour EU over everything else, or favour EU over UK.
- ▶ **Scotland – UK relationship:** Also what would be relationship of Scotland with UK, their open borders if it become independent is another question that will weigh over the minds of the Scottish people.
 - Under the independence scenario envisioned by nationalists in the 2014 referendum, Scotland would have kept the **pound, gotten a seat on the Bank of England’s Monetary Policy Committee and had no border with the rest of the U.K.** (since both would have been EU members).
 - BREXIT changes all that. If Scotland were to separate from a post-BREXIT U.K., there could be a need for a proper border, and it’s hard to imagine a government that insists on a “hard BREXIT” offering Scots a say in economic policy. Therefore it will be difficult for Scotland.
- ▶ **EU- Scotland relationship:** The EU has said Scotland can’t retain the U.K.’s membership and would have to apply as a new state. This in itself will be a tedious task.

Another, quicker option would be to seek access to the single market and the free travel area rather than full EU member status.

Does Scotland have power to call for 2nd referendum?

- ▶ The 2014 vote was called by the Scottish Parliament under one-time powers granted to it by the U.K. Parliament. For another to happen UK has to agree.
- ▶ While the U.K. government has the power to block the referendum from happening under current legislation, whether it would take the highly controversial step of doing so (particularly at a time it has emphasized taking back control and parliamentary sovereignty) remains to be seen. Though at present Theresa May has categorically say ‘no’ to any such proposal.
- ▶ However everything will depend upon the political environment, and the way it unfolds.

They can seek referendum during autumn of 2018 and spring of 2019, so that by the time contours of BREXIT are clear.

What could be the implications?

If second referendum is allowed, it will have severe implications on the unity of UK and for integration of EU. It may lead to other regions like Catalans demanding independence from Spain.

Countries world over and the autonomous regions within these countries must ensure that their policy decisions are not myopic and should not compromise on long term gains for short term gains. Populism, protectionism and attempts to reverse the integrations, globalization trends must be checked. Same is the case with Scotland and UK. At the time when UK is negotiating for BREXIT, involving it into another major issue will further complicate the matters.

GOVERNANCE ISSUE

Sahayak System

Context

A lot has been said about abolition of the system of orderlies or 'sahayaks' in the Indian Army in the recent days. Many have pointed out the colonial and feudal slant of the concept and have also stated that such system exists only in the Indian sub-continent, that is, in the armies of India, Pakistan and Bangladesh primarily.

The Sahayaks system has increasingly been questioned as allegations of misuse have come to the fore. In social media posts, Sahayaks have alleged that they were forced to work as domestic help. Several videos of jawans have surfaced on the social media in the recent past which brought the practice of orderlies in the Army into sharp focus.

The Present Article analyses the concept of Sahayaks and its misuse in the present times.

Introduction

- ▶ A sahayak, in addition to his normal soldier's tasks, provides essential support to officers and Junior Commissioned Officers both in peace and war. The Sahayak or Buddy also provides an alternate contact with the troops, whereby the officer is made aware of grass root issues, albeit via informal means.
- ▶ In "operations in the field areas, Officer/JCO and the Sahayak act as buddies in arms. One covers the movement of the other buddy and protects him in operation". The support is total – "mental, physical and moral".
- ▶ The Sahayaks system has increasingly been questioned as allegations of misuse have come to the fore. In social media posts Sahayaks have alleged that they were forced to work as domestic help. Several videos of jawans have surfaced on the social media in the recent past which brought the practice of orderlies in the Army into sharp focus. When a surreptitiously recorded video of a jawan complaining about menial jobs he was forced to do as a Sahayak emerged in public, the soldier committed suicide.
- ▶ In response the Indian Army Chief, warned personnel from using social media to air their grievances and even put out a WhatsApp number for the rank and file to convey their problems directly to the Army Headquarters.

Why do Military need a Sahayak?

- ▶ There are special needs of the army and other defense and paramilitary forces. Besides soldiers per se, forces require a variety of other personnel – cooks, waiters, masalchis (scullions) or those who wash dishes, and cleaners or sweepers.
- ▶ These jobs are clearly of civilian nature but for security and logistical reasons, recruits cannot be hired from the civilian population on a temporary or contractual basis.

- ▶ The sahayak is not a listed trade in the services. But young combatants are assigned this task for some years. And they perform tasks assigned by the officers and their family members dutifully out of fear that refusal would prevent being assigned combat duties in future.
- ▶ The added problem is that once the Sahayak is assigned to an officer, nothing prevents the officer's wife from loading him with domestic chores. The power structure of the army does not allow him to complain. As some soldiers who have uploaded videos say, no one joins the forces to take the officers' dogs for walks, to go shopping for the lady of the house or to take their kids to school!

Parliamentary Standing Committee Report

- ▶ In March 2010, the Parliamentary Standing Committee on Defence examined the practice of using jawans as sahayaks.
- ▶ It noted that the practice "prevalent in the army in one form or other since British days" was continuing and they were forced to attend to serve family members of the officers.
- ▶ Though "the army categorically deposed before the Committee that the jawans are not technically supposed to attend to the household duties at the residence of the officers, the practice continues unabated.
- ▶ The Committee commented that this was a "shameful practice which should have no place in independent India" and that it expected the government to issue instructions to stop the practice forthwith, as this lowers the self-esteem of jawan.

Government Response to Soldiers Grievances

- ▶ The government strongly defended the system, stating that the rapport between officers and their subordinates results in the enhancement of "spirit-de-corps" in a unit, which is vital during war and peace.
- ▶ Sahayak has clearly defined military duties and forms an integral part of the organization structure of a unit and has specific functions during war and peace.
- ▶ As such, this is not expected to have any adverse impact on their morale.
- ▶ Notwithstanding this, exhaustive instructions have been issued from time to time stressing upon the need to ensure that under no circumstances sahayaks, being combatant soldiers, are employed on menial tasks, which are not in conformity with the dignity and self-respect of a soldier.
- ▶ The Indian Air Force and the Indian Navy have done away with the system of Sahayaks. Unlike the Indian Army, operations in the Navy and the Air Force are platform centric. The Indian Army maintains that its operations are not platform specific, requiring them to continue with the "buddy system".

GOVERNANCE ISSUE

Law Commission Report on HATE SPEECH

Context

The Law Commission, headed by former Supreme Court judge BS Chauhan, submitted its 267th report titled as "Hate Speech" to the central government in March 2017. The report seeks to widen the definition of hate speech, suggesting appropriate amendments to the criminal law and place a legal regime strong and comprehensive enough to deal with statements that breed extreme manifestations of vilification and detestation.

Introduction

It is to be noted that the recommendations were made by law commission on the background of Supreme Court's direction in the case *Pravasi Bhalai Sangathan vs. Union of India (AIR 2014 SC 1591)*. It had asked the Law Commission to examine if it 'deems proper to define hate speech and make recommendations to the Parliament to strengthen the Election Commission to curb the menace of "hate speeches" irrespective of, whenever made.'

The Law Commission observes that Freedom of Speech and Expression is one of the most significant rights guaranteed in the Constitution. However, this right has been subjected to reasonable restrictions enunciated under Article 19(2) of the Indian Constitution. Laws that seek to prevent speech that marginalize the vulnerable sections of the society strive to harmonize the freedom of expression with right to equality. It opines, in order to protect this group from discriminatory attitudes and practices it is necessary that forms of expression that have the potential of inciting hatred and violence are regulated and promote speech in a responsible manner.

Legislations around Hate Speech

Presently, in our country the following legislations have bearing on hate speech, namely:-

► The Indian Penal Code, 1860 (hereinafter IPC)

- Section 124A IPC penalises sedition.
- Section 153A IPC penalises 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony'.
- Section 153B IPC penalises 'imputations, assertions prejudicial to national-integration'.
- Section 295A IPC penalises 'deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs'.
- Section 298 IPC penalises 'uttering, words, etc., with deliberate intent to wound the religious feelings of any person'.
- Section 505(1) and (2) IPC penalises publication or circulation of any statement, rumour or report causing public mischief and enmity, hatred or ill-will between classes.

- ▶ **The Representation of The People Act, 1951**
 - Section 8 disqualifies a person from contesting election if he is convicted for indulging in acts amounting to illegitimate use of freedom of speech and expression.
 - Section 123(3A) and section 125 prohibits promotion of enmity on grounds of religion, race, caste, community or language in connection with election as a corrupt electoral practice and prohibits it.
- ▶ **The Protection of Civil Rights Act, 1955**
 - Section 7 penalises incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.
 - The Religious Institutions (Prevention of Misuse) Act, 1988. Section 3(g) prohibits religious institution or its manager to allow the use of any premises belonging to, or under the control of, the institution for promoting or attempting to promote disharmony, feelings of enmity, hatred, ill-will between different religious, racial, language or regional groups or castes or communities.
- ▶ **The Cable Television Network Regulation Act, 1995**
 - Sections 5 and 6 of the Act prohibits transmission or retransmission of a programme through cable network in contravention to the prescribed programme code or advertisement code. These codes have been defined in rule 6 and 7 respectively of the Cable Television Network Rules, 1994.
 - The Cinematograph Act, 1952, Sections 4, 5B and 7 empower the Board of Film Certification to prohibit and regulate the screening of a film.
- ▶ **The Code of Criminal Procedure, 1973**
 - Section 95 empowers the State Government, to forfeit publications that are punishable under sections 124A, 153A, 153B, 292, 293 or 295A of IPC.
 - Section 107 empowers the Executive Magistrate to prevent a person from committing a breach of the peace or disturb the public tranquillity or to do any wrongful act that may probably cause breach of the peace or disturb the public tranquillity.
 - Section 144 empowers the District Magistrate, a Sub-divisional Magistrate or any other Executive Magistrate specially empowered by the State Government in this behalf to issue order in urgent cases of nuisance or apprehended danger. The above offences are cognizable. Thus, have serious repercussions on liberties of citizens and empower a police officer to arrest without orders from a magistrate and without a warrant as in section 155 of CrPC.

Impact of Hate Speech on Freedom of Expression

- ▶ Hate speech is an expression which is likely to cause distress or offend other individuals on the basis of their association with a particular group or incite hostility towards them.
- ▶ The philosopher Jeremy Waldron argues that, while purely offensive speech may not justify restrictions, there is a class of injury, amounting to more than hurt sentiments but to less than harm, in the sense of physical injury, that demands restriction in democratic frameworks. Where speech injures dignity, it will do more harm than simply offend its target. It would undermine the “implicit assurance” that citizens of a democracy, particularly minorities or vulnerable groups are placed on the same footing as the majority. While the right to criticise any group should continue to exist, speech that negates the right of a vulnerable group should be regulated.

Criteria for identification of Hate Speech

According to the international experience the criteria may be:

- ▶ In order to qualify as hate speech, the speech must be offensive and project the extreme form of emotion.

- ▶ The speech must amount to incitement in order to be restricted. This is an accepted norm to limit speech.
- ▶ The position of the author of the speech is important in determining the legality of limitation imposed by the State. Thus ‘interferences with the freedom of expression of a politician ... calls for the closest scrutiny on the Court’s part’.
- ▶ The status of the targeted audience is also important in determining whether a speech can be limited.
- ▶ The potential impact of the speech has to be viewed to determine the speaker’s state of mind at the time speech was rendered.
- ▶ Every seemingly hateful speech may not be termed as a hate speech. The context in which the speech was made is essential in determining its permissibility. The context of expression has always been looked into while adjudging the restriction.

Recommendations

- ▶ In the opinion of the Commission, the anti-discrimination should take into account the harmful effect of speech on rights of the vulnerable group.
- ▶ The Commission recommends that the several factors need to be considered before restricting a speech, like, the context of the speech, the status of the victim, the status of the maker of the speech and the potential of the speech to create discriminatory and disruptive circumstances.
- ▶ The Commission has proposed amendments to the Indian Penal Code by insertion of new sections after section 153B (i.e. 153 C) and 505 (i.e. 505 A) of the Indian Penal Code, 1860.
- ▶ The law defined hate speech as incitement of hatred or causing violence, on grounds of religion, race, caste or community, sex, gender identity, sexual orientation, place of birth, residence, language, disability or tribe – uses gravely threatening words either written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence.
- ▶ Its Section 153C penalizes incitement to hatred and Section 505A for the first time makes ‘causing fear, alarm, or provocation of violence in certain cases’ a specific criminal offence.
- ▶ Section 153C calls for punishing guilty person with two years’ imprisonment or Rs. 5,000 in fine or both. Section 505A provides a punishment of one year imprisonment or Rs. 5000 in fine or both.
- ▶ The document also takes into account the spread of internet access in India, accusing it of promoting “incitement to discrimination”. The report says: “The anonymity of the internet allows a miscreant to easily spread false and offensive ideas. These ideas need not always incite violence but they might perpetuate the discriminatory attitudes prevalent in society.
- ▶ The Commission recommends that the law go by Article 20 (2) of the International Convention of Civil and Political Rights, which requires that statements negating the equality of all human beings should be prohibited and punished by law.
- ▶ It also proposed that apart from this sanctioning such expression, other strategies might also be employed to encourage harmony among different groups of the society like sensitizing and educating the public on responsible exercise of speech.

- ▶ Overall, the report takes a broad view of what constitutes hate speech. For this purpose, the Commission has recommended a departure from Sections 153A and 295A of the Indian Penal Code, and other provisions of relevant legislations, which proscribed and punished speeches or statements only if they led to communal tensions or created law and order problems as a consequence.

Conclusion

Freedom of speech and expression has been established as a key freedom required for sustaining democracy. However, with every right comes responsibility; and therein, is the need for a limitation on the right to freedom of speech and expression so as to prevent the destructive and regressive effect it could have. Thus, there is a need to convince and educate the public on responsible exercise of freedom of speech and expression.

Jakarta Recommendations

In the report, the Law Commission mentioned that Jakarta Recommendations (made during regional consultation on “Expression, Opinion and Religious Freedoms in Asia”, held in Jakarta, Indonesia on 3-5 June, 2015) can serve as guidelines for developing hate speech jurisprudence in India. These guidelines are as follows-

- ▶ There is a need to revise and strengthen the existing anti-discrimination and legislation so as to meet universal standards on equality across all groups, communities, men and women.
- ▶ Laws should be adopted to punish incitement to hatred that may result in violence, hostility and discrimination. They should be implemented in a non-selective, non-arbitrary and transparent manner, which should not be used to stifle dissent or the legitimate exercise of freedom of expression.
- ▶ The religious minorities’ parliamentarians should be enabled to raise issues relating to freedoms of expression and religion, and the intersection of these rights, in the parliament and other platforms.
- ▶ All instances of violations of freedom of expression in the context of religion and incitement of hatred resulting in violence should be condemned and prevented.
- ▶ Fight against hate speech cannot be isolated. It should be discussed on a wider platform such as the United Nations. Every responsible government, regional bodies and other international and regional actors should respond to this threat.

INTERNATIONAL ISSUE

India-Nepal Fuel Pact

Context

India and Nepal have renewed the supply agreement between Indian Oil Corporation Ltd (IOCL) and Nepal Oil Corporation (NOC) for another five years.

The renewed agreement is an umbrella document between the two parties which apart from detailing the supply of petroleum, oil and lubricant products and also puts in place an institutional mechanism for cooperation in the areas of additional services and technical assistance between the two.

Hereby analyzing the salient features of the fuel pact.

Introduction

Nepal is a landlocked country, surrounded by India on three sides except on the North, where China is its neighbour. Consequently, Nepal has remained one of India's biggest trading partners. The majority of trade happens via the border town of Birgunj, which is home to Nepal's largest customs office in terms of revenue that handles most of Nepal's trade with India. The two countries have maintained cordial relations with each other. India has had numerous fuel supply contracts with Nepal since 1974 to supply all kinds of fuels including petrol, diesel, kerosene, jet fuel, and liquefied petroleum gas (LPG).

Recent Issue

India has restricted fuel supplies since Madhesi ethnic groups in southern Nepal, with whom it has close cultural ties, began protesting against Nepal's new constitution, seeking more rights.

The Nepal Oil Corporation, the state-owned oil company, eventually turned to China for help.

On account of threats by Nepal to source its cooking gas from China thereby undermining India's exclusivity since 1974, New Delhi has rushed in to placate its neighbor by promising to meet its entire domestic demand for petro products and adding a few more sweeteners such as product pipelines and storage. The pact was signed between Indian Oil Corporation Ltd (IOCL) and Nepal Oil Corporation (NOC) for another five years.

Agreements

- ▶ The renewed agreement is an umbrella document between the two parties which apart from detailing the supply of petroleum, oil and lubricant products and also puts in place an institutional mechanism for cooperation in the areas of additional services and technical assistance between the two.
- ▶ IOC will supply about 1.3 million tonnes of fuel annually to Nepal with a promise to double the volume by 2020. The supply agreement signed is for April 2017 to

March 2022 and will meet full requirements/demand and quantities of all the major oil products.

- ▶ India also agreed to extend the proposed Raxaul-Amlekhganj product pipeline to Chitwan with the promise to start work on the pipeline in 2017-18. The project has been hanging since 2006 with Nepal willing to bear the expenses and IOC providing technical help.
- ▶ An announcement is also made to form a high-level official committee to look into Nepal's demand for a LPG pipeline from Motihari to Amlekhganj as well as extending the natural gas pipeline from Gorakhpur into Nepal.
- ▶ Another promise is to explore the possibility of forming an IOC-NOC joint venture for creating marketing infrastructure in Nepal that would include retail infrastructure as well as storage facilities for petrol, diesel, LPG and aviation turbine fuel in remote areas.
- ▶ IOC also conceded marginally on marketing charges and waived the interest levied on NOC for delay in payment. It has also agreed to compensate NOC if it failed to supply products as per the demand. The draft of the new agreement also has a provision that requires IOC to supply fuel to Nepal uninterruptedly under any circumstances. The draft also mentions that in case of failure to provide uninterrupted supply, Nepal can go to alternate route to meet its requirement thereby giving enough flexibility to Nepal.

Impact

Fuel diplomacy between India and Nepal had ruptured due to 6 months' "unofficial" economic and fuel blockade by India starting from September 2015. During this period China provide fuel supply to Nepal. In fact, it managed to sign a commercial pact with Nepal to supply petroleum products during KPS Oli's visit to Beijing in March 2016, thereby challenging India's monopoly to supply fuel to Nepal since 1974. However, deal did not materialize due to premature end of his tenure.

This deal will thwart any attempt of China emerging as an alternate supplier in Nepal and affecting India's interest in its neighborhood. India certainly doesn't want to lose its most important and valuable friend—Nepal especially after China's increasing footprint in South Asian countries such as Srilanka and Bangladesh and thereby challenging India's traditional dominance in South Asia.

This deal will be seen as a peace offering to Nepal by India. This Energy diplomacy will defuse the tension between both the countries which deepen after economic blockade in 2015 and will bring trust between both the countries.

Further, if the Supply Agreement is implemented to the full Nepal can rest assured that there would be no scarcity of petroleum products from now. The IOC for its part would ensure the supply of fuel as per the demand of Nepal. Nepal will no longer have to stay in serpentine queues in order to get their share of fuel, which has been a perennial problem hindering industrial growth in Nepal, among other things.

Conclusion

Energy might bring Nepal and India back together. But again the question is: for how long and at what cost? That's the burning concern. If India falters again, China will easily win over Nepal due to its economic prowess. On the other hand, Nepal can no longer afford to remain an underdeveloped nation or give up its development aspirations to fuel dependency. This is what India should understand and continue to strengthen the close ties with Nepal.

SOCIAL ISSUE

Tales of Violence and Abandonment

AGAINST BABY GIRLS

Context

Female foeticide is the termination of the life of a foetus within the womb on the grounds that its sex is female. Female foeticide has replaced female infanticide as a means to reduce or eliminate female offspring. In societies where women's status is very low, many female foetuses are rejected.

The village of Mhaisal on the Maharashtra-Karnataka border hit the headlines recently when 19 foetuses were found buried near a homeopath's clinic.

Thus discussing about the reasons behind such practices and the measures taken by the government to reduce the instances of the female foeticide in the country.

Introduction

Female foeticide is the termination of the life of a foetus within the womb on the grounds that its sex is female. Female foeticide is thus the conjunction of two ethical evils: abortion and gender bias. A foetus's right to life outweighs the parents' rights to wealth, pride, or convenience, whether the foetus is male or female. The term "sex selective abortion" is preferable to the term foeticide, since it points to both of the ethical evils inherent in this practice.

Female foeticide has replaced female infanticide as a means to reduce or eliminate female offspring. In societies where women's status is very low, many female foetuses are rejected.

The police retrieved as many as 19 female foetuses from a sewer in a village of Mhaisal in western Maharashtra's Sangli district.

Loopholes causing such incidence in the village:

- ▶ The Maharashtra government is keeping an eagle eye on hospitals; sex determination is a strict no-no. But in bordering Karnataka, rules were lax. There was no paperwork involved.
- ▶ The district health officials were well aware about all the illegalities from the very beginning. But they simply turned a blind eye.
- ▶ An activist from Mhaisal made 30 calls on the government's toll-free number meant for whistle-blowers who want to highlight Pre-Conception and Pre-Natal

Diagnostic Techniques (PCPNDT) Act violations. But no one paid attention to his complaints and the doctors had “top connections” due to which no one dared to take them on.

- ▶ Of the 25 private nursing homes in Mhaisal, only one has the licence to run an In-Patient Department (IPD) and can admit patients. Other hospital does not feature on this list but they still admitted patients.
- ▶ The clinic functioned mostly at night. The patients were sent for sonography tests to Kagwad and the abortion would be conducted in Mhaisal.
- ▶ Health workers say that sex-selective abortions are extremely common in the area.
- ▶ The doctors are closely connected with the agents who operate from border districts of Karnataka such as Belagavi. All the doctors have their unique code words. The disclosure is done to the agent always.
- ▶ At the core of these abortions is the deep-rooted desire in society to have a boy, an heir to the family.

Causes of female foeticide

- ▶ **Preference for the male child:** Couples prefer a male child over a female one. The root lies in our very own traditions, customs, beliefs and above all, our thinking. It is a general perception that the birth of a male child is beneficial and advantageous to the family. A woman is considered as a financial obligation.
- ▶ **Patriarchal form of the Indian society:** One simple assumption that can be made is that this preference is based on the form of society and families, a couple of decades back. Back then, a male was expected to work and earn, whereas a female was supposed to sit at home, cook, and manage the house and children. This made a male child desirable, as he was, then, the only source of income and respect. This system was abolished – today, females work nearly as much as men – but the thinking remained unchanged.
- ▶ **Dowry system:** Dowry is the money, goods and/or property a woman brings into a marriage. It is basically a payment done by the bride’s family to the groom’s family during marriage. In most cases, dowry is seen to be payment to the groom’s family, for accepting the woman, and for taking responsibility for her there on. Dowry is illegal in India, but this has not stopped families all over the nation from giving (trying) and accepting it.

This is prevalent to such an extent, that many small clinics that perform illegal sex-determination tests and help couples abort female fetuses, advertise using the slogan, “500 now, or 5,00,000 later” – the former indicating the price of an abortion, and the latter that of the dowry.

- ▶ **The unwanted status of the female child** is the burden on her parents regarding her safety. Incidences of girls subjected to rape, molesting, sexual abuse, domestic violence, trafficking, etc. are growing every day, and parents don’t want to risk their girl child’s safety (with a male child, such things aren’t a worry).
- ▶ **The higher rate of migration** (studying and/or living abroad) in men than women (a child studying abroad is a matter of pride for parents, traditionally), and the responsibility of parents to ensure the ‘untouched and clean’ status of a girl before marriage and that to instill in her the right attitudes, and to teach her to be a good wife and to please her in-laws, failing which, the parents are blamed.
- ▶ **Illiteracy:** It is assumed that people are illiterate and not educated, and hence they commit this heinous act.

- ▶ **Religion:** For example, according to Hindu scriptures, it is a male who'll light the funeral pyre of his dead parents.
- ▶ Another fact is that doctors use the trust placed upon them for their own benefits. Knowing that the couple will abort the foetus if it is female, the doctors proclaim a female foetus even if the tests show a male foetus – to avail the extra fee they receive for abortion.
- ▶ Advances in technology that has encouraged sex selective abortions.

Steps taken by the Government:

- ▶ Beti Bachao Beti Padhao (BBBP) scheme was introduced by the Government of India for survival, protection & education of girl child. It aims to address the issue of declining Child Sex Ratio (CSR) through a mass campaign across the country targeted at changing societal mindsets and creating awareness about the criticality of the issue.
- ▶ Programmes for improvement of nutrition benefit all children including girl children, like the Integrated Child Development Scheme, National Rural Health Mission, Mid-day meal scheme etc.
- ▶ Specific interventions for girl children include implementing the Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994, pilot cash transfer scheme of 'Dhanlakshmi' provides conditional cash incentive, and the scheme does not discriminate on the basis of caste and economic status of parents. It is a pilot scheme being implemented in 11 blocks in seven States of the country, setting up a Sectoral Innovation Council for improving child sex ratio and acting upon its recommendations.
- ▶ Sensitization and training programme have been conducted for law enforcers, medical practitioners, judiciary etc.
- ▶ Comprehensive Information, Education & Communication (IEC) activities including mass media awareness campaign through print and electronic media and community mobilization through Non-Governmental Organizations have also been undertaken.
- ▶ Regulation of use of portable ultrasound machines within the registered premises only has been notified. Restriction on medical practitioners to conduct ultrasonography at maximum of two ultrasound facilities within a district has been placed.
- ▶ The Central Supervisory Board (CSB) under the PNDT Act has been reconstituted and regular meetings are being held.
- ▶ Matter has been taken up with the Ministry of Communication and Information Technology to block sex selection advertisement on websites.
- ▶ States have been advised to focus on District/Blocks/Villages with low Child Sex Ratio to ascertain the causes, plan appropriate Behaviour Change Communication campaigns and effectively implementation provisions of the PC&PNDT Act.

Conclusion

In India, gender discrimination and violence against children and women defy caste and class barriers and urban and rural divides. The effects of these and other gender disparities are writ large on India's human development indicators.

Demographers established that technologies that determine the sex of the foetus could be the root cause of the rapid decline in the population of female children.

Policymakers too must take their share of the blame, insofar as they remain impervious to the implications of the two-child family norm in a society where the preference for sons is predominant.

Proponents of such punitive measures miss the following common sense point. Fertility decisions are influenced by the survival chances of children, which are linked to the economic security of families.

It is evident that the change has to be in the thinking and mentality of the people, and also the laws of our country – to abolish and eradicate immoral and unjustified customs like dowry. The reasons have to be addressed immediately, if any change and improvement is desired – it cannot be expected that female foeticide be stopped without changing anything else. Major and instantaneous changes are required in the way our country and its people basically function.

Further for combating socially engendered discrimination against women and children calls for creating equal opportunities in education and employment and promoting equity and justice, besides enforcing the law on matters like foeticide and dowry. Then only traditional stereotypes could be broken and the changing roles of women can be accorded respect and recognition.

ENVIRONMENTAL ISSUE

Deforestation and Road TRANSPORT DEVELOPMENT

**Context**

Recently, Odisha's Forest and Environment Ministry has informed the State Assembly that 5.97 lakh trees had been felled in the last six years to make way for the construction and widening of roads. Paying a heavy environmental price for development, it was revealed that the Odisha Forest Development Corporation cut down the trees for 437 road projects across the State. The current fiscal year has been the most devastating for forest cover in Odisha: of the 5,97,090 trees felled since 2011-12, 3,15,838 were cut down in 2016-17.

Thus, hereby analyzing the linkage between deforestation and Road Transport Development.

Introduction

Social and economic development has historically been associated with spatial expansion of connection networks. More developed countries have denser road and railroad network than less developed ones. As soon as an economy expands it pushes for the development of a rational transportation network, which makes economic specialization and trade more profitable, setting up a virtuous circle between economic and infrastructure development.

This road infrastructure development in India is leading to deforestation.

Across India, news is filtering in of trees being cut across highways. Hundreds of young trees were felled along the Jammu-Srinagar National Highway, the only road that links the Kashmir valley to the rest of the country. The trees were felled in a patch that was traditionally prone to landslides. The new highways include widening of National Highway 33 from Barhi (on NH2) via Hazaribagh to Ranchi in Jharkhand, along some 135 km. Some 85,000 mature, ancient, indigenous, fruiting, medicinal and sacred trees and lakhs of smaller trees are being cut along this route. Other new road projects are also being undertaken in Jharkhand from Barhi towards Koderma, from Ranchi to Jamshedpur and from Govindpur on NH2 to Sahibganj and Chatra to Hazaribagh. Despite protests and requests from environmentalists that at least trees along one side be saved or that widening be carried out just up to the tree line with a divider in the middle were ignored.

Implications of Deforestation

- ▶ **Undernourishment leading to death:** Loss of biodiversity is the most serious consequence of Deforestation. Since herbivorous animals depend on plants for their survival, hence cutting down of forest could make them malnourished that lead to their death. In addition, there are carnivorous animals who are dependent on other animals are undergoing the problem of malnourishment.

- ▶ **Shifting of scores of wildlife animals to urban areas:** Huge scale deforestations make wild animals to spread to the urban and rural areas, which lead to their death due to human-carnivore encounters. The number of attacks by lions and leopards on the human has been increased in past ten years. Many times, these encounters are accidental when wild animals take shelter in the sugarcane field. Besides, animosity between human and wild animals is also due to the loss of livestock.
- ▶ **Green house effect:** Carbon dioxide is a greenhouse gas, which let heat from the sun to protrude and hinders its escape from the atmosphere, which is required for maintaining a warm temperature on earth. However, the burning of fossil fuels and other activities are increasing greenhouse gases which are further raising the temperature of the earth, and this is called as the greenhouse effect. Forests are biosphere's vital part for controlling atmospheric carbon dioxide by utilizing it for photosynthesis. However, people are clearing the forests for monetary reasons, which have led to an increase of carbon dioxide levels in the atmosphere.
- ▶ **Social injustice:** Deforestation, in other words, is an expression of social injustice. The social consequences of deforestation are many, often with devastating long-term impacts. For indigenous communities, the arrival of civilization usually means the destruction/change of their traditional life-style and the breakdown of their social institutions mostly with their displacement from their ancestral area. The intrusion of outsiders destroys traditional life styles, customs and religious beliefs which intensifies with infra-structure development like construction of roads which results into frontier expansion often with social and land conflicts. The most immediate social impact of deforestation occurs at the local level with the loss of ecological services provided by the forests. Forests afford humans valuable services such as erosion prevention, flood control, water treatment, fisheries protection and pollination functions that are particularly important to the world's poorest people who rely on natural resources for their everyday survival. By destroying the forests we risk our own quality of life, gamble with the stability of climate and local weather, threaten the existence of other species and undermine the valuable services provided by biological diversity.
- ▶ **Soil and water degradation:** Deforestation also disrupts the global water cycle. With removal of part of the forest, the area cannot hold as much water creating a drier climate. Water resources affected by deforestation include drinking water, fisheries and aquatic habitats, flood/drought control, waterways and dams affected by siltation, less appealing water related recreation, and damage to crops and irrigation systems from erosion and turbidity. Urban water protection is potentially one of the most important services that forest provides. Filtering and treating water is expensive. Forests can reduce the costs of doing so either actively by filtering runoff or passively by substituting for housing or farms that generate runoff. Deforestation can also result into watersheds that are no longer able to sustain and regulate water flows from rivers and streams. Once they are gone, too much water can result into downstream flooding, many of which have caused disasters in many parts of the world. This downstream flow causes soil erosion thus also silting of water courses, lakes and dams.

The long term effect of deforestation on the soil resource can be severe. Clearing the vegetative cover for slash and burn farming exposes the soil to the intensity of the tropical sun and torrential rains. Forest floors with their leaf litter and porous soils easily accommodate intense rainfall. The effects of deforestation on water availability, flash floods and dry season flows depend on what happens to these countervailing influences of infiltration and evapotranspiration - the sponge versus the fountain. Deforestation and other land use changes have increased the proportion of the basin subject to erosion and so over the long run have contributed to siltation.

Land use management and Road Transport development

Roads are often built or improved to allow greater access to new development. The road improvements make other land along the road more accessible and attractive for further development. With more housing and services along the road, traffic volumes increase, resulting in more congestion and decreased road capacity. Eventually the reduced efficiency of the road necessitates more roadway improvements which can lead to additional development along the road and restart the land use-transportation cycle. When the land use transportation cycle occurs, environmental degradation becomes inevitable.

Transportation policies and projects become more ecologically harmful if they disturb or divide habitat, convert natural habitat to gardens, farms or lawns, or increase impervious surface area. Parks, gardens, farms and lawns generally provide moderate to minimal wildlife habitat, particularly for larger animals, and although they allow surface and groundwater recharge, this often carries significant pollution loads from fertilizers, pesticides and other sources. From an ecological perspective, pavement is generally least beneficial land use since it provides no habitat, prevents groundwater recharge, increases stormwater management costs, and tends to concentrate water pollution.

To manage the effect of roads on deforestation, decision makers must determine whether construction is driven by the economic potential of cutting the forest, or whether the construction of a road determines the economic potential of the forest. There is no clear, universal answer to this circular problem. In some cases roads are built to access productive forest areas. But in other areas the construction of roads is driven by politics and personal gain.

A few best practices can go a long way in reconciling roads, indeed development in general, with conservation. Proponents of road-building must show why the proposed location is the only possible location for the project not just from financial standpoints but also from ecological angles. Here, it is imperative to have objective, well-researched, and transparent Environment Impact Assessments (EIA) that detail environmental and ecological implications of the proposed road. Alternative locations and alignments should be provided, and improperly conceived projects shifted. If such adjustments increase project costs, instead of companies merely depositing money to Compensatory Afforestation and Management of PA (CAMPA), they could direct funds towards appropriate mitigation measures, recommended and monitored by qualified authorities.

If it's impossible to realign the road after due consideration, then the placement should be designed to cut through the least length of natural habitat, shifted to peripheries or already disturbed areas. Reduction in canopy cover should be kept to a minimum—a good ballpark might be to ensure that no unnatural canopy gap is created. Such projects will also have to mandatorily incorporate wildlife-friendly designs such as flyovers or underpasses suitable for local wildlife movement. Existing CAMPA funds could be utilized to provide additional finances for such design modifications.

Way forward

Transportation planning decisions can have many direct and indirect land use impacts. These impacts are often significant and should be considered when evaluating a particular policy or project. Conventional transport planning often overlooks some of these impacts, particularly when evaluating a single policy or project.

In the ancient times, during Road construction (as of Grand Trunk Road), people ensured that fruit and other food and shade giving trees lined the roads for the comfort, protection and convenience of people. The balance between the road transport development and land use planning is must because any re-plantation programmes

will not be able to replace such hundred-year-old indigenous fruiting and medicinal and sacred tree species.

For all this to be efficiently implemented, it is important that government officials, ecologists, conservationists, and engineers have productive discussions to arrive at win-win solutions.

SCIENCE ISSUE

Drug Resistant TB

Context

India among other countries in the South East Asian Region, which bear half of the global tuberculosis burden, has signed a 'call for action' pledging to scale-up efforts and implement adequately funded, innovative, multi-sectoral and comprehensive measures to achieve the global target to end the disease by 2030.

Thus analyzing the basic meaning associated with Drug Resistant TB, its implications and steps taken to mitigate it.

Introduction

Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis* (MTB). Tuberculosis generally affects the lungs, but can also affect other parts of the body.

Drug-resistant TB is caused by inconsistent or partial treatment, when patients do not take all their medicines regularly for the required period because they start to feel better, because doctors and health workers prescribe the wrong treatment regimens, or because the drug supply is unreliable.

This improper use is a result of a number of actions including, administration of improper treatment regimens and failure to ensure that patients complete the whole course of treatment. Essentially, drug resistance arises in areas with weak TB control programmes. A patient who develops active disease with a drug resistant TB strain can transmit this form of TB to other individuals.

There are two ways that people get drug resistant TB:

- ▶ People acquire drug resistant TB when their TB treatment is inadequate. This can be for a number of reasons, including the fact that patients fail to keep to proper TB treatment regimes. It can also be that the wrong TB drugs are prescribed, or sub standard TB drugs are used for treatment.
- ▶ Transmitted or primary drug resistant TB, results from the direct transmission of drug resistant TB from one person to another. The occurrence and prevention of primary drug resistant TB has largely been neglected during the development of global programs to end TB.

Types of drug resistant TB

- ▶ **MDR-TB (Multi-drug-resistant tuberculosis):** MDR (multi drug resistant) TB is the name given to TB when the bacteria that are causing it are resistant to at least isoniazid and rifampicin, two of the most effective TB drugs.
- ▶ **XDR-TB (extensively drug resistant TB):** This is defined as strains resistant to at least rifampicin and isoniazid. This is in addition to strains being resistant to one of the fluoroquinolones, as well as resistant to at least one of the second line injectable TB drugs amikacin, kanamycin or capreomycin.

Treatment of drug resistant TB

The treatment of drug resistant TB has always been more difficult than the treatment of drug susceptible TB. It has required the use of “second line” or reserve drugs that are more costly and cause more side effects. Also the drugs must be taken for up to two years.

MDR-TB and XDR-TB do not respond to the standard six months of TB treatment with “first line” anti TB drugs. Treatment for them can still often take two years or more and requires treatment with other drugs that are less potent, more toxic and much more expensive.

However, there are now starting to be some shorter regimens for the treatment of drug resistant TB, based on the Bangladesh regime which appears to have much higher cure rates and the drugs only need to be taken for eight or nine months. There are also other shorter regimens that are now being tested.

Globally there is very limited capacity to rapidly diagnose drug resistant TB. Although some new TB tests are becoming available such as the Genexpert TB test, point of care testing is still practically nonexistent in the areas with the highest TB burden. To overcome the problems of drug resistant TB there needs to be development of true point of care drug susceptibility tests, and their widespread implementation at affordable cost.

Steps taken in India

- ▶ In India, for decades, the majority of patients diagnosed and treated by private health care providers were not reported to the country’s national TB programme, resulting in underreporting of TB cases. To address this, the Indian government implemented a policy of mandatory TB notification in 2012 and created a national web-based reporting system called **Nikshay**. This facilitated the reporting of TB cases, including those detected in the private sector. As a result, reporting from the private sector grew considerably. In 2015, the number of notified TB cases was 34% higher than in 2013.
- ▶ Innovative models for private sector engagement have been introduced in three districts – Mehsana in Gujarat, Mumbai in Maharashtra and Patna in Bihar, and later expanded to one more district - Nagpur also in Maharashtra. These include the introduction of vouchers for free diagnosis and free drugs for patients in private clinics through links with private laboratories and pharmacies in the neighbourhoods, and tiered referrals to access these services. These models have produced impressive results.
- ▶ New drugs to treat MDR-TB have been introduced as well as the new shorter MDR-TB regimen, which cuts the duration of treatment in half - from two years to less than one year.
- ▶ India TB Research and Development Corporation (ITRDC), a flagship initiative by ICMR, aims to bring together all major national and international stakeholders to develop new tools (drug, diagnostics, vaccines) for TB. The vision of the corporation is “To achieve Elimination of TB from India by investing in new tools (drugs, diagnostics, vaccines) as well as provide these solutions to the world.
- ▶ Government of India is implementing the Revised National Tuberculosis Control Programme in the country. Under this programme, diagnosis and treatment facilities including anti-TB drugs are provided free of cost to all TB patients.
- ▶ India has signed a ‘call for action’ pledging to scale-up efforts and implement adequately funded, innovative, multi-sectoral and comprehensive measures to achieve the global target to end the disease by 2030.

Why India failed in controlling TB?

- ▶ The government allocates 1.3 percent of the GDP to healthcare, one of the lowest spending in the world. It largely depends upon international funding for its TB programme, which provides 57 percent of the total budget. In fact, in the 2015-16 year, the RNTCP received only 50 percent of the capital it requested from the government.
- ▶ Poor infrastructure, lack of trained personnel, and the attitude of health workers discourage patients from seeking medical help at public hospitals. Hence, despite DOTS being a free and effective method of curing TB, people prefer over-the-counter medicines and private doctors.
- ▶ DOTS centres are not easily accessible to patients. A majority of people affected by TB belong to the poorer sections of society and travelling every alternate day to a distant centre at a fixed time makes it expensive and time-consuming for them.
- ▶ The private sector, on the other hand, is expensive, and doctors take longer to diagnose a patient with TB. They first administer drugs to control cough and fever. But if the symptoms don't subside, patients are then asked for chest x-rays and other lab tests by which time the disease would have further developed and maybe even spread to other people.
- ▶ Delay in diagnosis due to following reasons. First, the doctors are under pressure to alleviate the patients of their symptoms immediately. Asking for tests on the initial visit itself might dissuade them from coming again, especially if they are not financially secure. Second, there are no clear symptoms that are specific to TB, and it takes time in developing, making it difficult for doctors to recognise its presence at once. Third, many doctors are under the impression that TB patients often do not come with a cough or produce sputum. Such perceptions lead to an experimentation with antibiotics which only suppress the symptoms of TB and increase drug-resistance due to arbitrary use.
- ▶ According to a report by Medecins Sans Frontieres (MSF), or Doctors Without Borders, there is an unregulated TB drug market in India, where medicines in "a wide variety of dosages and combinations" are available. Several pharmacies across the country sell the drugs without prescriptions and private doctors often recommend unsuitable mixtures of medicines, both of which have contributed to the rise in multi-drug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB). Totally drug-resistant TB (TDR-TB), against which all available drugs are ineffective, has also emerged, further intensifying the struggle.
- ▶ Not completing the full course of medication which takes at least six to eight months for uncomplicated TB leads to drug resistance, making the infection more difficult to treat. Stopping treatment midway is a major reason why around 3 lakh people in India die each year from this respiratory infection.

If the country is to be rid of TB, we cannot restrict ourselves to vaccines and drugs only. Until each patient is followed through, India's TB control efforts will continue to flounder.

ENVIRONMENTAL ISSUE

Living Status to Rivers



In a landmark judgment, the Uttarakhand High Court has recently (March 2017) accorded the status of "living human entities" to the Ganga and Yamuna, two of India's most sacred rivers. It has bestowed on them same legal rights as a person. And it is not just the two rivers - all their tributaries, streams, every natural water body flowing continuously or intermittently of these rivers will enjoy this status.

Few days back, New Zealand River Whanganui became the first in the world to be granted a legal human status.

Hereby, analyzing the meaning of giving living status to rivers and its significance.

Meaning of "Living status"

The living status of the rivers implies several things such as right to sue, right to fair treatment and legal custodian to them.

- ▶ **Right to sue:** The courts have granted legal status to temple deities, religious books, corporations, etc., but it is for the first time that an element of the natural environment has been declared a legal person. In the eyes of the law, living persons such as companies, associations, deities, etc., have rights and duties — primary among these being the right to sue and the capacity to be sued. This implies that from now on, the rivers can sue persons acting against their interests.
- ▶ **Right to fair treatment:** The legal status gives them a right not to be a receptacle for tonnes of sewage. It prohibits unchecked ecological flows of industrial pollution in the river. The living status to these rivers gives them social right to fair treatment.
- ▶ **Legal Custodian:** The court ordered that the Director, Namami Gange project for cleaning and rejuvenating the river, the Chief Secretary and the Advocate General of Uttarakhand will act as the "legal parents" of the holy rivers and work as a the human face to protect, conserve and preserve them and their tributaries. These officers are expected to "uphold the status" of the two rivers and also promote their "health and well being".

Implications of giving "Living Status"

- ▶ **Protection against dumping of wastes:** It is likely that this step has been taken so that cases can be brought before the courts directly on behalf of the Ganga River. According to an estimate, more than 3,000 million liters of untreated sewage from the towns along the river are pumped into the Ganga on a daily basis. This legal status to rivers could be an extremely useful tool in fighting such actions of dumping of waste in the river, instead of having to show that a given person is harmed because of the consequences of dumping waste in the water. The dumping of waste will now directly constitute harm.

- ▶ **Preservation of rivers:** These rivers have provided both physical and spiritual sustenance to the people living around from time immemorial and that both the rivers are breathing, living and sustaining the communities from mountains to sea. Therefore, the constitution of Ganga Management Board and giving the rivers the status of living entity is of utmost importance because it serves the purpose of irrigation, rural and urban water supply, hydro-power generation, navigation, industries and most importantly it preserves and conserves the rivers.
- ▶ **Fixing accountability:** Projects on cleaning Ganga and Yamuna have been going on from the years, however, no significant improvement has been seen so far. The appointment of legal custodian will be the first-line defenders for the rivers. Now, they will not be able to pass the (institutional) buck any more. The court has now clearly fixed responsibility on them to improve the situation.
- ▶ **Ecological benefits:** This judgment will force administrators to better keep the environmental factors into mind. It will stop illegal sands and stones mining from the river and hence will protect areas from floods.
- ▶ **Availability of funds:** There will be an endowed fund set for the rivers which can be used by the guardian only keeping in mind the best interest of the rivers.

Case study of New Zealand

The New Zealand parliament passed the bill recognising the Whanganui River, in North Island, as a living entity.

The Whanganui River, New Zealand's third-longest, will be represented by one member from the Maori tribes, known as iwi, and one from the Crown.

The recognition allows it to be represented in court proceedings.

The new status of the river means if someone abused or harmed it the law now sees no differentiation between harming the tribe or harming the river because they are one and the same.

The local community has fought for recognition of its relationship with the river since the 1850s, including a legal battle that has lasted about 80 years and has been the longest-running litigation in New Zealand's history. The parliament's bill will end the battle and includes £45 million as financial redress and £17 million for a fund to protect the river.

Criticism

Since the Uttarakhand court ruling has been followed by the New Zealand court order on Whanganui River, it is bound to make a comparison between two orders.

Areas uncovered: The Uttarakhand High Court does not mention associated lakes and wetlands. Nor does it explicitly cover the catchment area or other parts of the river basins while this has been covered in New Zealand Whanganui river case.

Community participation: The New Zealand law entrusts the protection of the river's rights jointly to the indigenous Iwi people and the government while the Indian court puts its faith in government officials only. These officials have not only failed in maintaining the health of the river but have also been complicit in diverting, damming, and polluting them. So how officials going to suddenly turn protector?

Causes of pollution are uncovered: The court viewed that "The constitution of Ganga Management Board is necessary for the purpose of irrigation, rural and urban water supply, hydro power generation, navigation, industries." Some of these activities are precisely what is killing the Ganga and other rivers. This needs to take care for the better protection of the river.

Independent Protector: Legal rights would mean a suit can be brought in the name of the river, injury recognized, the damager be held liable, and compensation benefiting the river paid. This means the river needs to have a protector that is independent of those who have been violating its rights. Critiques argue that government officials who themselves are engaged in the damaging the rivers, through construction of large hydro dams, throwing debris into the rivers etc, do not fit to be the legal custodian of river.

Human centered approach: Recognition of the rivers' rights is based on its value for "socio-political-scientific development", and due to the spiritual significance of the Ganga and Yamuna, especially for Hindus. The rights do not stem from an intrinsic identity or status of the river, but more from their use for humans; and giving them 'personhood' status makes it very human-centered. Can rivers not be recognized as having identity, worth, dignity, and rights as intrinsic qualities, not because they serve us?

Conclusion

The judgment indeed throws light on the significance of rivers such as Ganga and Yamuna. It throws light on the need to protect such rivers for the benefit of not just the worshippers but the environment and for the survival of life as a whole. The order is a breakthrough in the object of protecting the rivers Ganga and Yamuna. One can only hope that the implementation is just as strong and effective as the judgment itself.

ENVIRONMENTAL ISSUE

Mining in Himalayas and ITS IMPACT

Context

The Uttarakhand high court has recently put a four-month ban on mining in the state during which no fresh lease or prospective license for mining can be issued.

The court ordered constitution of a high powered committee to look into various aspects of mining activities to find out as to whether mining activity should at all be permitted in the state and chart out suggestions for next five decades.

The court has also sought ways to make up for the loss to the environment, compensate the affected and recover expenses from defaulters.

Thus hereby, analyzing the impact of mining in Himalayas and steps needed for environmental conservation.

Introduction

The Himalayan region contains many valuable minerals. There are vast potentialities of mineral oil in the tertiary rocks. Coal is found in Kashmir. Copper, lead, zinc, nickel, cobalt, antimony, tungsten, gold, silver, limestone, semi-precious and precious stones, gypsum and magnesite are known to occur at more than 100 localities in the Himalayas.

Minerals in Uttarakhand

Important minerals that are found to occur in the State are high-grade limestone in Almora, Bageshwar, Dehradun, Nainital, Pauri-Garhwal, Pithoragarh & Tehri-Garhwal districts; magnesite and steatite in Almora, Bageshwar, Chamoli & Pithoragarh districts; and tungsten in Almora district. Other minerals that occur in the State are asbestos in Chamoli district; barytes and marble in Dehradun district; copper in Almora, Dehradun & Pithoragarh districts; dolomite in Dehradun, Nainital and Tehri-Garhwal districts; graphite in Almora district; gypsum in Dehradun, Pauri-Garhwal & Tehri Garhwal districts; lead-zinc and silver in Dehradun & Pithoragarh districts; and rock phosphate in Dehradun & Tehri-Garhwal districts

Impact

- ▶ **Prone to landslides:** The geology of the Himalayas makes it imperative to avoid mining there. Large quantities of water can seep into the mines, which will make the region more prone to landslides.
- ▶ **Availability of land for agriculture:** The mining activities in the Himalaya would indeed spell disaster for the local people. In Uttaranchal, for instance, miners may encroach on the mere 10 per cent land available for agriculture. The land

will also be adversely affected due to the careless dumping of effluents as the mining companies do not follow eco-friendly practices is quite well known. The problem is more pronounced in India because of its lax environmental regulations.

- ▶ **Loss of Biodiversity:** Mining in places like the Himalaya would not only ruin the biodiversity hotspot, but the entire nation. Numerous rivers originate from the Himalayas. Any mining activity is going to pollute the entire river system. Further, mining has converted forests in the region into a brown opencast mine site. Trees and plants have all disappeared and the topography has been altered significantly. A gentle slope is now converted into steep slopes. Further, such deforestation loosens the soil and increases soil erosion in the Himalayas.
- ▶ **Impact on riverbed:** The fast pace of economic development has promoted unabated riverbed mining in Himalayas. The unplanned and unregulated large-scale mining of sand, gravel and stones from riverbeds and riverbank leads to severe environmental problems to the river ecosystems. Riverbed mining in the Himalayan terrain has caused erosion and has left the river-plains much more vulnerable to flooding because it allows loose landmass to be washed downstream, especially during the monsoon season. These can severely impact the ecological balance of a river and damage flora, fauna and the riparian habitats.
- ▶ **Air pollution:** Dusts generated by various mining activities are of major concern to the people living in the nearby areas. Dust is generated by blasting, loading and haulage, vehicular movements, open air disposal of waste rocks, drilling, and crushing. This has not only deteriorated hygiene and health condition of the people but also affecting horticulture productivity of the region.
- ▶ **Noise and water pollution:** Increasing mining has created a noise pollution in the Himalayan region due to blasting, vehicular movement and so on. Similarly, disposing of mud wastes into river pollutes the drinking water sources in the region. Further, disposal of a large amount of wastes into the stream increases its sediment load. During monsoons, when the volume of water increases in the stream, it floods causing damages to plants and aquatic lives as well as causing great risks to people living downstream.
- ▶ **Socio-economic impact:** Many people are discarding their farming practices to embrace non-farm work such as working at the mine, which warrants them some assured monthly income. This has not only led to fallowing of land but also to labour shortages and increased wages in the local areas.
- ▶ **Health impacts:** It is also reported that the frequency of occurrence of diseases such as cold and cough which people believe are commonly caused by presence of more dusts, is more now as compared to previous years.

Steps Taken

With thrust on environment and mineral conservation, Indian Bureau of Mines has asked mining companies to take steps for proper water discharge, solid waste management and controlling air pollution in mining areas.

Further, for rewarding the good and ethical mining companies the bureau has established a platform with marking system.

The introduction of sustainable development framework (SDF) with a Star Rating provision for fairness and transparency in the activities related to systematic and scientific mine development by the IBM has encouraged mining communities to develop a situation where mining and environment win the confidence of the local community.

Strict enforcement of environment impact assessment of mining projects is being done by environment ministry.

Way forward

Clearly, the social and economic development of the Himalayan population cannot be undermined — literacy levels and school enrolment are up and infant mortality is down. Still, these are the same people who will suffer from the region's growing ecological degradation and environmental instability. Numerous regulations that should protect them, on mining and flood-plain development, for example, are poorly or rarely enforced. Indeed, many in India blame environmental regulations for the current economic downturn.

Most urgently, Himalayan states need to build a network that will monitor risks such as those arising out of excessive mining activities in the region. Authorities must make the case more forcefully that rampant mining activities and tree cutting cannot be permitted in the region that causes deforestation, land loosening and hence landslides.

If the people of the Himalayas are more aware of the geological vulnerability and ecological fragility of their mountain home, they will surely force more compliance of laws and regulations to protect it. Himalayan state should include in their school curricula basic knowledge of the geology and ecology of the Himalayas. If students are taught about their environment, they will feel more connected to the land and be more aware of its pulse.

Miscellaneous News



Hereby, compiling the important short notes of March (16 to 31), 2017.

Earth Hour

Why in News?

- ▶ Earth Hour was held on March 25, 2017.

About Earth Hour

- ▶ Earth Hour is a worldwide grassroots movement uniting people to protect the planet, and is organised by WWF. It is engaging a massive mainstream community on a broad range of environmental issues.
- ▶ Earth Hour was famously started as a lights off event in Sydney, Australia in 2007. Since then it has grown to engage more than 7000 cities and towns worldwide, and the one hour event continues to remain the key driver of the now larger movement.
- ▶ The event is generally held worldwide towards the end of March annually, encouraging individuals, communities households and businesses to turn off their nonessential lights for one hour as a symbol for their commitment to the planet.
- ▶ The movement encouraged people to not only support climate projects as in previous years, but also help in spreading the word by ‘donating their social power’ and taking a stand against climate change on their own personal landmark-their Facebook and Twitter accounts.

INS Vikramaditya

Why in News?

- ▶ Indian Navy fires Surface-to-Air-Missile system from aircraft carrier INS Vikramaditya.

About INS Vikramaditya

- ▶ **INS Vikramaditya** is a modified *Kiev*-class aircraft carrier which entered into service with the Indian Navy in 2013.
- ▶ The Vikramaditya’s own air surveillance radar is capable of spotting threats over a radius of 300 km, plus its Kamov Ka-31 early warning radar helicopter can pick up enemy aircraft within a radius of 150 km and surface ships at a distance of 250 km.

- ▶ But most importantly, the carrier's 16 MiG-29K aircraft will be able to hit targets 850 km away; with in-flight refuelling that range increases to 3500 km. That means the Vikramaditya can operate at much greater distances from enemy shores while still accomplishing missions.

Significance of recent test

- ▶ The firing was conducted as part of the 'Operational Readiness Inspection' of the Western.
- ▶ The missile marks a significant milestone in providing air interception and defence capabilities and enhanced operational capabilities of the Navy's aircraft carrier and the fleet.

India-based Neutrino Observatory

Why in News?

- ▶ The Southern Bench of the National Green Tribunal has suspended the Environmental Clearance (EC) granted to the India-based Neutrino Observatory (INO).

Why NGT has suspended green nod?

- ▶ Under the guidelines laid down by the Ministry, any project that falls within 5 km from an inter-State boundary or within a notified national park or a sanctuary has to be considered a Category 'A' project that involves a number of processes before an EC is granted.
- ▶ The project is near the Madhikettan Shola National Park in Idukki district of Kerala (just about 4.9 km from the proposed project site) and the Tamil Nadu-Kerala border was just a kilometre away thus making it a Category 'A' project.
- ▶ However, the MoEF had called it a Category 'B' project, for which an Environmental Impact Assessment is not necessary.

What is Neutrino?

- ▶ Neutrinos are subatomic particles produced by the decay of radioactive elements and are elementary particles that lack an electric charge.
- ▶ They have the unique property of passing through materials without interacting. Hence can travel up-to large distances everyday trillions of them pass through us without affecting.

About INO

- ▶ India-based Neutrino Observatory (INO) is an underground laboratory with a rock cover of approximate 1200 metre for non-accelerator based high energy and nuclear physics research in India.
- ▶ The project also includes Inter-Institutional Centre for High Energy Physics (IICHEP) and Iron Calorimeter Detector (ICAL).
- ▶ The INO laboratory will host experiments such as the neutrino-less double beta decay and the search for dark matter.
- ▶ The INO project will be set up near Pottipuram village in the Bodi West Hills of Theni district in Tamil Nadu. The project is at an estimated cost of 1500 crore rupees.
- ▶ The project will be jointly supported by the Department of Atomic Energy and the Department of Science and Technology.

- ▶ The infrastructural support will be given by the State Government of Tamil Nadu since the project is located in Tamil Nadu.
- ▶ IICHEP will be established in Madurai that is about 110 km. from the proposed site of the Neutrino Observatory.
- ▶ The construction of 50000 tonne magnetised ICAL is to study the properties of the neutrino especially the mass hierarchy among different types of neutrino.

The Goals of INO Are:

- ▶ To Study neutrinos which are fundamental particles belonging to the lepton family. Neutrinos come in 3 flavours, one associated with electrons and the others with their heavier cousins the muon and the Tau.
- ▶ Development of detector technology and its varied applications.

GRAPES-3 Experiment

Why in News?

- ▶ The GRAPES-3 experiment at TIFR's Cosmic Ray Laboratory in Ootacamund is getting upgraded to accurately determine the time taken for the solar storm to travel to the earth.

About GRAPES-3

- ▶ The GRAPES-3 experiment located at Ooty in India started as a collaboration of the Tata Institute of Fundamental Research, Mumbai, India and the Osaka City University, Osaka, Japan.
- ▶ GRAPES-3 (**G**amma **R**ay **A**stronomy **P**eV **E**nergie**S** phase-**3**) is designed to study cosmic rays with an array of air shower detectors and a large area muon detector. It aims to probe acceleration of cosmic rays.
- ▶ *The objectives are to study*
 - The origin, acceleration and propagation of $>10^{14}$ eV cosmic rays in the galaxy and beyond.
 - Existence of "Knee" in the energy spectrum of cosmic rays.
 - Production and/or acceleration of highest energy ($\sim 10^{20}$ eV) cosmic rays in the universe.
 - Astronomy of multi-TeV γ -rays from neutron stars and other compact object.
 - Sun the closest astrophysical object, accelerator of energetic particles and its effects on the Earth.

Benefits of upgradation

- ▶ The upgraded detector will have an increased coverage of the sky and improved capacity to determine the direction of incident cosmic rays. The latter property, of being able to discern the direction of detected particles, makes it unique among cosmic ray detectors in the world; it can also to measure the intensity of the particles. Since the enhanced facility can cover a wider field of view (from present 37% to 57%), the chances of spotting solar storms will be higher.
- ▶ It is important to know the time when plasma will reach the earth, accurately, so that preventive and protective measures can be put into place in case a solar storm were to strike the earth.
- ▶ If the earth's magnetic field were to be weakened by extreme solar storms, charged particles would shower on to the planet. Apart from rendering electronic devices

defunct, charged particles in an extreme solar storm can also short current carrying over-head high voltage lines, leading to large-scale transformers burn out and thereby, power blackouts.

Arsenic Groundwater Contamination

Why in News?

- ▶ According the report tabled in the Lok Sabha by Union Minister for Drinking Water and Sanitation Mahendra Singh Tomar, Bengal topped the list with more than 1.04 crore arsenic-affected persons as on March 4, 2017.
- ▶ Bihar comes second with 16.88 lakh persons, with Assam in third spot with 14.48 lakh victims.
- ▶ The total number of arsenic-affected people in the country is about 1.48 crore.

Arsenic contamination

- ▶ Arsenic contamination of drinking water occurs due to excessive use of arsenic containing chemical pesticides viz copper arsenate and lead arsenate in the modern agriculture.
- ▶ Arsenic contaminated drinking water causes Arsenicosis or Black foot disease.
- ▶ Arsenic is a natural component of the earth's crust and is widely distributed throughout the environment in the air, water and land. It is highly toxic in its inorganic form.
- ▶ People are exposed to elevated levels of inorganic arsenic through drinking contaminated water, using contaminated water in food preparation and irrigation of food crops, industrial processes, eating contaminated food and smoking tobacco.
- ▶ Long-term exposure to inorganic arsenic, mainly through drinking of contaminated water, eating of food prepared with this water and eating food irrigated with arsenic-rich water, can lead to chronic arsenic poisoning. Skin lesions and skin cancer are the most characteristic effects.

Steps needed

- ▶ The most important action in affected communities is the prevention of further exposure to arsenic by the provision of a safe water supply for drinking, food preparation and irrigation of food crops.
- ▶ Education and community engagement are key factors for ensuring successful interventions. There is a need for community members to understand the risks of high arsenic exposure and the sources of arsenic exposure, including the intake of arsenic by crops (e.g. rice) from irrigation water and the intake of arsenic into food from cooking water.
- ▶ High-risk populations should also be monitored for early signs of arsenic poisoning – usually skin problems.

Mahi Ink

Why in News?

Researchers are planning to recreate the lost techniques of manuscript writing as study of ancient ink and paint may help retrieve useful information regarding traditional practices in addition to unfolding historical mysteries.

About ink

- ▶ Assam's ancient herbal ink Mahi was used in early and medieval Assam for writing on Sancipat (folios made of bark of the sancu tree) manuscripts.
- ▶ It is a cocktail of fruit pulp and barks such as haritaki, amla, bibhitakhi or bhomora, mango, jamun — often infused with the blood of eels or catfish. Mahi was extracted using cow urine.
- ▶ Rust from iron tools or nails was added for an intense black hue.
- ▶ It is resistant to aerial oxidation and fungal attacks.

Heat Waves

Why in News?

Development of heatwave in South Asia is raising concerns about the potential health hazard posed by extreme temperatures.

In the last few days temperatures across many parts of India have been hovering around the 40 degree Celsius mark.

About Heat waves

- ▶ Heat waves is a condition of sustained abnormally high temperatures, more than normal maximum temperatures especially in northern western parts of India during the pre-monsoon period from April to June, which may sometimes get extended to July.

Criteria of IMD

The Indian Meteorological Department (IMD) has given the following criteria for Heat Waves:

- ▶ Heat Wave need not be considered till maximum temperature of a station reaches atleast 40°C for Plains and atleast 30°C for Hilly regions
- ▶ When normal maximum temperature of a station is less than or equal to 40°C Heat Wave Departure from normal is 5°C to 6°C Severe Heat Wave Departure from normal is 7°C or more
- ▶ When normal maximum temperature of a station is more than 40°C Heat Wave Departure from normal is 4°C to 5°C Severe Heat Wave Departure from normal is 6°C or more
- ▶ When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared. Higher daily peak temperatures and longer, more intense heat waves are becoming increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

Location and reason

- ▶ Since India is a tropical country with monsoon type of climate its interior regions face high temperature situations during summer periods before the onset of monsoon.
- ▶ As sun moves northwards after March equinox, central India heats up during April and north-west India during May.
- ▶ This heat is transferred to other eastern regions through advection and resulting into heat wave condition in these areas also.

- ▶ Anti-cyclone conditions in Bay of Bengal prevents the extension of maritime influence in the coastal regions and leading to rise in temperature there also.
- ▶ Regions of north west India like Western UP, Haryana, Rajasthan where it is given name 'loo' face regular heatwaves;
- ▶ Interior regions of other states like Odisha, Andhra Pradesh, West Bengal also face heat wave conditions.
- ▶ In recent years because of global warming effect, frequent el-Nino the events of heat waves have increased and in the year 2015 more than 2000 people died because of heat stroke, mostly in the regions of Telangana and Andhra Pradesh.

Health Impacts of Heat Waves

The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke. The signs and symptoms are as follows:

- ▶ **Heat Cramps:** Ederna (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e. 102°F.
- ▶ Heat Exhaustion: Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- ▶ Heat Stoke: Body temperatures of 40°C i.e. 104°F or more along with delirium, seizures or coma. This is a potential fatal condition

Measures to tackle the pattern of heat waves

- ▶ Heat wave is a natural phenomenon and human has very little control over it. They can design adaptive and mitigative strategies to tackle negative health effects from it.
- ▶ Limiting climate change and global warming, which is resulting into extreme weather events should be the long term strategy.
- ▶ Short term measures like closing schools, issuing health advisories to keep away from sun, keeping oneself hydrated and ensuring availability of sufficient amounts of water can taken to ensure that negative health effects are minimized.

Right to Education Act

Why in News?

- ▶ The Union Cabinet has approved the amendment to Right of Children to Free and Compulsory Education (RTE) Act, 2009.

Proposed amendments

The Proviso to Section 23(2) of the Act specifies that all teachers at elementary level who, at the commencement of this Act, did not possess the minimum qualifications as laid down under the RTE Act, need to acquire these within a period of five years i.e., 31st March, 2015. However, several State governments have reported that out of a total number of 66.41 lakh teachers at the elementary level, 11.00 lakh are still untrained (of this, 5.12 lakh are in Government and Aided Schools and 5.98 lakh are in private schools). In order to ensure that all teachers, in position as on 31st March, 2015, acquire the minimum qualifications prescribed by the academic authority, it is necessary to carry out appropriate amendment in the RTE Act, 2009 to extend the period for such training for four years up to 31st March, 2019.

Benefits

- ▶ This will ensure that all teachers, in position as on 31st March, 2015, acquire the minimum qualifications prescribed by the academic authority to extend the period for such training for four years up to 31st March, 2019.

- ▶ This will enable the in-service untrained elementary teachers to complete their training and ensure that all teachers at the elementary level in the country have a certain minimum standard of qualifications.
- ▶ This would also ensure that all Teachers would attain minimum qualifications as considered necessary to maintain the standard of teaching quality.
- ▶ This would ultimately result in improvement in overall quality of teachers, teaching processes and consequently learning outcomes of children.
- ▶ This will reinforce the Government's emphasis on improvement of quality of elementary education.

E-Cinepramaan

Why in News?

- ▶ Minister for Information and Broadcasting has launched the Online Film Certification System of CBFC known as E-Cinepraman that would facilitate the vision of Ease of Doing Business and Digital India.

Salient features

The Salient features of the online film certification system are as follows:

- ▶ In the *e-cinepramaan*, the status of each application would be visible online in the dashboard of the producer/concerned CBFC official.
- ▶ In case of short films/promos/trailers less than 10 minutes, even for Examination purposes also, the producer need not visit the Office/Theatre. They can merely submit their creations online.
- ▶ For films longer than 10 minutes, the applicant will only have to show the film at the Examining theatre and will not have to visit the CBFC Offices at all except to collect their certificates.
- ▶ The producer/applicant would be informed by SMS/e-mail of the status of their application and any action needed, beginning from the receipt of application to the certificate collection.
- ▶ The transparency in the system and elimination of middle men would mitigate chances of any corruption and would also avoid allegations of jumping the queue or rigging up of Examination committees.
- ▶ The implementation of QR code on the certificates would eliminate chances of fraudulent certificates.
- ▶ The system envisages a robust MIS system for performance tracking and efficient reporting.
- ▶ The system has inbuilt alerts depending on the pendency of the application to ensure that time limits prescribed by the Rules are not violated.
- ▶ Simultaneously, a new CBFC Website has also been developed bringing in new user friendly features and important information at the click of a button.

Artificial Sun

Why in News?

Scientist from German aerospace center has discovered the 'the world's largest artificial sun, 'a device which hope will help shed light on new ways of making climate-friendly fuels.

About the discovery:

- ▶ The giant honeycomb like setup of 149 spotlights officially known as ‘Synlight’ and each one boast roughly 4,000 times the wattage of the average light bulb in Juelich, about 30 kilometres west of Cologne.
 - The honeycomb-like setup uses xenon short-arc lamps, normally found in cinemas.
 - The lamps create temperatures up to 6,332 degrees Fahrenheit which is three times as hot as the heat generated by a blast furnace.
 - Uses as much electricity in four hours as a four-person household uses in one year.
 - This will help to produce the equivalent of 10,000 times the amount of solar radiation that would normally shine on the same surface as intense as natural sunlight on Earth.
- ▶ This is key to testing novel ways of making hydrogen, as consider hydrogen to be the fuel of the future because it produces no carbon emissions when burned, meaning it doesn’t add to global warming.
- ▶ Being expensive in its nature this artificial sun consumes a vast amount of energy when powered up.
- ▶ Researchers hope to bypass the electricity stage and instead use the immense heat generated by the experiment to set off a reaction to produce hydrogen fuel by tapping into the enormous amount of energy that reaches Earth in the form of light from the sun.
- ▶ In the future, the facility may be used to test the durability of space travel parts when blasted by solar radiation, so not only could Synlight help us deal with our energy crisis here on Earth, it could help us explore worlds far beyond our own.

Global Energy Architecture Performance Index

Why in News?

Global Energy Architecture Performance Index Report 2017 is released by World Economic Forum, which is committed to improving state of the world.

Findings of the Index:

- ▶ Report 2017 ranks 127 countries on their ability to deliver secure, affordable, sustainable energy.
- ▶ It has 18 indicators defined across the three sides of the ‘energy triangle’ economic growth and development, environmental sustainability, and energy access and security.
- ▶ Switzerland topped the annual list released by Geneva- based World Economic Forum (WEF) and was followed by Norway, Sweden, Denmark and France in the top five. Bahrain is ranked the lowest at 127th.
- ▶ The diversity of top ranking countries underscores the potential for any country to make improvements to their energy systems. The inequality between leaders and laggards is significant and accelerating.

Special significance to India:

- ▶ India has marginally improved its position to 87th place on a global energy architecture performance index, but ranks among the worst for pollution. India’s rank improved three places from 90th last year.

- ▶ It is gradually improving its performance on the index, but faces an uphill battle to increase energy access and security (95th).
- ▶ A large percentage of the population still lacks access to electricity (101st) and uses solid fuels for cooking (108th).
- ▶ Government is having committed to increase solar power capacity to 100 gigawatts by 2022, which would make India a leader in renewable capacity.
- ▶ India, just like China, boasts of a strong score on the indicator for diversification of import counterparts (5th), but its energy system continues to face some significant challenges, particularly in environmental sustainability (109th).
- ▶ India has some of the lowest scores in the EAPI for CO₂ emissions from electricity production and PM2.5 levels (117th and 123rd, respectively).
- ▶ While sources of pollution are diverse and intermittent (such as agricultural crop burning, refuse combustion, fireworks), the energy sector is a large, consistent contributor to this issue of major concern.
- ▶ Many solutions have been attempted with varying degrees of impact, but the India sorely needs a comprehensive plan of action to implement an effective and sustainable answer.

India Unveils Rescue Package for Power Sector

Why in News?

India approved a rescue package for its loss-making power utilities unveiled as a major reform that government hopes will end electricity blackouts and spur economic growth.

Why in news?

- ▶ The high rates of transmission and distribution losses in India, up to 60% in some states, have led to a profusion of technologies emerging to at least address the non-technical losses occurring due to power theft and meter tampering.
- ▶ States would over the next two years be allowed to take on 75 per cent of the debts of their utility companies, which have grown to 4.3 trillion rupees (\$65.3 billion) after years of undercharging customers for electricity. By clearing past debts and putting them on a better financial footing taking in view that utilities would be returned to profitability before 2019.
- ▶ This will help the Indian power sector turn around once and for all and for the states to provide 24/7 power.
- ▶ The disconnect debt problem in India is a result of a lack of political will on the part of the states and it is unclear if the new but relatively small carrots and sticks announced will be enough for state governments to chart, and more importantly maintain, a new course.
- ▶ States and utilities which want to take up the rescue package will sign agreements with the power ministry committing them to improve performance in return for the debt swap.
- ▶ The remaining debt not absorbed by states will be converted by banks into low interest rate loans, and states will also take over up to 50 percent of utilities' future annual losses. Utility debt taken on by states would not be included in their fiscal deficits for this and next financial year.

- ▶ Compulsory smart metering and efficiency measures would help cut electricity theft and other transmission losses to 15 percent from today's 22 percent within four years. The government will also ask banks not to lend to utilities to fund their losses.
- ▶ To curb up non- technical losses in electricity distribution is due to hooking or theft using a hook on the cable resulting to diversion of electricity.
- ▶ The sensor uses GSM technology to transmit the data to the distribution company's central server, so that the utilities can gauge the wrong.
- ▶ To connect the smart meter and bring sensor technology is important to the country which needs to look after the 4 lakh km. of distribution line.
- ▶ The concern is the slow pace at which India is adopting modern technology that could greatly increase the efficiency of operations in the electricity sector.
- ▶ In India, that 5G applications are more in IOT (Internet of Things) and that needs to develop in higher priorities.
- ▶ The poor delivery of electricity to the end consumer is failing infrastructure and, here too, the integration of communications technology could help address the problem.

Indian Made Vaccine

Why in news?

Serum Institute, Pune- which is the world's largest vaccine maker, producing and selling more than 1.3 billion doses globally every year of India's has discover the BRV-PV vaccine.

This vaccine has shown 66.7% efficacy in trials in Africa which also stands crucial for poor countries in the world.

About the Indian made vaccine:

- ▶ As per the World Health Organisation (WHO) this low cost oral vaccine can be much more beneficiary in the global war against the deadly virus that kills about 600 children a day- which a staggering 22\$ of them in India.
- ▶ Rotavirus gastroenteritis is responsible for about 37% of deaths from diarrhea among children younger than 5 years of age worldwide, with sub-Saharan Africa.
- ▶ Vaccine has shown 66.7% efficacy against severe rotavirus gastroenteritis among infants in Niger in West Africa.
- ▶ A Rotasiil a rotavirus vaccine, unlike previously used Rotavac does not require refrigeration, therefore, easier to store in low-income countries where rotavirus poses the greatest threat to children.
- ▶ BRV-PV shown good efficacy in heat-challenge conditions as overcome the absence of cold chains in many poor countries of Africa.
- ▶ The vaccine 'cold chain' strives to maintain proper temperatures for vaccines from manufacturing facilities to storage facilities, health centers, and immunization clinics.
- ▶ There were 4.30 fewer cases of severe rotavirus gastroenteritis per 100 infant-years among infants who received BRV-PV.
- ▶ Coasting affordable likely to be under between Rs. 100 and Rs. 120 per dose will prevent an estimated 2 million to 3 million deaths every year, but an additional 1.5 million deaths could be prevented if the global immunization cover improved.

Typhoon Turbine

Why in News?

Japan has designed worlds first wind turbine that can harness energy from Typhoon/ hurricanes which could solve the resource poor Japans' green energy problem.

About the Typhoon Turbine:

- ▶ Typhoon produced a level of kinetic energy 'equivalent to about half the world-wide electrical generating capacity' is a major source to be used in this device.
- ▶ The energy from one typhoon, could power Japan for 50 years. With the help of this country can become the super power of the wind. As there are some estimates that wind power has more potential here than solar.
- ▶ This looks like a huge, upright egg beater-shaped wind turbine, designed to withstand and harness the incredible force of a tropical cyclone.
- ▶ It has three cylinders and a central rod responds to wind coming from any direction and doesn't use a propeller to spin.
- ▶ Instead it takes advantage of the Magnus effect, a force that sees air curve when passing by a spinning object, such as a football.
- ▶ This device turns Typhoons destructive power into usable energy. Unlike ordinary turbines, it can stay standing even when assaulted by intense winds and rain, with the help of an omnidirectional vertical axis and blades with adjustable speeds.

Industries Get 6 Months for Retrospective Green Nod

Why in news?

To apply for the back dated green certificate the Union Environment ministry has given a six month window and a 'one time opportunity' to industrial projects functioning without environmental clearance (EC).

About the issue:

The reprieve is for projects that started the work on site, expanded the production beyond the limit of EC or changed the product mix without obtaining prior EC.

Some conditions to obtain environmental clearance:

- ▶ Categorizing all projects as 'grade A,'
- ▶ Highest level of scrutiny now required

This condition has obtained to follow that units could not be allowed to continue pollution unregulated.

Digital Divide

Why in news?

Under Go Digital- India is adding Internet connections at a fair pace, driven mainly by mobile data plans. But a sizeable number are stuck with slow speeds. And two - third, or 24.7 crore of the connections, are in the cities.

About Digital Divide:

- ▶ TRAI data recognises that while urban India has 61.9 Internet subscriptions per 100 people, rural India gets by with just 13.7.
- ▶ There's also a wide gap in connectivity between States depending on the state of their network infrastructure and relative affluence.

- ▶ While the city of Delhi alone boasts 2.2 crore Internet connections, the entire North East has just 4.3 lakh. Mumbai alone hogs almost half of the 3 crore connections in Maharashtra. In most States, urban areas account for two-thirds of the Internet users.
- ▶ As per the TRAI report, of the 36.7 crore Internet subscribers, 17.5 crore (48%) are still on narrowband. That means download speeds of less than 512 kbps. WiFi isn't as ubiquitous as we city folk think, with just 6 lakh connections across the country.
- ▶ While a majority of users access the web on their phone, nearly half of the mobile phone users (17 crore) are still on the snail-paced 2G. The average GSM subscriber used just 236 MB of data in a month and spent 28 on it.
- ▶ For India's digital divide to be bridged, network infrastructure outside the cities needs to be significantly beefed up. The government is on the job, with the ambitious Bharatnet project to digitally connect 2.5 lakh Gram Panchayats.
- ▶ India had 36.74 crore (367.48 million) Internet subscribers in September 2016. Based on a population count of 127.7 crore, it translates this into 28.77 Internet subscribers per 100 population.
- ▶ TRAI data captures the number of Internet connections in India and not the number of households with Internet access.
- ▶ 36.7 crore Internet subscriptions don't equal 36.7 crore Indians connected to the Internet. In fact, after doing away with such duplicate connections, it is almost a certainty that 28% of India's population isn't connected to the Internet.

Gilgit-Baltistan Region

Why in news?

Pakistan is planning to declare the strategic Gilgit-Baltistan region also known as Northern Areas as its fifth province in the list of Balochistan, Khyber Pakhtunkhwa, Punjab and Sindh.

Prior to this move Pakistan counted this administrative territory as the 'unsettled status' for this region.

About the Gilgit-Baltistan region:

- ▶ Gilgit-Baltistan is part of the Kashmir region that is disputed by India and Pakistan, along with Azad Kashmir, Aksai Chin, the Shaksgam Valley, and Jammu, Ladakh, and the Valley of Kashmir.
- ▶ The territory of present-day Gilgit-Baltistan became a separate administrative unit in 1970 under the name 'Northern Areas'.
- ▶ Gilgit-Baltistan is treated as a separate geographical entity by Pakistan. It has a regional assembly and an elected chief minister.
- ▶ It brings concern for India as the disputed region borders Pakistan-occupies Kashmir (PoK). The only issue of dispute between India and Pakistan as far as Jammu and Kashmir is concerned is the illegal occupation of PoK and Gilgit-Baltistan by Pakistan.
- ▶ Pakistan was considered to elevating the constitutional status of the region in a bid to provide legal cover to the CPEC.
- ▶ The move could signal a historic shift in the country's position on the future of the wider Kashmir region.

Draft code on Social Security and Welfare

Why in news?

Labour Ministry has proposed a labour code which will provide social security cover to the entire workforce in the country, including self-employed and agricultural workers.

About newly proposed Social Security and Welfare Code:

- ▶ Households employing domestic help will also have contribute towards schemes including provident fund and gratuity for the worker.
- ▶ Factories employing even a single worker will have to contribute towards social security benefits, as per the proposal.
- ▶ For the first time, the move will cover agricultural workers along with self-employed people and target to provide social security benefits to 45 crore workers.
- ▶ The proposed code seeks to cover any factory, any mine, any plantation, any shop, charitable organisations” and all establishments or households employing casual, part-time, fixed-term, informal, apprentice, domestic and home-based workers.
- ▶ All such establishments or factories will be liable to pay compensation if they fail to contribute towards the social security schemes of the workers.
- ▶ The National Social Security council chaired by the Prime Minister with Finance Minister, Labour Minister, Health and Family Welfare Minister along with employer and employees’ representatives will co-ordinate between central and State governments, monitor the implementation of social security schemes, regulate funds collected under various social security schemes, among others.
- ▶ According to the proposed code, self-employed workers will contribute 20% of their monthly income towards provident fund, pension and other related schemes. Self-employed workers will also include “a person who takes land on share cropping or any other form of rent, and tills the same using his own or family members’ labour.
- ▶ All the entities – whether factories or households – will have to register their workers through an Aadhaar-based registration system, according to another proposal, and self-employer workers will be required to register themselves.
- ▶ Social security benefits unclaimed for five years after becoming due to the worker will be confiscated by the government.

Pristine Air-quality Monitoring Station

Why in news?

Landmark intervention CSIR- National Physical Laboratory (NPL) has established nation’s first Pristine air-quality monitoring station at the Institute of Himalayan Bioresource Technology (IHBT) at Palampur (Himachal Pradesh).

About Pristine air-quality monitoring station:

- ▶ Atmospheric monitoring station established by National Physical Laboratory in the campus of Institute of Himalayan Bio resource Technology (IHBT) at Palampur (H.P.) was dedicated to the nation on 17th March, 2017.
- ▶ It is situated at an altitude of 1391 m for generating the base data for atmospheric trace species & properties to serve as reference for comparison of polluted atmosphere in India.

- ▶ At this station, NPL has installed state of art air monitoring system, greenhouse gas measurement system and Raman Lidar.
- ▶ A number of parameters like CO, NO, NO₂, NH₃, SO₂, O₃, PM, HC & BC besides CO₂ & CH₄ are being currently monitored at this station which is also equipped with weather station (AWS) for measurement of weather parameters.
- ▶ In India, air quality parameters are mostly measured in industrial and residential areas, however, data for air quality of pristine atmosphere is not available in India.
- ▶ NPL's station will contribute to fill this important gap. The NPL's station will also serve as a base station for inter-comparison of air quality monitoring equipment being used in India to improve quality of monitored data in India.
- ▶ The data generated by pristine CAAQMS (Continuous Ambient Air Quality Monitoring System) station at Palampur will act as background data for the measured pollution at various cities in the country. The generated background data will be shared with different pollution control boards and agencies in the country so that the more precise pollution mapping traceable to standard values can be done, which in turn, would assist policy decisions for the abatement of air pollutants.
- ▶ Setting up of such state of art monitoring systems in Himalayan region will help to assess the vulnerability of region's sensitive ecosystem due to climate change & pollution.

Hypersonic Wind Tunnel

Why in news?

Indigenously developed hypersonic wind tunnel and shock tunnel has been commissioned at the Vikram Sarabhai Space Centre.

About hypersonic wind tunnel

- ▶ A wind tunnel is used to study the effects of air flowing past a solid object—in ISRO's case, space vehicles.
- ▶ With the space agency lining up big missions like the 'Reusable Launch Vehicle' (RLV), 'Two Stage to Orbit' (TSTO) rockets, air breathing propulsion systems, and the human space flight programme for the future, the aero-thermodynamic modelling of such vehicles in a hypersonic environment is vital for optimal designs.

Benefits

- ▶ Commissioning of such facilities would provide adequate data for design and development of current and future Space transportation systems in the country.
- ▶ Aerospace vehicles fly at high speed, often greater than the speed of sound. Their re-entry through the atmosphere is at high Mach numbers, the modelling of which is intricate. Hypersonic Wind Tunnel and Shock Tunnel facilities are used to simulate the aero-thermal environment where characterisation of vehicles is carried out. Facilities existing in the country are smaller in size and have limited simulation capabilities. One metre hypersonic wind tunnel can simulate flow speeds of Mach 6 to 12. One metre shock tunnel simulates flight speed of 4.5 kilometres per second.
- ▶ The commissioning of the facility also symbolises the country's capability in establishing such world class facilities wherein technology from outside is restricted or not available,

Organizations in News

a) *National Commission for Safai Karamcharis*

Why in News?

- ▶ Shri Manhar Valji Bhai Zala has been appointed as the Chairman of the National Commission for Safai Karamcharis

Introduction

- ▶ The National Commission for Safai Karamcharis (NCSK), established in 1994 to deal with the grievances of persons engaged in manual scavenging.

Functions

- ▶ The National Commission for Safai Karamcharis seeks to study, evaluate and monitor the implementation of various schemes for Safai Karamcharis as an autonomous organization and also to provide redressal of their grievances. The Commission shall perform all or any of the following functions, namely:
 - Recommend to the Central Government specific programs of action towards elimination of inequalities in status, facilities and opportunities for Safai Karamcharis under a time-bound action plan;
 - Study and evaluate the implementation of the programs and schemes relating to the social and economic rehabilitation of Safai Karamcharis and make recommendations to the Central Government and State Governments for better co-ordination and implementation of such programs and schemes;
 - Investigate specific grievances and take suo moto notice of matters relating to non-implementation of:
 - programs or schemes in respect of any group of Safai Karamcharis;
 - decisions, guidelines or instructions, aimed at mitigating the hardship of Safai Karamcharis;
 - measures for the social and economic upliftment of Safai Karamcharis;
 - the provisions of any law in its application to Safai Karamcharis,

b) *National Commission for Scheduled Tribes*

Why in News?

- ▶ Shri Nand Kuamr Sai assumed charge as the chairman of National Commission for Scheduled Tribes.

Introduction

- ▶ NCST is established as an important tool for the overall social economic development of STs in the country and to protect rights of tribal living in far flung areas.
- ▶ NCST was established by amending Article 338 and inserting a new Article 338A in the Constitution through the Constitution (89th Amendment) Act, 2003.
- ▶ By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was replaced by two separate Commissions namely- (i) the National Commission for Scheduled Castes (NCSC), and (ii) the National Commission for Scheduled Tribes (NCST).

Functions

- ▶ NCST is empowered to investigate and monitor matters relating to safeguards provided for STs under the Constitution or under other laws or under Government order.
- ▶ The Commission is also authorized to inquire into specific complaints relating to rights and safeguards of STs and to participate and advise in the Planning Process relating to socio-economic development of STs and to evaluate the progress of their development under the Union and States.
- ▶ The commission submits its report to the President annually on the working of safeguards and measures required for effective implementation of Programmers/ Schemes relating to welfare and socio-economic development of STs.

c) National Company Law Tribunal

Why in News?

- ▶ Cyrus Mistry has moved a petition to the National Company Law Appellate Tribunal (NCLAT) in New Delhi asking it to stop Tata Sons from removing him from the board at the shareholder meeting.

About NCLT

- ▶ The Central Government has constituted National Company Law Tribunal (NCLT) under section 408 of the Companies Act, 2013.
- ▶ The National Company Law Tribunal NCLT is a quasi-judicial body, exercising equitable jurisdiction, which was earlier being exercised by the High Court or the Central Government. The Tribunal has powers to regulate its own procedures.
- ▶ The establishment of the National Company Law Tribunal (NCLT) consolidates the corporate jurisdiction of the following authorities:
 - Company Law Board
 - Board for Industrial and Financial Reconstruction.
 - The Appellate Authority for Industrial and Financial Reconstruction
 - Jurisdiction and powers relating to winding up restructuring and other such provisions, vested in the High Courts.
- ▶ In the first phase the Ministry of Corporate Affairs have set up eleven Benches, one Principal Bench at New Delhi. These Benches will be headed by the President and 16 Judicial Members and 09 Technical Members at different locations.

Powers of NCLT

- ▶ The NCLT has been empowered to exercise the following powers:
 - Most of the powers of the Company Law Board under the Companies Act, 1956.
 - All the powers of BIFR for revival and rehabilitation of sick industrial companies;
 - Power of High Court in the matters of mergers, demergers, amalgamations, winding up, etc.;
 - Power to order repayment of deposits accepted by Non-Banking Financial Companies as provided in section 45QA of the Reserve Bank of India Act, 1934;
 - Power to wind up companies;
 - Power to Review its own orders.

- ▶ The NCLT shall have powers and jurisdiction of the Board for Industrial and Financial Reconstruction (BIFR), the Appellate Authority for Industrial and Financial Reconstruction (AAIFR), Company Law Board, High Courts relating to compromises, arrangements, mergers, amalgamations and reconstruction of companies, winding up etc. Thus, multiplicity of litigation before various courts or quasi-judicial bodies or forums have been sought to be avoided. The powers of the NCLT shall be exercised by the Benches constituted by its President.

d) ICAR and ICRISAT

Why in News?

- ▶ Agreement has been signed between the Indian Council of Agricultural Research (ICAR) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), in the field of Climate smart crops, smart food and digitalization of breeding database.

About ICRISAT

- ▶ The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is an international non-profit organization that undertakes scientific research for development.
- ▶ ICRISAT adopts Integrated genetic and natural resources management as its overarching research strategy. The aim is to combine tested methods of crop commodity research with well established practices in research in natural resources management.
- ▶ ICRISAT performs crop improvement research, using conventional as well as methods derived from biotechnology.

About ICAR

- ▶ The Indian Council of Agricultural Research (ICAR) is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India. Formerly known as Imperial Council of Agricultural Research.
- ▶ The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country. With **101 ICAR institutes** and **71 agricultural universities** spread across the country this is one of the largest national agricultural systems in the world.
- ▶ The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development
- ▶ It has played a major role in promoting excellence in higher education in agriculture. It is engaged in cutting edge areas of science and technology development and its scientists are internationally acknowledged in their fields.