

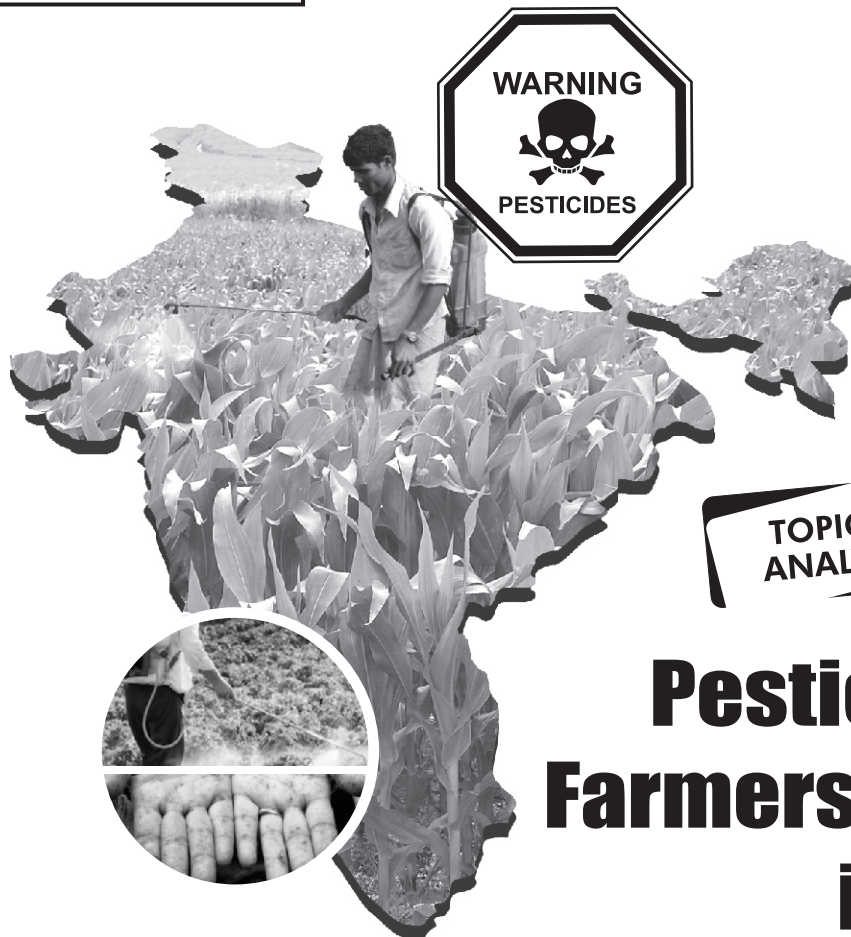
# GS SCORE

# ANALYST

*Current Affairs Fortnightly*

Issue- II (16-31) October, 2017

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## Pesticides & Farmers Health in India

### CONTEMPORARY ISSUES

#### 1. Economic Issue

- ▶ Bank Recapitalization Program
- ▶ Ferry Service: Benefits and Status
- ▶ Boosting Horticulture Through Remote Sensing
- ▶ Fiscal Deficit and its Impact
- ▶ Legal Entity Identifier
- ▶ How to Promote Indian Entrepreneurship

#### 2. Environmental Issue

- ▶ Adverse Effects of Indoor Air Pollution
- ▶ Climate Change Taking A Toll on Global Health
- ▶ Why it is Difficult to Clean Up Ganga?
- ▶ Environmental Compliance and Enforcement in India

#### 3. Internal Security

- ▶ Andaman Sea Region: India Eyes for Military Expansion

#### 4. Social Issue

- ▶ Human Rights Watch World Report

#### 5. Society

- ▶ Ground Reality of Open Defecation Scheme
- ▶ Sexual Misconduct and Idea of Naming Shaming
- ▶ Sanitation and Nutrition Linkage

#### 6. Governance Issue

- ▶ Law Commission Report on United Nations Convention Against Torture

#### 7. Political Issue

- ▶ Rajasthan Ordinance is Against Free Speech
- ▶ Telengana: Tribal Hamlets to Village Panchayat Status

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# Contents

Issue II- October, (16-31), 2017

## Topical Analysis 7-12

### PESTICIDES AND FARMERS HEALTH IN INDIA



## Contemporary Issues 13-83

- Bank Recapitalization Program
- Adverse Effects of Indoor Air Pollution



- Andaman Sea Region: India Eyes for Military Expansion
- Ferry Service: Benefits and Status
- Human Rights Watch World Report

- Ground Reality of Open Defecation Scheme
- Law Commission Report on United Nations Convention Against Torture



- Boosting Horticulture Through Remote Sensing
- Climate Change Taking A Toll on Global Health
- Fiscal Deficit and its Impact
- Rajasthan Ordinance is Against Free Speech
- Telengana: Tribal Hamlets to Village Panchayat Status
- Legal Entity Identifier
- U.S. Pulls out of UNESCO
- How to Promote Indian Entrepreneurship?
- Why it is Difficult to Clean Up Ganga?

### GANGA CLEANING DEADLINE: 2018-19

Tasks to be completed by then

<ul style="list-style-type: none"> <li>➤ Sewage Infrastructure: Setting up Sewage Treatment Plants (STPs) in all 118 towns</li> <li>➤ Projects are ongoing in 50 towns</li> <li>➤ Projects will be allotted in remaining 68 towns by June 2016</li> <li>➤ Tapping (disallowing untreated water from flowing into river) all 144 drains; 65 have already been tapped</li> <li>➤ Setting up Central Effluent Treatment Plants (CETPs) at main industrial clusters and make it sustainable</li> <li>➤ Provision of public amenities at Char Dham Yatra and Ganga Sagar</li> </ul>	<p>Plantation of medicinal plants along 2,525 km long Ganga</p>
<ul style="list-style-type: none"> <li>➤ River front management at 7 identified locations including Kedarnath, Haridwar, Allahabad, Varanasi, Kanpur and Patna</li> <li>➤ 100% sanitation coverage for 1,657 Gram Panchayats</li> <li>➤ Raising 4 battalions (4,000 personnel) of Ganga Task Force</li> </ul>	<ul style="list-style-type: none"> <li>- involving ex-servicemen along Ghats</li> <li>➤ Setting up a workforce of trash collectors by involving urban local bodies (ULBs)</li> <li>➤ Conservation of aquatic life - special attention to dolphin, turtles and gharials</li> </ul>

- Sexual Misconduct and Idea of Naming Shaming
- Environmental Compliance and Enforcement in India
- Sanitation and Nutrition Linkage



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**Prelims News****84-91****Indian Culture**

- Chhath Pooja
- Tipu Sultan Celebration
- Paika Bidroha
- Girija Devi
- 'Adopt a Heritage Scheme'
- Man Booker Prize

**Economic News**

- Benefits of Formalising Gold Trade
- Prevention of Money Laundering (Maintenance of Records) Second Amendment Rules 2017
- Logistics Data Bank Services
- Debt to GDP Ratio
- Centre Plans 13 New Integrated Check Posts
- Centre Permits Banks to Sell More Schemes

**Polity and Governance**

- Centre for Vulnerable in High Court

- Universal Social Security Scheme
- Pradhan Mantri Kaushal Kendra for Skilling in Smart Cities

**Science & Environment**

- INS KILTAN
- SawFish
- IISC - New Tool to Diagnose Malaria
- Robobee
- Vikram OPV
- Bovine TB
- LANCET Study REPORT : Most Pollution Linked Deaths Occur in India

**Miscellaneous News**

- Saudi Arabia has become the First Country to Give a Robot Citizenship.
- India, Brazil and South Africa (IBSA) have Signed the IBSA Trust Fund Agreement
- INDRA 2017 Exercise



## COVER STORY

# Pesticides and Farmers Health in India

**Context**

*Since July 2017, over 1,000 farmers of Yavatmal in east Maharashtra have suffered from a toxic chemical exposure after spraying pesticides on the cotton crop. There have been many fatalities too with 23 farmers succumbed to "toxic pesticides".*

*Pesticides frequently enter the surface and groundwater through either point source (direct locations where excess pesticides spill, or non-point sources, where the pesticides enter the streams through wind flow, precipitation, runoff, and leaching. These pesticides can accumulate in a surface water source such as a lake, stream, or pond, they can also leach down and become integrated into the groundwater reserves such as reservoirs.*

*Thus in the cover story, analyzing the usage of pesticides, their role in agriculture and negative impact of it in human health.*

**Introduction**

With an increasing global population, demands for food and energy become ever increasing and the major portion of available food and energy is produced by agriculture and livestock activities.

In the Indian agricultural activities, soil erosion and soil fertility issues are cropping up as the major problem which led to inevitable use of pesticides to increase yield. However, but this in turn has led to adverse affects on land, farmers other natural resources and the overall ecosystem.

**Production and usage of pesticides in India**

Pesticides are chemical compounds that are used to kill pests, including insects, rodents, fungi and unwanted plants (weeds). Pesticides are used in public health to kill vectors of disease, such as mosquitoes, and in agriculture, to kill pests that damage crops.

The term pesticide covers a wide range of compounds including insecticides, fungicides, herbicides, rodenticides, molluscicides, nematicides, plant growth regulators and others.

Pesticides constitute an important component in agriculture development and protection of public health in India since our tropical climate is very conducive to pest breeding.

The production of pesticides started in India in 1952 with the establishment of a plant for the production of BHC near Calcutta, and India is now the second largest manufacturer of pesticides in Asia after China and ranks twelfth globally.

The pattern of pesticide usage in India is different from that for the world in general. In India 76% of the pesticide used is insecticide, as against 44% globally. The use of herbicides and fungicides is correspondingly less heavy. The main use of pesticides in India is for cotton crops (45%), followed by paddy and wheat.

There are about 20 major diseases, which have been brought under control by the use of pesticides. The most significant among them are malaria, filariasis, dengue, Japanese encephalitis, cholera and louse-borne typhus. On the other side to control the adverse affects, banning pesticides is also not the solution. Because according to scientists 'complete ban on the pesticides would result in 50% reduction in production and would raise food prices. Thus, pesticides emerge as indispensable for agriculture.

## Benefits of pesticides

### Primary Benefits

The primary benefits are the consequences of the pesticides' effects i.e. the direct gains expected from their use. For example the effect of killing caterpillars feeding on the crop brings the primary benefit of higher yields and better quality of cabbage.

### Secondary Benefits

The secondary benefits are the less immediate or less obvious benefits that result from the primary benefits. They may be subtle, less intuitively obvious, or of longer term. For secondary benefits it is therefore more difficult to establish cause and effect, but nevertheless they can be powerful justifications for pesticide use. For example the higher yield might bring additional revenue that could be put towards children's education or medical care, leading to a healthier, better educated population. There are various secondary benefits identified, ranging from fitter people to conserved biodiversity. Some examples are:

- ▶ **Improving productivity:** Tremendous benefits have been derived from the use of pesticides in agriculture, a sector upon which the Indian economy is largely dependent. This result has been achieved by the use of high-yield varieties of seeds, advanced irrigation technologies and agricultural chemicals.
- ▶ **Protection of crop losses/yield reduction:** In medium land, rice even under puddle conditions during the critical period warranted an effective and economic weed control practice to prevent reduction in rice yield due to weeds that ranged from 28 to 48%, based on comparisons that included control (weedy) plots. Weeds reduce yield of dry land crops by 37–79%. Severe infestation of weeds, particularly in the early stage of crop establishment, ultimately accounts for a yield reduction of 40%. Herbicides provided both an economic and labour benefit.
- ▶ **Vector disease control:** Vector-borne diseases are most effectively tackled by killing the vectors. Insecticides are often the only practical way to control the insects that spread deadly diseases such as malaria. The malaria is one of the leading causes of morbidity and mortality in the developing world and a major public health problem in India. Disease control strategies are crucially important also for livestock.

## Hazards of pesticides

### Direct impact on Humans

- ▶ Their harmful effects have resulted in serious health implications to man and his environment. There is now overwhelming evidence that some of these chemicals do pose a potential risk to humans and other life forms and unwanted side effects to the environment.
- ▶ No segment of the population is completely protected against exposure to pesticides and the potentially serious health effects, though a disproportionate burden, is shouldered by the people of developing countries and by high risk



groups in each country. The world-wide deaths and chronic diseases due to pesticide poisoning number about 1 million per year.

- ▶ The high risk groups exposed to pesticides include **production workers, formulators, sprayers, mixers, loaders and agricultural farm workers.** In industrial settings, workers are at increased risk since they handle various toxic chemicals including pesticides, raw materials, toxic solvents and inert carriers.

### Over 1000 farmers have died of ‘toxic pesticides’

Yavatmal has recorded 3,920 farmer suicides since 2001 and has been infamously called the “farmer suicide capital of India.” Recent spate of deaths due to pesticide poisoning has only added to the agrarian crisis the district has been facing for over a decade now.

The farmers in Yavatmal (Maharashtra) mostly grow the genetically modified ‘BT cotton,’ which is considered as pest-resistant. But the cotton plants grew unusually tall, up to 6 feet, and attracted pests year. Because of that farmers sprayed pesticides above their head and inhaled some pesticide particles.

Most of the farmers and farm hands rarely cover their mouth and nose while spraying. Also, the unusually humid conditions and the high density of cotton crop also made farmers vulnerable to chemical contact while spraying pesticides. Pesticides affected farmers so severe that patients had to be tied to the hospital bed because of convulsions.

The post-mortem reports of the deceased farmers showed they had inhaled organophosphorus, a chemical compound used in pesticides, which resulted in respiratory failure. Over 25 farmers could not see for a few days, but their vision has returned later.

#### *How did the government react?*

Maharashtra government swung into action only after the media began reporting the death. The government constituted a seven-member Special Investigation Team to inquire into the deaths and announced Rs.2 lakh in compensation to the families of the deceased.

The district administration has booked five Krishi Kendra owners for “selling unauthorized pesticides” and sent agriculture officers to create awareness of precautions.

Farmers have now urged the government to look at the use of toxic chemicals in agriculture and regulate it.

#### **Impact through food commodities**

- ▶ In India the first report of poisoning due to pesticides was from Kerala in 1958, where over 100 people died after consuming wheat flour contaminated with parathion. This prompted the Special Committee on Harmful Effects of Pesticides constituted by the ICAR to focus attention on the problem
- ▶ In a multi-centric study to assess the pesticide residues in selected food commodities collected from different states of the country, DDT residues were found in about 82% of the 2205 samples of bovine milk collected from 12 states.
- ▶ The proportion of the samples with residues above the tolerance limit was highest in Maharashtra (74%), followed by Gujarat (70%), Andhra Pradesh (57%), Himachal Pradesh (56%), and Punjab (51%). In the remaining states, this proportion was less than 10%.

#### **Mid Day Meal Scheme tragedy in Saran, Bihar**

In 2013, at least 23 students died and dozens more fell ill at a primary school in the village of Saran district of the Indian state of Bihar after eating a Mid Day Meal contaminated with pesticide. In reaction villagers took to the streets in many parts of the district in violent protest. Subsequently, the Bihar government took a series of steps to prevent any recurrence of such incidents.

This was also seen as a wakeup call to ensure safe manufacture, storage, distribution and use of pesticides.

**Impact on environment**

- ▶ Pesticides can contaminate soil, water, turf, and other vegetation. In addition to killing insects or weeds, pesticides can be toxic to a host of other organisms including birds, fish, beneficial insects, and non-target plants.
- ▶ Insecticides are generally the most acutely toxic class of pesticides, but herbicides can also pose risks to non-target organisms.

**Surface water contamination**

- ▶ Pesticides can reach surface water through runoff from treated plants and soil. Contamination of water by pesticides is widespread.

**Ground water contamination**

- ▶ Groundwater pollution due to pesticides is a worldwide problem. During one survey in India, 58% of drinking water samples drawn from various hand pumps and wells around Bhopal were contaminated with Organo Chlorine pesticides above the EPA standards. Once ground water is polluted with toxic chemicals, it may take many years for the contamination to dissipate or be cleaned up.

**Endosulfan Disaster**

The endosulfan tragedy occurred in Kasaragod district of Kerala, India. It is considered as one of the worst pesticide disaster in the field of pesticide toxicity happened to a region and its people. The tragedy occurred for various reasons, starting with the recommendation to use such a chemical in a populated, waterbody rich area like Kasaragod. It was then continually aerially sprayed by the Plantation Corporation of Kerala on its cashew plantations for 20 years, without even once looking into its impacts. This was done 3 times a year over an area covering 15 Grama Panchayaths (Local Government at the village level) in Kasaragod.

There were many warning signals about its impact from the beginning, including the mass deaths of bees, fishes, frogs, birds, foxes and also congenital deformities in domestic animals like cows. Since 1979 there had been local outcry from farmers and media concerning the health effects of the pesticide spraying.

Local health practitioners had documented increased incidences of congenital anomalies, delayed puberty, mental retardation, abortions and cancer during the years of endosulfan spraying.

The enormity of the health problems in the area was brought to the notice of the government by the local people as well as various organisations like Thanal, Endosulfan Spray Protest Action

Because of its dangers to human health and the environment, a global ban on the manufacture and use of endosulfan was discussed by countries under the Stockholm Convention in April 2011.

Endosulfan was already banned in many countries like the United States, the European Union, Brazil, Canada, Australia and New Zealand but was widely used in developing countries like India and China.

**Effect on soil fertility (beneficial soil microorganisms)**

- ▶ Heavy treatment of soil with pesticides can cause populations of beneficial soil microorganisms to decline. If soil lose both bacteria and fungi, then the soil degrades. Overuse of chemical fertilizers and pesticides have effects on the soil organisms that are similar to human overuse of antibiotics. Indiscriminate use of chemicals might work for a few years, but after awhile, there aren't enough beneficial soil organisms to hold onto the nutrients

**Contamination of air, soil, and non-target vegetation**

- ▶ Pesticide sprays can directly hit non-target vegetation, or can drift or volatilize from the treated area and contaminate air, soil, and non-target plants. Some pesticide drift occurs during every application, even from ground equipment. Drift can account for a loss of 2 to 25% of the chemical being applied, which can spread over a distance of a few yards to several hundred miles.

## Pesticide Regulations in India

- ▶ **Pesticide Regulations in India:** Pest Management is an integrated approach to tackling a pest problem, which includes control (either physical or chemical) and prevention.

The **Insecticides Act, 1968** and **Insecticides Rules, 1971** regulate the import, registration process, manufacture, sale, transport, distribution and use of insecticides (pesticides) with a view to prevent risk to human beings or animals and for all connected matters, throughout India.

All insecticides (pesticides) have to necessarily undergo the registration process with the Central Insecticides Board & Registration Committee (CIB & RC) before they can be made available for use or sale.

Thus, all insecticides (pesticides) in India are those substances that are listed on the "Schedule" of the **Insecticides Act, 1968**. The Registration Certificate mandates that a label be put on the packaging, which clearly indicates the nature of the insecticide (Agricultural or Household use), composition, active ingredient, target pest(s), recommended dosage, caution sign and safety precautions. Therefore, a pesticide labeled for agriculture should not be used in a household.

- ▶ **The Pesticide Management Bill, 2008:** It was proposed as a step towards promoting safe use of pesticides and this Bill seeks to regulate the manufacture, inspection, testing and distribution of pesticides. It establishes a system of licensing as well as the setting up of a registration committee to register pesticides.

### Highlights of the Bill

- The Bill replaces the Insecticides Act, 1968. It defines a pesticide as a substance used to destroy or control the spread of pests in agricultural commodities or animal feed. The Bill sets criteria by which a pesticide is to be classified as misbranded, or sub-standard
  - The Bill establishes a Central Pesticides Board to advise the government on matters related to pesticide regulation, manufacture, use and disposal. It establishes a registration committee to register pesticides.
  - No pesticide can be registered unless tolerance limits for its residues on crops and commodities are specified under the Food Safety and Standards Act, 2006.
  - The Bill establishes a procedure to license manufacturers, distributors and retailers of pesticides, to be administered by state governments. Pesticide inspectors shall inspect facilities and collect pesticide samples while pesticide analysts shall test the samples collected.
- ▶ **National Policy on IPM:** The indiscriminate and unilateral use of pesticides was the only plant protection tool during sixties and seventies for sustaining of agricultural production potential of the high yielding varieties under the intensive cropping systems.

This has led to several ill-effects like human and animal health hazards, ecological imbalance, development of resistance in the pests to pesticides, pests resurgence and environmental pollution as well as destruction of natural enemies (bio-control agents) of pests and increased level of pesticides residues in soil, water, food with the increased use of pesticides.

### Thus government has proposed (IPM)

Integrated Pest Management (IPM) is an eco-friendly approach which aims at keeping pest population at below economic threshold levels by employing all available alternate

pest control methods and techniques such as cultural, mechanical and biological with emphasis on use of bio-pesticides and pesticides of plant-origin like Neem formulations.

The use of chemical pesticides is advised as a measure of last resort when pest population in the crop crosses economic threshold levels (ETL). Suppression of pest population below economic threshold level through the adoption of feasible and affordable Good Agricultural Practices aiming least disturbance to the eco system and environment.

### **Paramparagat Krishi Vikas Yojna (PKVY)**

- ▶ Aim of the project is to maximize the utilization of natural resources through eco-friendly cultivation.
- ▶ Organic farming is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio-fertilizers) to release nutrients to crops for increased sustainable production in an eco friendly pollution free environment.

#### **The Scheme envisages:**

- ▶ Promotion of commercial organic production through certified organic farming.
- ▶ The produce will be pesticide residue free and will contribute to improve the health of consumer.
- ▶ It will raise farmer's income and create potential market for traders.
- ▶ It will motivate the farmers for natural resource mobilization for input production.

### **Conclusion**

Although all pesticide containers must carry warning labels, due to the lack of proper education and illiteracy of villagers, they have gone unnoticed. With the lack of monitoring of the manufacturing, production, and selling of non-standard pesticides and their high availability in the market, these pesticides are often used improperly, which leads to additional effects on environment and public health in the long run and immediate adverse effects on farmers' health.

Given the toxicity and hazards of pesticides and their adverse effects on farmers' health, effective measures should be adopted to decrease in the amount of pesticides used. Conducting training programs for farmers may help to reduce pesticide exposure risks.

Ministry of Agriculture (both central and state) are responsible for the unsafe use of pesticides, the deaths can be prevented if some crucial gaps in the regulations and their implementation are fixed on priority.

## ECONOMIC ISSUE

# Bank Recapitalization Program

**Context**

*India's decisive public sector bank (PSB) recapitalisation plan has been met with a big thumbs-up by markets. The PSU Bank equity index jumped 30% on the news.*

*This article looks into the details of the cabinet decision to recapitalize banks. Specifically focus of this article is on details of the announcement, need for such an announcement, concerns related to this announcement and possible impact of this exercise on fiscal deficit.*

The government is seeking to kick-start the private sector investment cycle to boost the Indian economy that grew 5.7% in the quarter ended June, the slowest pace in three years. In this context, government announced two substantial reforms after a Cabinet meeting as the government attempts to revive the economy from its worst slowdown. The first announcement was in the infrastructure space as the Cabinet approved building 34,800 kilometers of highways under its Bharatmala plan. The other, and bigger announcement was that it allocated Rs 2.11 lakh crore over two years for the recapitalisation of public sector banks. The plan is intended to help banks make adequate provisions against bad loans and revive lending, which in turn, may help bolster a recovery in economic growth and private investment.

## What is Recapitalization?

Recapitalization is restructuring a company's debt and equity mixture, often with the aim of making a company's capital structure more stable or optimal. Essentially, the process involves the exchange of one form of financing for another. A good example of equity replacing debt in the capital structure is when a company issues stock in order to buy back debt securities, thus increasing its proportion of equity capital as compared to its debt capital. Companies often want to diversify their debt-to-equity ratio to improve liquidity. Debt investors require routine payments and a return of principal upon maturity, so a swap of debt for equity helps a company maintain its cash and use cash generated from operations for business purposes, reinvestment or capital returns to equity holders.

Governments also partake in mass recapitalization of their countries' banking sectors during times of financial crisis and when the solvency and liquidity of banks and the greater financial system come into question. For example, the U.S. government recapitalized the banking sector in the United States with various forms of equity in order to keep the banks and the financial system solvent and maintain liquidity through the Troubled Asset Relief Program (TARP) in 2008.

## Details of the announcement of Rs. 2.11 trillion PSU bank recapitalisation plan

The finance ministry announced a Rs. 2.11 trillion bank recapitalisation plan for state-owned lenders weighed down by bad loans, seeking to stimulate the flow of credit to spur private investment. Out of the total commitment, Rs. 1.35 trillion will come from the sale of so-called recapitalisation bonds. The remaining Rs. 76,000 crore will be through budgetary allocation and fundraising from the markets. The bank recapitalisation package marks a sharp increase over the current budgetary allocation. Under the Indradhanush plan, the government has allocated Rs. 20,000 crore towards bank recapitalisation over the current and next fiscal years. Bank recapitalisation via special recapitalisation bonds is an approach, the government used in the 1980-1990s. Between financial years (FY) 1985-1999, the government infused Rs. 204 billion into public sector banks via recapitalisation bonds. The final decision about the manner of bond issue is yet to be reached. Still, it is likely that recapitalization bonds (RCBs) will be issued by a holding company that is specifically created to hold government equities in PSBs. If such a company issues the bonds, the bond issue will not come under government debt and thus the debt will not add to fiscal deficit. Money obtained from the sale of the bonds will be injected into the PSBs as government equity funding.

### Why there is a need to bank recapitalization?

The banking sector in general and PSBs in particular are facing problem of high level of NPA for some time. NPA have reached alarming level in PSB, among the top 20 banks with the highest gross non-performing asset (GNPA) ratios, 18 belong to Public sector. Eight PSBs banks — IDBI Bank, Indian Overseas Bank, UCO Bank, Bank of Maharashtra, Central Bank of India, Dena Bank, United Bank of India, and Corporation Bank — had a GNPA ratio of over 15 per cent as of June 2017. As a portion of NPA's shall never return to bank this will reduce capital with the bank and reduce Tire 1 ratio below the threshold prescribed by BASEL III. The Minimum Tier I capital as per the norm is 7%. Several PSBs doesn't have this minimum higher quality capital. So as to restore Tire 1 capital, bank required fresh infusion of capital which shall come through this recapitalization exercise.

Secondly, the bank recapitalisation would ensure genuine borrowers get adequate funding. Credit growth in the banking system has remained sluggish for some quarters, partly, that was result of weak capital position of the banks as it restricted their ability to lend. This exercise gives much needed funds to public sector lenders for them to step up to the demand for loans from good-rated companies. This in turn will make the wheels of investment run faster, leading to a faster and more sustainable economic recovery.

Third, capital shortage in the face of rising NPAs had resulted in a wider gap between the public sector banks' weighted average lending and deposit rates; so recapitalisation should enable more effective transmission. Fourth, higher share prices post announcement of RCB program, should enable public sector banks to directly raise more capital from markets.

### What are the concerns raised by bank recapitalization decision?

Such a recapitalization without setting accountability for higher NPA ratio is like rewarding banks with a free get-out-of-jail card without any corrective measures to avoid repeating past mistakes. There's also the moral hazard question: recapitalisation studies conducted globally have shown that banks receiving fresh government capital tend to exhibit increased risk-taking activity compared with banks deprived of capital infusion. There are other studies which show that recapitalisation stimulates the credit cycle for only larger banks and existing borrowers. This then contradicts the government's assertion that recapitalisation will lead to increased credit availability for the micro-, small- and medium-enterprise segment.

## What will be the impact of Recapitalisation Bonds on government's fiscal deficit?

The government has made it clear that it will stick to the 'glide path' for the fiscal deficit and that the impact of the recapitalisation bonds on the fiscal position will depend on its legal nature and the issuing agency. The budget has set a fiscal deficit target of 3.2% of gross domestic product for this financial year and government shall stick to it.

Though exact impact of RCBs on fiscal deficit depends on manner in which bonds are floated, such details are still unclear. But the interest payment for it will certainly be a part of the fiscal deficit. According to the estimate of Chief Economic Advisor, the annual interest payments expense will come at around Rs. 9000 crores. This interest payments expense will be covered from the profits of capital receiving PSBs.

## Other measures required for banking reform

First, there should be no political interference in lending decisions. The Centre has assured that nobody influences decisions. But it is hard to be sure if the State and local governments have kept away from influencing decisions.

Second, bank boards should be chosen through a UPSC-like system and not by doling out favours to those who served political interests or have occupied prestigious positions.

Third, management as well as skilled staff have to be paid market-related salaries; while support staff could remain on the existing pay structure, core critical functions need higher compensation. In fact, the chairman or CEO should have a fixed term of five years and selection should be on a transparent basis without succumbing to the temptation to bring in only personnel from the private sector. The argument is that if the public sector culture does not change, then getting in a private sector person could demotivate the existing personnel. Besides, those who have been with the bank through the years are the best to head such organisations given their superior knowledge and experience.

Fourth, at the policy level it is essential to review the approach to banking. The very concept of loan waivers and other compulsions like interest rate subventions should be reconsidered. While there could be compensation by the States, the ethos of banking gets eroded when there is official sanction for a culture not to repay loans, which stretches to all sections. Curiously, as of March 2017, the share of priority sector loans in NPAs for PSBs was high, at around 30-40 per cent. While there are arguments for such lending, from the commercial point of view it is high-risk. When regulation makes such lending mandatory, the same ideology gets extended to sectors like infrastructure which further adds to the risk.

Fifth, the Government also has to be discreet when it keeps batting for lower interest rates. It is now axiomatic to badger the RBI to lower the repo rate and banks to transmit the same to boost lending. By doing so the message is that credit has to increase through lower rates with no 'mention' of credit quality, which is the major concern. Therefore, there is pressure on banks to enhance lending, which can lead to a perverse selection of portfolio.

## Conclusion

The recapitalisation programme seemed like a *fait accompli*, especially since banks were caught in a vicious cycle, leading to a credit impasse which exacerbated the economic distress. As the largest shareholder, it was incumbent on the government to recapitalize banks to kick-start the credit cycle and growth process. However, this recapitalization and restructuring should go together. The government's current plan incorporates one without the other. It is equally important to reduce the government's stake in public sector banks, which then will provide banks with operational autonomy.

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**ENVIRONMENTAL ISSUE**


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# Adverse Effects of Indoor Air Pollution


**Context**

*Indoor Air Quality (IAQ) refers to the air quality within and around buildings and structures, especially as it relates to the health and comfort of building occupants.*

*According to a recent report, overall exposure to household air pollution accounts for about four million premature deaths every year globally; of these, a million occur in India.*

*Understanding and controlling common pollutants indoors can help reduce risk of indoor health concerns.*

*Hereby, discussing the adverse effects of Indoor air pollution.*

## Introduction

Indoor air pollution refers to the occurrence of contaminants within a home, workplace (or other inhabited enclosure) arising from such sources as fuel combustion for heating or cooking; from stored substances, furnishings and carpeting; or from the particular geology (underlying rocks) of an area.

As cited by the Indian Council of Medical Research (ICMR) Bulletin, the report of the World Health Organization (WHO) emphasizes the 'rule of 1000' which states that when a pollutant is released indoors, it is one thousand times more likely to reach people's lungs than a pollutant released outdoors. More than 1.6 million people, mainly women and children, die prematurely each year after breathing high levels of indoor smoke. This represents approximately twice the estimated mortality due to outdoor pollution. Children and senior citizens can be more vulnerable to indoor pollution because their immunity may be compromised.

## Sources of Indoor Air Pollution

- ▶ **Cooking-related household air pollution:**
  - One of the major sources of household air pollution is fuel used for cooking as well as heating practices.
  - Burning of natural gas not only produces a variety of gases such as sulfur oxides, mercury compounds, and particulate matter but also leads to the production of nitrogen oxides, primarily nitrogen dioxide.
  - Various studies have shown that, on average, the levels of particulate matter of less than 2.5 microns in mean aerodynamic diameter (PM<sub>2.5</sub>) in such houses range from 500 to 1,500 µg/m<sup>3</sup>, which is very high, as the permissible indoor level of PM<sub>2.5</sub> according to the WHO ranges between 10 and 50 µg/m<sup>3</sup> in a 24-hour mean value.



- High levels of CO, especially during the burning of charcoal, are also produced. However, burning of wood produces the least amounts of PM2.5 and CO among the biomass fuels.
- ▶ **Smoking:**
  - Smoking tobacco in any form within the confines of a house is a major source of household air pollution.
  - Cigarette smoke contains 7,357 different chemical compounds such as benzene, CO, PAHs, heterocyclic amines, cyanide, formaldehyde, terpenoids, phenols, nicotine, and heavy metals. Burning of tobacco also emits considerable amounts of PM2.5 (burning one cigarette emits 7 to 23 mg of PM2.5).
  - Tobacco smoke could be first-hand, second-hand, or third-hand smoke. A person who smokes within the confines of his house is exposed to the smoke himself (first-hand smoke). Other occupants of the house inhaling these fumes but not actually smoking are exposed to second-hand smoke. The particles emitted during smoking settle on the furnishings, hair, clothes, and the floor. These particles remain suspended in the household air for quite a while even after the primary smoker has exited the premises. This constitutes third-hand smoke.
- ▶ **Temperature control-related household air pollution:**
  - Temperature control may involve both heating and cooling of the household environment. Houses use air conditioning for temperature and humidity control.
  - To ensure effective conditioning of the house, insulation material and drafting control are used extensively. Preventing the temperature-controlled air from escaping the closed environment leads to poor ventilation in these houses and further causes accumulation of the particulate matter pollutants inside the house. Furthermore, inadequately cleaned air conditioning units are breeding grounds for various fungi and bacteria.
  - Opening windows is a form of natural ventilation. Ambient air pollutants containing copper, iron, potassium, nickel, silicon, vanadium, and zinc, with a particle size of between 2.5 and 10 microns, and ozone gas easily find their way into these houses through the natural ventilation, in turn contributing to household air pollution.
  - In particular, houses that are close to traffic-heavy roads, which are populated with vehicles using diesel as fuel, tend to have a higher load of household air pollutants. Diesel exhaust particles can settle on the pollen of roadside trees and consequently find their way into an open household.
  - Carbon particles, soot, diesel exhaust-laden pollen, and organic particulate matter are therefore found to be in very high concentrations in these houses which use natural ventilation.
- ▶ **Religious things:**
  - The incense sticks called *agarbattis*, made of finely ground fragrant material, are bound with binders, usually *makko*, around a supporting bamboo stick. India alone sells incense sticks worth 225 million USD per year and this has been growing annually at 10%.
  - Burning of these fragrances emits high levels of PAHs, benzene, nitrous oxide, and CO.

- Similarly, burning of candles produces PM2.5 and PM10 to the tune of 1,200 and 200  $\mu\text{g}/\text{m}^3$  respectively.
- ▶ **Building material:**
  - Paints and varnishes used in houses emit significant amounts of volatile organic compounds, increasing the burden of household air pollutants.
  - Particulate board furniture is also responsible for emission similar to that of volatile organic compounds largely because they are held together by adhesives that emit volatile organic compounds.
  - Insulation material used in buildings has also been implicated in the emission of volatile organic compounds.
  - Asbestos used in sheets in the construction of houses leaves the finished houses with fine asbestos dust particles.
  - Silicon particles are found in abundance in houses made of bricks and cement.
  - Improvements in technology have led to digitalization in houses. Every household today has hi-tech electronic gadgets such as computers, tablets, iPads, printers, and mobile phones. These have been implicated in increased levels of ozone in the houses.
- ▶ **Other sources:**
  - Air conditioning ensures 100 per cent cold air and 0 per cent fresh air.
  - The fact is air conditioning collects the heat from the warm stale air, cools it through systems of condensing and compressing to re-cool the air again. Fresh air does not come in like in a room with windows.
  - The refrigeration system does not eliminate harmful gases such as carbon dioxide, carbon monoxide, and nitrogen dioxide. As such, if ventilation is ineffective, air quality also goes down. Majority of conditioned interiors, unfortunately, lack effective air change systems, breeding unhealthy chemical and microbial contaminations.

### Effects of Indoor Air Pollution:

- ▶ **Health effects:**
  - **Acute lower respiratory infections:** There is substantial evidence that exposure to smoke from the use of solid fuels in the home increases the risk of acute lower respiratory infections (ALRI) in young children, particularly pneumonia.  
Exposure to household air pollution accounts for more than half of deaths to childhood pneumonia in children under five years of age.
  - **Chronic obstructive pulmonary disease:** Chronic obstructive pulmonary disease (COPD) is a progressive and incompletely reversible airflow obstruction. There is a substantial body of evidence showing that household air pollution is an important risk factor for such disease (and possibly the most important cause of COPD in non-smoking populations).
  - **Lung cancer:** Smoke from both coal and biomass contains substantial amounts of carcinogens (chemical substances known to increase the risk of cancer). Individuals exposed to smoke from biomass and coal fires in the home have an elevated risk of lung cancer.

- **Cardiovascular Disease:** Particulate matter is a health-damaging pollutant common to air pollution from different combustion sources.
- **Cataract:** Cataract is the main cause of blindness of the adult population. An increasing number of epidemiological studies and toxicological evidence provide good evidence that household solid fuel use for cooking is associated with cataract formation, especially among women.
- **Burns & Poisonings:** Fire-related burns from fuel use in low and middle income homes are an important cause of death, especially among children. Deaths are only part of the problem - for every child and adult person who dies from burns, many more are left with lifelong disabilities and disfigurements. A high proportion of these burns and scalds results from the dangers posed to children and women by solid fuel and kerosene stoves which are often located at floor level in poorly lit kitchens increasing the safety risk.
- **Other health outcomes:** There is emerging evidence which suggests that household air pollution may also increase the risk of other important child and adult health problems. It includes conditions such as: low birth weight and perinatal mortality (still births and deaths in the first week of life), asthma etc.
- ▶ **Social and Environmental Impacts:**
  - The inefficient use of energy by households has impacts beyond health. The inefficient use of solid fuels for cooking and heating is a major source of short-lived climate pollutants (e.g. black carbon) and the unsustainable harvesting of fuel wood contribute to local forest degradation.
  - Fuel collection places a burden on the household, especially women and children and the lack of reliable electricity can limit household activities to daylight hours.
- ▶ **Household energy and poverty:**
  - Dependence on polluting and inefficient household fuels and appliances is both a cause and a result of poverty. Poor households often do not have the resources to obtain cleaner, more efficient fuels and appliances. Conversely, reliance on inefficient household fuels and appliances limits the time available for income generation, schooling and other opportunities for economic development, creating a vicious cycle of poverty and reliance on polluting, inefficient fuels.
  - Women bear the brunt of the exposure because they are more likely to be the cooks at home. Children, because of their dependency on their mothers before going to school, are exposed to toxic air over long periods and also have a high risk of developing pneumonia and asthma. Depending on exposure levels, men are also vulnerable to the same health challenges.
- ▶ **Gender issues:**
  - It is women who carry out household tasks related to cooking and heating the home. Women are therefore particularly affected by smoke in the home as well as the time loss due to fuel collection and stove tending. However, in many homes, men appear to have more decision-making power, and household energy needs may be given lower priority than women would wish.

- ▶ **Environmental impacts:**
  - **Deforestation:** The reliance on wood as a household fuel can put considerable pressure on forests, particularly in areas where fuel wood is scarce and the demand for wood outweighs natural re-growth. Unsustainable wood harvesting can lead to forest degradation which may result in a consequent loss of habitat and biodiversity.
  - **Climate change:** Simple biomass and coal stoves used in most low and middle income country homes typically are inefficient. As a result, a large percentage of the energy when burning these fuels is lost as products of incomplete combustion. These products of incomplete combustion include powerful short-lived pollutants such as black carbon and methane, which significantly contribute to climate change.

### Solutions:

- ▶ Eliminating cooking with firewood, dung and kerosene. Rural electrification programmes will also eliminate this threat. India is actually forward-looking in promoting the use of liquid petroleum gas for cooking and for looking into rural electrification programmes.
- ▶ **Public awareness:** One of the most important steps in prevention of indoor air pollution is education, viz., spreading awareness among people about the issue and the serious threat it poses to their health and wellbeing. The education should help people in finding different ways of reducing exposures with better kitchen management and protection of children at home.
- ▶ People should also be educated about the use of alternative cleaner sources of energy to replace direct combustion of biomass fuel. The stakeholders must include not only public, but also politicians and administrators to ensure their commitment and increase their awareness about health effects of indoor air pollution.
- ▶ **Change in pattern of fuel use:** Fuel use depends on ones' habit, its availability, and most importantly, its affordability. At present, majority of low income families rely solely on direct combustion of biomass fuels for their cooking needs as this is the cheapest and easiest option available to them; however, this could be rectified by promoting the use of cleaner energy sources such as gobar gas which utilizes cow dung to produce gas for cooking.
- ▶ **Modification of design of cooking stove:** The stoves should be modified from traditional smoky and leaky cooking stoves to the ones which are fuel efficient, smokeless and have an exit (e.g., chimney) for indoor pollutants.
- ▶ **Improvement in ventilation:** During construction of a house, importance should be given to adequate ventilation; for poorly ventilated houses, measures such as a window above the cooking stove and cross ventilation through doors should be instituted.
- ▶ **Inter-sectoral coordination and global initiative:** Indoor air pollution can only be controlled with coordinated and committed efforts between different sectors concerned with health, energy, environment, housing, and rural development.
- ▶ Tackling indoor air pollution and providing universal access to clean household energy is a great opportunity to improve health, reduce poverty, and protect our environment.
- ▶ **Interventions to user behaviour:** Changes in user behaviour can also play a role in reducing pollution and exposure levels. For example, drying fuel wood

before use improves combustion and decreases smoke production. Keeping young children away from smoke reduces exposure of this most vulnerable age group to health-damaging pollutants.

### Conclusion

Unfortunately, we do not have stringent standards for indoor air quality in India and no institutional systems to assess them. Even if we introduce them all, finally it is people who will have to comply with them. May be we can arrive at them and people will comply with Indoor Air Quality, but still better would be to increasingly live with nature, eliminating the root problem.

Stringent implementation of WHO guidelines on indoor air quality and a combined effort from the healthcare profession, industry, and healthcare policy makers can reinforce ways to curb household air pollution and, to an extent, limit its effects on health.

## INTERNAL SECURITY

# Andaman Sea Region: India Eyes for Military Expansion


**Context**

*India is working on expanding the military effectiveness of its outpost at the juncture of Bay of Bengal and Andaman Sea. Keeping in mind the Act East policy, and envisaging the future scenario in the Indian Ocean region and South-East Asia, the focus is on developing the strategically located islands in Andaman and Nicobar.*

*This includes creation of military infrastructure for greater naval presence in the islands which dominates the strategically important Malacca Strait.*

*Hereby, discussing the strategic significance of the Andaman and Nicobar Islands, plan for military expansion and challenges related to it.*

## Introduction

The Andaman Sea is a body of water to the south-east of the Bay of Bengal, south of Myanmar (Burma), west of Thailand, north-west of Malay Peninsula, north of Sumatra and east of the Andaman Islands, India, from which it takes its name; it is part of the Indian Ocean.

The sea has been traditionally used for fishery and transportation of goods between the coastal countries and its coral reefs and islands are popular tourist destinations. The Andaman and Nicobar Islands lie in this strategically important zone, meaning that India with its growing naval capabilities could play a significant role in controlling access.

Geographical distance from the mainland has long been a reason for New Delhi to neglect the islands, treating it only as a distant sentinel outpost. With increasing Chinese naval presence in the Indian Ocean Region (IOR), New Delhi is analyzing the strategic geopolitical value of the islands. Not only does the proximity of the Andaman and Nicobar Islands to the Malacca Strait place them in a strategic position with regard to surveillance of crucial Sea Lines of Communication, they could also form the cornerstone for India's "Act East" policy and its maritime security strategy.

## Geostrategic significance

- ▶ India is strategically located in the centre of Asia and at the head of the Indian Ocean. Andaman Sea is bounded to the north by the Irrawaddy River delta of Myanmar (Burma); to the east by peninsular Myanmar, Thailand, and Malaysia; to the south by the Indonesian island of Sumatra and by the Strait of Malacca; and to the west by the Andaman and Nicobar Islands, which constitute a union territory of India.

- ▶ Through such ports as Bassein, Mawlamyine, Tavoy, and Mergui—as well as Yangon (Rangoon) itself—it forms the most important sea link between Myanmar and other countries.
- ▶ It also forms part of a major shipping route between India and China, via the Strait of Malacca. The sea, which has an area of 308,000 square miles (798,000 square km), takes its name from the Andaman Islands.
- ▶ The North to South spread of the islands facilitates domination of the Bay of Bengal, the Six and Ten Degree Channels and also parts of the Indian Ocean.
- ▶ Apart from their location, these Islands also have an Exclusive Economic Zone (EEZ) of 300,000 sq. km. Thus, any country controlling these Islands would be able to control the Bay of Bengal.
- ▶ Although administered by India, these islands have greater proximity to South-east Asia— Myanmar, Indonesia and Thailand—than to the Indian mainland.
- ▶ The most remarkable feature of the islands is their location: stretching over 500 miles north to south at the western entrance of the Strait of Malacca, they straddle one of the most critical naval and trade chokepoints in the world.
- ▶ India could be using these islands to project power into the region and signal China’s People’s Liberation Army’s Navy about its readiness to counter any intervention. With its capabilities more fully developed, the ANI could help India monitor military and commercial traffic passing between the Indian Ocean and the Western Pacific. They could provide India a forward position from which to serve its growing economic, political, and military interests in East Asia, and further position India as the “gatekeeper” of the Indian Ocean.



**India’s military expansion plan**

- ▶ The military focus is on countering the increasing Chinese presence in the region, which has been a cause of concern.
- ▶ Chinese submarines have been sighted in the area and have also been docked at bases in Pakistan and Sri Lanka.
- ▶ The southern-most island is only 150 km from Sumatra in Indonesia. The airstrip at INAS Baaz, the naval aviation base on Campbell Bay on the Great Nicobar island, is currently being extended from 3,050 feet to 10,000 feet. The extension, which will allow the Navy to place its modern P-8I surveillance aircraft at INAS Baaz, is scheduled to be completed by 2021.

- ▶ The Navy currently operates its eight P-8I aircraft, procured from the US in 2013, from INS Rajali base at Arakonam in Tamil Nadu.
- ▶ The Navy also plans to commission its second Floating Dry Dock Navy (FDDN) constructed by L&T near Port Blair by December, along with a dockyard under completion. This will allow more naval ships to be maintained and serviced in the islands.
- ▶ The Navy is in the process of constructing three forward operating bases (FOBs) in the islands at Diglipur, Kamorta and at Campbell Bay to allow its Khukri class corvettes to be distributed across various locations in the archipelago.

### Regional Implications

- ▶ Myanmar is the only ASEAN nation to share land borders with India; the two countries also share a long maritime boundary in the Andaman Sea and the Bay of Bengal. Earlier this year, the navies of the two countries signed an agreement to facilitate coordinated maritime patrols on the islands. Now with the NLD in power and a fresh start after the removal of sanctions, Myanmar should look into joint exploration with India of possible hydro-carbon potential in the Andaman Sea basin.
- ▶ Playing out its “ Act East” policy , India has been building greater engagement with the maritime littorals—Japan and Australia – searching for energy off the coast of Vietnam, engaging regional navies in South-east Asia in joint naval exercises, and working to ensure freedom of navigation in the South China Sea.
- ▶ Government has also for the first time allowed for foreign investment in the archipelago, signalling a policy shift.
- ▶ The government has been open to collaborate on upgrading civilian infrastructure on the islands with Japan, the first project being discussed is a 15-megawatt diesel power plant on South Andaman Island.
- ▶ Japan has also shown its eagerness to use official development assistance to enhance India’s “connectivity” with countries that are members of ASEAN or SAARC.
- ▶ The Andaman and Nicobar Islands extend into the vital sea lanes connecting Japan and the Middle East, through which much of Japan’s energy, oil and gas imports pass. So it is in Japan’s interest to invest on these islands in order to ensure trouble free entry to the Malacca Straits and securing the shipping lanes in the Indian Ocean.
- ▶ With the tension with China over the Senkaku Islands, straining trade and economic ties between the two countries, Japan has been increasingly redirecting FDI towards India.
- ▶ Japan is not the only country interested in getting an entry into the archipelago. India and the US have earlier this year agreed in principle to share military logistics, which might mean hosting US troops at its bases or American ships being allowed to make port calls in the Andaman and Nicobar Islands in the future.

### Challenges

- ▶ Recognition of the Andaman and Nicobar Islands as strategic assets would ensure a change in government policy. The slow pace of development and indifferent bureaucracy has ensured that after several years, an undersea cable link between India’s mainland and the islands remains incomplete. Internet connectivity, even at the naval base in the capital Port Blair, is reported to be erratic.



- ▶ Road building, airstrip construction, and even the building of jetties has been slow or non-existent. More than a decade after the tsunami of 2004 an important road that helps in linking North with South has still not been rebuilt.
- ▶ Surveillance in the southern group of islands is a major challenge. The destruction of the road by the tsunami has meant that the two groups of islands are linked only by air and sea. Rather than expedite the work, the pace of development has been caught up in red tape.
- ▶ The landing strip on Campbell Bay is only 1,000 meters in length and plans to extend it have moved slowly. The runway in capital Port Blair took more than three years to repair.
- ▶ While India wants to neutralize Chinese presence in the region, the decision-making in New Delhi has been slow and lacking in focus.
- ▶ Efforts to strengthen India's military presence have not kept pace with Chinese activities.
- ▶ Government's outreach to Japan, which has been added to Malabar, hitherto a U.S.-India bilateral military exercise, signals a change in direction by the government, which has traditionally been very sensitive to Chinese concerns.

### Way Forward

- ▶ The Andaman and Nicobar Islands are of immense strategic importance to India, has now been accepted by the government. Efforts to safeguard the Eastern seaboard as well monitor the international sea-lanes passing in close proximity of the Islands, have been underway for some time now, but not at the pace that is desired for such an important issue. India needs to plug the gaps in the coastal security, air defence and surveillance.
- ▶ The home ministry needs to seriously consider suggestions to encourage migration from the mainland and open up some of these strategically located uninhabited islands to tourism. Such initiatives would give India a stronger physical footprint and would help the country track the movement of vessels and people.
- ▶ The northern islands are separated from the southern group by the Ten Degree Channel, which is 80 nautical miles wide. Close watch needs to be kept over the movement of ships and military vessels that pass through these waters.
- ▶ Heavy rainfall restricts building activities to six months a year and the distance from mainland adds to the cost of construction as all material must be shipped to the islands. Few companies are willing to work on the islands because of the distance and cost. For some materials, importing from Indonesia would be far cheaper and more cost effective than sending shipments from the Indian mainland.
- ▶ The stated policy of India is to become a net security provider in the Indian Ocean region. The Andaman and Nicobar Islands by virtue of its strategic location is well suited to become the springboard using which our country and its military, most notably its navy (which is steadily developing its blue water capability) can project power deep inside the Indian Ocean and protect India's national interests which extends from the strait of Hormuz in West Asia to the strait of Malacca in the East.
- ▶ To realize India's full strategic potential in the Indian Ocean, Indian Navy needs to fast track its efforts in building maritime capacity especially in island states that occupy critical locations in the Indian Ocean and in these efforts Andaman and Nicobar Islands can become the winning ace.



## Conclusion

Government has an opportunity to make Andaman and Nicobar Islands an important element of its “Act East Policy” of engaging with countries in the region east of India. Government should aim to utilise the islands’ proximity to major trade and shipping centres like Singapore, which is only 950 kms from the capital Port Blair, as well as Yangon and Phuket which are even closer. A policy of benign neglect towards the islands should be transformed into something more robust, which develops the island territories with an eye to India’s larger geopolitical interests.



## ECONOMIC ISSUE

# Ferry Service: Benefits and Status

Context

*Prime Minister Narendra Modi has inaugurated the first phase of Ro-Ro (roll-on, roll-off) ferry service between Ghogha in Bhavnagar district and Dahej in Bharuch district in the Gulf of Cambay, Gujarat. It is South Asia's first world class Ro-Ro ferry service.*

*The Ro-Ro ferry, the first of its kind in India, will be able to carry up to 100 vehicles (cars, buses and trucks) and 250 passengers between the two ports of Ghogha and Dahej in Gujarat.*

## Introduction

The Ro-Ro ferry services are vessels made to carry wheeled cargo (such as cars, trucks, semi-trailer trucks, trailers and railroad cars) that are driven on and off ferry on their own wheels or using a platform vehicle. It is opposite of lift-on and lift-off (lo-lo) vessels which uses crane to load and unload cargo.

Ro-Ro ferry is a small part of Sagarmala project of Central Government that aims to promote port-led development in the country by harnessing India's 7,500-km long coastline, 14,500-km of potentially navigable waterways and strategic location on key international maritime trade routes.

The term ro-ro is generally reserved for large ocean-going vessels. The vessels have either built-in or shore-based ramps that allow the cargo to be efficiently rolled on and off the vessel when in port.

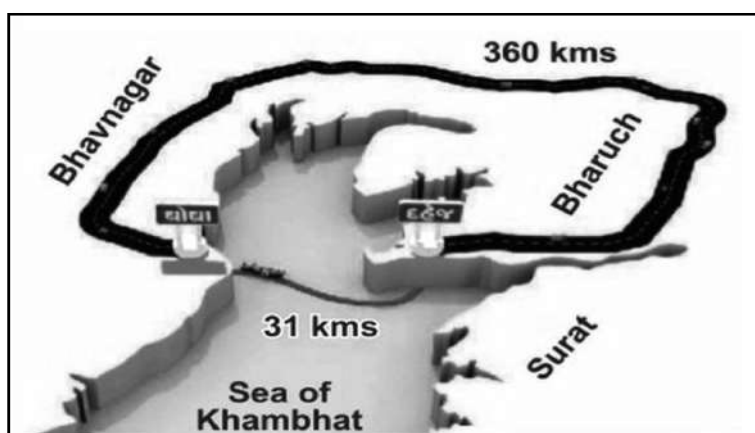
The purpose of the project is to facilitate the establishment of a vehicular and passenger ferry service across the Gulf of Khambhat. Goods and passengers are transported from one shore to another by ferry vessels in many parts of the world.

## Features

- ▶ This ferry service project cost stands at Rs.614 crore. The central government has allocated Rs. 117 crore for dredging work at both Ghogha and Dahej under the Sagarmala initiative.
- ▶ In the first phase, only passenger services would begin, while after the completion of the second phase, light vehicles can also be carried aboard the ferries.
- ▶ The second phase is likely to be commissioned by the end of January 2018.
- ▶ In the final phase, the ferries would have facility to carry trucks between the two regions.
- ▶ World-class terminals have been built at Ghogha near Bhavnagar and Dahej near Bharuch. The impact will be reducing the distance between the two points

to 30 km (by sea) from the present 350 km (by road), bringing down the travel time from 7-8 hours to just one hour after the ferry service begins.

- ▶ This is the first of its kind in India. The ro-ro has been designed to ferry upto 100 vehicles (cars, buses and trucks) and 250 passengers.
- ▶ The project, partly funded by the central government's Sagarmala initiative, is being developed by the Gujarat government through the Gujarat Maritime Board (GMB), the state's maritime regulator.
- ▶ The terminals at Dahej and Ghogha will provide berth accommodation for ferries, facilities for loading and unloading of vehicles and passengers and administrative facilities.
- ▶ There are plans to extend the service to other locations across the Gulf of Khambhat and Gulf of Kutch. There are also ambitious plans to connect the state to Mumbai and other southern states by this link.



### Benefits

- ▶ Due to its peculiar geographical configuration, the Gulf of Khambhat has advantage for the operation of Ro-Ro ferry service.
- ▶ The ferry service will save travel time and fuel and reduce pressure on congested roads.
- ▶ It will promote regional trade and business and prove to be game-changer for transportation of goods and passengers.
- ▶ It will provide at least one crore jobs in the next 4-5 years. It will give a boost to the local economy.
- ▶ The project will drastically reduce the distance of 360 km and travel time of 8 hours between Saurashtra and South Gujarat, to 31 km and just one-and-a-half hours. It would ease congestion on the state highway circumnavigating the gulf.
- ▶ The 31-km ferry service will hugely benefit the people working in the diamond-cutting and polishing hub of Surat.
- ▶ The ro-ro ferry will reduce the travel time between peninsular Saurashtra and south Gujarat by five hours through the Gulf of Khambhat.
- ▶ When fully operationalised, it will enable movement of vehicles. The ferry service is aimed at boosting the connectivity and infrastructure in Gujarat.
- ▶ Second phase will be commissioned by the end of January 2018. In the final phase, the ferries would also have the facility to carry trucks between the two regions.

**Initiative in other States**

- ▶ **Jharkhand:**
  - In April this year, the Prime Minister laid the foundation stone for a multi-modal terminal at Sahibganj in Jharkhand on the Ganga River.
  - Among the many modes of transport, the ro-ro facility was one key part and connects to Bihar's Manihari. Trucks and load carriers are already using the service.
- ▶ **Assam:**
  - In March this year, the IWAI carried out maiden berthing operation, a ro-ro terminal in Assam's Dhubri district on Brahmaputra River (National Waterway-2).
  - The ro-ro project connects the 29 km waterway link between Dhubri with Hatsingimari along the Meghalaya border.
  - The ferry can transport up to 8 trucks and 200 passengers at a time. It is an alternative to the circuitous 220 km land route that was earlier the only option.
- ▶ **Bihar-West Bengal:**
  - Kalughat terminal in West Bengal and Gaighat terminal in Bihar were proposed to be connected under the Jal Marg Vikas Project for creating state-of-the-art terminals at the two locations and start off ferry and ro-ro services.
  - The Kalughat terminal's completion will improve transportation of cargo between Kolkata and Nepal via waterway (Kalughat terminal) and it will make it cheaper in comparison to rail or road transport by 26 per cent and 13 per cent, respectively when return cargo is available.
  - The Ministry of Shipping said last year that the overall investment would also create 50,000 jobs in Bihar.

**Way Forward**

- ▶ India has nearly 14,500 Km of navigable Inland Waterways and around 7,517 Km of coastline, which on being developed effectively for transportation purpose, shall help decongest roads and rail networks and offer multiplier effect to the overall economic development of regions.
- ▶ Coastal shipping and inland water transport are fuel efficient, environment friendly and cost effective modes of transportation, especially for bulk goods.
- ▶ Ro-Ro developments are relatively new to the Indian market and need more flexibility in the public-private partnership (PPP) structuring.
- ▶ There is a tendency for the government to be too prescriptive with the requirements. Such projects will take off only if government focuses on performance, safety and social and environmental requirements and allows investors to arrive at their own technical solutions.
- ▶ In India, various Ro-Ro projects have the potential to fully open-up the vast potential of India's interior areas which have been geographically disadvantaged. Linking up with waterways will transform this disadvantage into a massive advantage.

## Conclusion

State of the art Ro-Ro Ghogha-Dahej and subsequently Hazira project (in phase-2) marks the beginning of a radical transformation of the transportation and logistics sector in India. The logistic costs in India are extremely high and tapping the full potential of waterways will provide a huge impetus to movement of people, goods, commodities and vehicles. By reducing cost and time this will have an immensely beneficial impact on India's manufacturing and exports.

## SOCIAL ISSUE

# Human Rights Watch World Report

Context

*Human Rights Watch (HRW) is an international non-governmental organization that conducts research and advocacy on human rights. The group pressures governments, policy makers and human rights abusers to denounce abuse and respect human rights, and the group often works on behalf of refugees, children, migrants and political prisoners.*

*World Report 2017 summarizes key human rights issues in more than 90 countries and territories worldwide.*

*Hereby, compiling gist of report mainly of issues raised with respect to India.*

## Introduction

Pursuant to the Universal Declaration of Human Rights, Human Rights Watch (HRW) opposes violations of what are considered basic human rights under the UDHR. This includes capital punishment and discrimination on the basis of sexual orientation. HRW advocates freedoms in connection with fundamental human rights, such as freedom of religion and freedom of the press. HRW seeks to achieve change by publicly pressuring governments and their policy makers to curb human rights abuses, and by convincing more powerful governments to use their influence on governments that violate human rights.

## What are Human Rights?

Human rights are the basic rights and freedoms that belong to every person in the world, from birth until death. They apply regardless of where you are from, what you believe or how you choose to live your life. They can never be taken away, although they can sometimes be restricted – for example if a person breaks the law, or in the interests of national security.

These basic rights are based on values like dignity, fairness, equality, respect and independence.

## Human Rights Watch report on India

Limits on free speech and attacks on religious minorities, often led by vigilante groups that claim to be supporters of the ruling Bharatiya Janata Party (BJP), are an increasing concern in India. In 2016, students were accused of sedition for expressing their views; people who raised concerns over challenges to civil liberties were deemed anti-Indian; Dalits and Muslims were attacked on suspicion that they had killed, stolen, or sold cows for beef; and non-governmental organizations (NGOs) came under pressure due to India's restrictive foreign funding regulations.

A crackdown on violent protests in Jammu and Kashmir beginning in July killed over 90 people and injured hundreds, fueling further discontent against government forces. Impunity for police and security forces largely continued amid new allegations of torture and extra-judicial killings, including reports of sexual assault and other abuses by security forces in the central Indian state of Chhattisgarh.

There were also some positive developments in 2016. The Narendra Modi government took steps toward ensuring greater access to financial services such as banking, insurance, and pensions for economically marginalized Indians and launched a campaign to make modern sanitation available to more households. In July, the Supreme Court of India took a strong stand against impunity for security forces, ruling that the Armed Forces (Special Powers) Act (AFSPA) does not protect soldiers from prosecution for abuses committed while deployed in internal armed conflicts. The court also gave new life to a challenge to a discriminatory colonial-era law criminalizing homosexuality.

#### Issues are:

- ▶ **Security Forces Abuses and Lack of Accountability:** Indian law makes it difficult, if not impossible, to prosecute public officials. Section 197 of the Criminal Procedure Code bars courts from recognizing any offenses (except sexual offenses) alleged to have been committed by public servants in the discharge of their official duties unless the central or a state government permits prosecution.

Despite calls for repeal of the Armed Forces Special Powers Act, soldiers continue to have immunity from prosecution when deployed in areas of internal conflict. In July 2016, however, the Supreme Court of India, in a decision ordering an investigation into 1,528 cases of alleged extra-judicial killings in Manipur state, ruled that the AFSPA does not provide immunity to security force personnel who use excessive or retaliatory force, and that every alleged extra-judicial killing should be investigated.

Security forces operating against Maoist insurgents continue to be accused of serious human rights violations, including sexual assault. Numerous tribal villagers have been arbitrarily arrested as Maoist sympathizers.

- ▶ **Treatment of Dalits, Tribal Groups, and Religious Minorities:** Hindu vigilante groups attacked Muslims and Dalits over suspicions that they had killed, stolen, or sold cows for beef. The violence took place amid an aggressive push by several BJP leaders and militant Hindu groups to protect cows and ban beef consumption.
- ▶ **Freedom of Speech:** Authorities continue to use sedition and criminal defamation laws to prosecute citizens who criticize government officials or oppose state policies. In a blow to free speech, the government in 2016 argued before the Supreme Court in favor of retaining criminal penalties for defamation. The court upheld the law.
- ▶ **Women's Rights:** Despite some high-profile rape and sexual assault prosecutions, new reports of gang rapes, domestic violence, acid attacks, and murders of women in 2016 continued to spotlight the need for concerted government action to improve women's safety and ensure prompt police investigation of such crimes. Women and girls with disabilities in particular continue to face barriers in accessing justice for violence against them.
- ▶ **Rights of People with Disabilities:** Women and girls with psychosocial or intellectual disabilities in India continue to be locked up in overcrowded and unsanitary state mental hospitals and residential institutions, without their consent,



due to stigma and the absence of adequate community-based support and mental health services. After a Human Rights Watch report revealed the range of abuses such women face in institutions, the National Commission for Women took up its first-ever study of the issue.

India's Upper House of Parliament passed a new mental health bill in August 2016. The law fails, however, to comply fully with the United Nations Convention on the Rights of Persons with Disabilities, including its provision that people with disabilities should enjoy legal capacity on an equal basis with others in all aspects of life, with appropriate measures to provide support they may require in exercising their legal capacity.

## Conclusion

Government has initiated steps under the Protection of Human Rights Act, 1993 to meet the national as well as international demand for the constitution of the National Human Rights Commission, State Human Rights Commissions in the States and Human Rights Courts.

### **However, institutional bodies suffer from following lacunas:**

- ▶ Commissions make recommendations to government, which include: payment of compensation to the victim or to her/his family; disciplinary proceedings against delinquent officials; etc. however, they lack the power to enforce decisions.
- ▶ Governments often ignore the recommendation completely or furnish a long bureaucratic discourse on how compliance with the recommendation is not in the public interest.
- ▶ The law requires the NHRC to concentrate more on civil and political than on social and economic rights.
- ▶ The Act requires that three of the five members of a human rights commission must be former judges but does not specify whether these judges should have a proven record of human rights activism or expertise or qualifications in the area.
- ▶ Under the Act, human rights commissions cannot investigate an event if the complaint was made more than one year after the incident. Therefore, a large number of genuine grievances go unaddressed.
- ▶ State human rights commissions cannot call for information from the national government, which means that they are implicitly denied the power to investigate armed forces under national control. Even the powers of the National Human Rights Commission relating to violations of human rights by the armed forces have been restricted to simply seeking a report from the Government, (without being allowed to summon witnesses), and then issuing recommendations.
- ▶ Most human rights commissions are functioning with less than the prescribed five members. This limits the capacity of commissions to deal promptly with complaints, especially as all are facing successive increases in the number of complaints.

Hence, steps are needed for the maintenance of human rights in true sense.

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**SOCIETY**


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# Ground Reality of Open Defecation Scheme


**Context**

*According to parameters of the Swachh Bharat Mission, any urban local body can declare its wards ODF if there is provision for toilets within 500 metres of slum settlements and one toilet each in the commercial area within a distance of 1 km.*

*However, the ground reality is quite different. Hereby, analyzing the issues faced in implementation of the scheme.*

## Introduction

Open defecation (OD) is the human practice of defecating outside, in the open. In lieu of toilets, people use fields, bushes, forests, open bodies of water or other open spaces. The practice is common where sanitation infrastructure is not available.

Open defecation poses a serious threat to the health of children. Hundreds of thousands of children die every year because of diseases transmitted through human waste.

In India, nearly half of the population - more than 590 m people - relieve themselves in the open. For many it's a daily ritual and often something they do even when public facilities are available.

The impacts of open defecation are wide and plenty. On the health front, the most common consequences of this morbid practice include diarrhoea, intestinal worm infection, typhoid, cholera, hepatitis and several others. Apart from this, malnutrition and stunted growth are also common consequences. The lack of safe private toilets makes women vulnerable as they face a greater risk of sexual molestation and rape. Such practices also pose an impediment to the education of girls. Human waste can also run into wells and streams, contaminating water that may be used for drinking or bathing.

Thus open defecation pose a serious challenge to the society and environment.

## Reasons for the practice

*A new World Health Organisation (WHO) report says more than half a billion people in India still “continue to defecate in gutters, behind bushes or in open water bodies, with no dignity or privacy”. The reasons are:*

- ▶ **Lack of infrastructure:** People often lack toilets in their houses, or in the areas where they live.
- ▶ **Lack of toilets in other places:** Lack of toilets in places away from people's houses, such as in schools or in the farms lead the people to defecate in the open.
- ▶ **Use of toilets for other purposes:** In some communities, toilets are found to be used for other purposes, such as storing household items, animals, farm products or used as kitchens. In such cases, they often go outside to defecate.

- ▶ **Poor quality and condition of toilet:** Sometimes people have access to a toilet, but the toilet might be broken, or in poor condition - such as, very dirty and smells bad, not well lit, lack door, or may not have water. Toilets with maggots or cockroaches are also disliked by people and hence, they go out to defecate.
- ▶ **Risky and unsafe:** Some toilets are risky to access. There may be a risk to personal safety such as - they may be dangerous to access at night due to lack of lights, criminals around them, the presence of animals such as snakes and dogs, etc. Women and children who do not have toilets inside their houses are often found to be scared to access shared or public toilets, especially at night. Accessing toilets that are not located in the house, might be a problem for disabled people, especially at night.
- ▶ **Presence of toilet but not privacy:** Some toilets do not have a real door, but have a cloth hung as a door. In some communities, toilets are located in places where women are shy to access them due to the presence of men.
- ▶ **Lack of water near toilet:** Absence of supply of water inside or next to toilets cause people to get water from a distance before using the toilet. This is an additional task and needs extra time.
- ▶ **Too many people using a toilet:** This is especially true in case of shared or public toilets. If too many people want to use a toilet at the same time, then some people may go outside to defecate instead of waiting. In some cases, people might not be able to wait due to diarrhea (or result of an Irritable Bowel Syndrome emergency). Fear of the pit getting filled: In some places, people are scared that their toilet pits will get filled very fast if all family members use it every day. So they continue to go out to delay the toilet pit filling up. This is especially true in the case of a pit latrine.
- ▶ **Lack of awareness:** People in some communities do not know about the benefits of using toilets.
- ▶ **Lack of behavior change:** Some communities have toilets, yet people prefer to defecate in the open. In some cases, these toilets are provided by the government or other organizations and the people do not like them, or do not value them. They continue to defecate in the open. Also, older people are often found to defecate in the open and they are hesitant to change their behavior and go inside a closed toilet.
- ▶ **Social norms:** Open defecation is a part of people's life and daily habit in some regions. It is an ancient practice and is hard for many people to stop practicing. It is a part of a routine or social norm. In some cultures, there may be social taboos where a father-in-law may not use the same toilet as daughter-in-law in the same household.

### Is declaring ODF really makes it open defecation free zone?

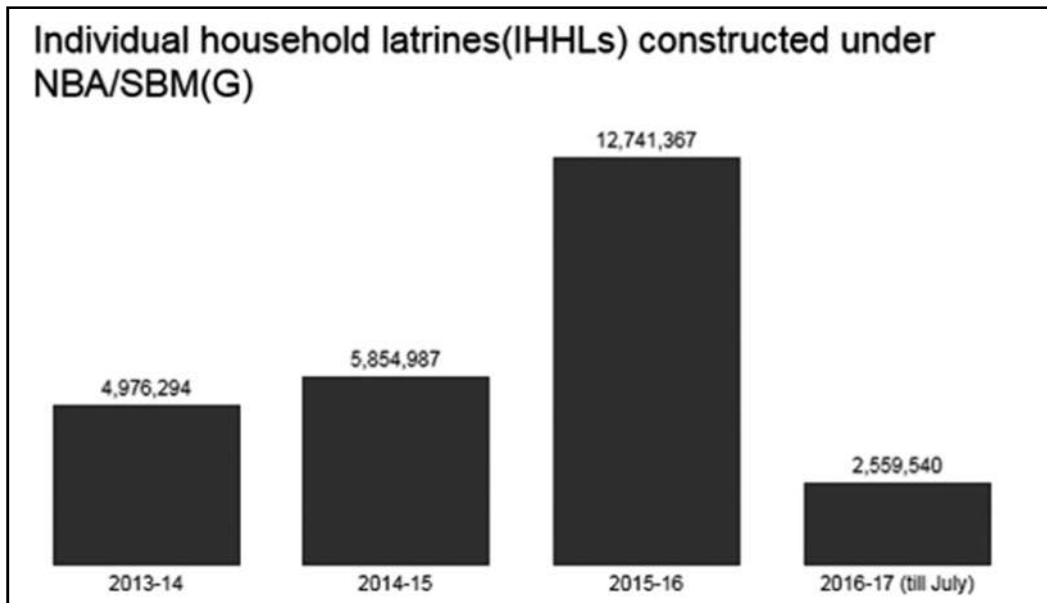
The Indian Ministry of Drinking Water and Sanitation has in mid-2015 defined ODF as “the termination of fecal-oral transmission, defined by:

- ▶ No visible feces found in the environment or village; and
- ▶ Every household as well as public/community institutions using safe technology option for disposal of feces”.

Here, ‘safe technology option’ means toilets that contain feces so that there is no contamination of surface soil, groundwater or surface water; flies or animals do not come in contact with the open feces; no one handles excreta; there is no smell and there or no visible feces around in the environment.

According to parameters of the Swachh Bharat Mission, any urban local body can declare its wards ODF if there is provision for toilets within 500 metres of slum settlements and one toilet each in the commercial area within a distance of 1km.

The pace of toilet construction increased in 2015-16, government data says.

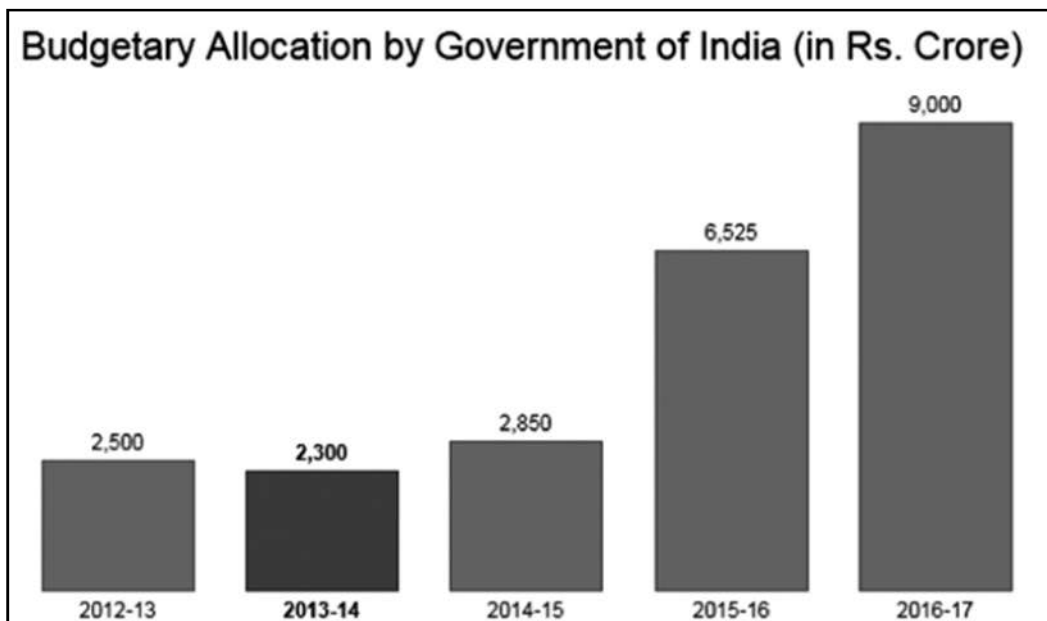


But the toilet construction numbers are not always reliable, as was found by an audit report by Comptroller and Auditor General (CAG) of India that was released in December 2015.

Further, the CAG report said that of the constructed toilets, around 30 per cent were found to be dysfunctional.

A Niti Aayog report of Sub-Group of Chief Ministers on Swachh Bharat Abhiyan states that “the visible improvement in toilet coverage across Indian states is deeply undermined by the poor quality of operation and maintenance of these facilities.”

According to Accountability Initiative, allocations for Swachh Bharat Abhiyan (Gramin) increased over threefold from Rs. 2,850 crore in FY 2014-15 to Rs. 9,000 crore in FY 2016-17. Part of this jump is due to the introduction of the SBM (Swachh Bharat Mission) cess in November 2015.



## Government Measures

- ▶ In an attempt to stop city residents from urinating and defecating in public, a city council in western India is planning to pay residents to use public toilets. In 2015, the Ahmedabad Municipal Corporation announced it will give residents one rupee a visit in a bid to draw them into its 300 public toilets and away from open areas and public walls, which often reek of urine.
- ▶ The State of Rajasthan became the first state in the country to make a “functional toilet” mandatory in the house of a contestant for contesting elections to Panchayati Raj institutions.
- ▶ Government has increased subsidy on toilet construction to INR 12,000. A number of industries in India are manufacturing affordable toilet rooms using pre-fabrication techniques to meet high demand of toilets created after this new legislation.
- ▶ India’s government offers cash incentives to subsidise construction of toilets. It has also initiated hygiene and sanitation awareness campaigns, such as the “No Toilet, No Bride” slogan launched in the state of Haryana in 2005, urging brides to reject a groom if he did not have a lavatory at home.
- ▶ The Gates Foundation too has offered grants to create latrines that are not connected to water, sewer or electricity and to improve the treatment of human waste.

## Positive impact of Swachh Bharat Abhiyan

- ▶ The biggest achievement in one year of Swachh Bharat has been the change of attitude and civic sense orientation of kids with over 51% respondents confirming it.
- ▶ Almost 13% believe that the availability of public toilets has improved in their city.
- ▶ Overall, 21% of the citizens believe that their city has become cleaner in the last one year as a result of Swachh Bharat Mission. This is more than 1/5th of the citizens and shows that the Mission has had an impact.
- ▶ Five states, 149 districts and 2.08 lakh villages and 22 per cent of the cities and towns have already been declared Open Defecation Free (ODF).
- ▶ 50 per cent of the urban wards have achieved 100 per cent door-to-door solid waste collection; and over 20,000 Swachhta grahi volunteers are working across urban local bodies, and over a lakh are working in rural India.
- ▶ The number of schools with separate toilet facilities for girls has increased from 0.4 million (37 per cent) to almost one million (91 per cent).

## Way Forward

- ▶ There is a need for integrating Social and Behaviour Change Communication (SBCC) elements into the government programme.
- ▶ The Gram Panchayats who are one of the main actors do not benefit from the SBCC drive to stimulate demand for toilets.
- ▶ Providing some kind of incentive to families that refrain from defecating in the open is also a viable solution.
- ▶ Another solution may be to make school going children aware of the ill effects of open defecation, thus encouraging them to take up this discussion at their respective homes.

- ▶ The site selection for building public toilets must take into consideration the safety of women. The area must be well-lit and not deserted.
- ▶ Constructed public toilets can be managed by women self-help groups who will work responsibly since women and children are the most vulnerable groups in terms of the ill impacts of this practice. This will also improve their condition within the household by empowering them financially.
- ▶ Solutions to open defecation must ensure a critical assessment of existing policies and programmes, taking into consideration both decision-makers and intended beneficiaries.
- ▶ This may be in the form of development and dissemination of public awareness material, targeting communities, leadership in educational institutions and heads of households. To conclude, as our Honourable Prime Minister rightly said, "*Toilet first, Temple later*".

## Conclusion

Just building toilets is not going to solve the problem, because open defecation is a practice acquired from the time you learn how to walk. When you grow up in an environment where everyone does it, even if later in life you have access to proper sanitation, you will revert back to it. India will be free of open defecation only when "every Indian household, every village, every part of Indian society will accept the need to use toilets and commit to do so". Simply building people toilets doesn't mean they will use them. More crucial and challenging is inducing communal behavioural change.

## GOVERNANCE ISSUE

# Law Commission Report on United Nations Convention Against Torture

Context

*The Law Commission of India has released a report on implementation of 'United Nations Convention against Torture and other Cruel, Inhuman and Degrading Treatment or Punishment' through Legislation.*

*Hereby, discussing the report and recommendations given in that.*

## Introduction

The notion of 'custodial violence' includes all types of wanton acts that cover physical and mental torture inflicted upon a person in police custody. It is a brutal and inhumane treatment to a person that often includes death and torture in police lockups. Violence in police custody most likely includes slapping, kicking, beating, sexual harassment and rape. Keeping people in lock-up like animals, providing inadequate or no food or drink, keeping men, women, children together are also brutal and inhumane practice in police custody.

While custodial violence is common in the sphere of crime investigation to extract information/confession about crime and to recover property etc, it also occurs in maintenance of law and order situation particularly while dealing with political violence like terrorism, extremism etc. Unable to face the pressure from political extremists and in the absence of legal remedies to neutralize them, police often indulge in elimination of adversaries through illegal methods.

The Supreme Court observed that: "Torture has not been defined in the Constitution or in other penal laws. 'Torture' of a human being by another human being is essentially an instrument to impose the will of the 'strong' over the 'weak' by suffering. The word torture today has become synonymous with the darker side of the human civilisation". The Court quoted the definition of torture by Adriana P. Bartow as under:

*"Torture is a wound in the soul so painful that sometimes you can almost touch it, but it is also such intangible that there is no way to heal it. Torture is anguish squeezing in your chest, cold as ice and heavy as a stone paralyzing as sleep and dark as the abyss. Torture is despair and fear and rage and hate. It is a desire to kill and destroy including yourself."*

India signed the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment [adopted by General Assembly of the UN on 10th December,

1984 (Resolution No.39/46)] (known as the UN Convention against Torture, in short “CAT”) on October 14, 1997. However, so far it has not been ratified.

### Convention against Torture

The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) is an international human rights treaty, under the aegis of the United Nations that aims to prevent torture and other acts of cruel, inhuman, or degrading treatment or punishment around the world. “The Convention puts victims at the heart of its normative mechanism, partly by combating the impunity enjoyed by the perpetrators of such acts in authorising the arrest of alleged torturers on the sole ground of their presence in the territory under a State Party’s jurisdiction and also by defining the widespread and systematic use of torture as a crime against humanity.”..... “The Optional Protocol to the Convention against Torture established the Sub-Committee on the Prevention of Torture (SPT), whose task is to carry out inspection visits, in conjunction with national prevention agencies, to all places of detention in the State Parties to the Protocol. The Protocol requires State Parties to set up a visiting body or bodies for the prevention of torture and abuse (known as the national preventive mechanism) within one year after the coming into effect of the Convention for the State Party concerned.”

### Constitutional Provisions

- ▶ **Article 20(3)** provides that a person accused of any offence shall not be compelled to become a witness against himself. The accused has a right to maintain silence and not to disclose his defence before the trial. Test results of polygraph and brain finger printing tests have been held to be testimonial compulsions and thus have been held to be barred by Article 20(3).
- ▶ **Article 21** provides that nobody can be deprived of his life and liberty without following the procedure prescribed by law. The Supreme Court has consistently held that custodial torture violates right to life enshrined in Article 21 of the Constitution. It is settled legal proposition that Article 21 may also supplement various requirements laid down in Article 20.
- ▶ **Article 22 (1) & (2)** provide for protection against arrest and detention in certain cases. It prohibits detention of any person in custody without being informed of the grounds for his arrest nor he shall be denied the right to consult and to be defended by a legal practitioner of his choice. “Every person who is arrested and detained in custody shall be produced before the nearest judicial magistrate within a period of twentyfour hours of such arrest and no such person shall be detained in custody beyond the said period without the authority of a magistrate.”

### Recommendations by previous committees

Torture is “is not merely physical, there may be mental torture and psychological torture calculated to create fright and submission to the demands or commands.”

The **National Commission to Review the Working of the Constitution** (2002) set up by the Law Ministry specifically recommended for ‘prohibition of torture and cruel, inhuman or degrading treatment or punishment’ as one of the additions to the fundamental rights chapter as Article 21(2) on the basis of the dicta laid down in various Supreme Court judgments in recognition of torture in our constitutional jurisprudence.

In the relevant portion of the Commission’s Report it is stated:-

*“3.9 Rights against torture and inhuman, degrading and cruel treatment and punishment grossly violate human dignity. The Supreme Court has implied a right against torture, etc. by way of interpretation of Article 21 which deals with Right to*



*Life and Liberty. The Universal Declaration of Human Right 1948 and the ICCPR prohibit such acts in Art. 5 and 7 respectively. It is therefore, recommended that the existing Art. 21 may be numbered as Clause (1) thereof and a new clause should be inserted thereafter on the following lines- "(2) No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment."*

The **National Police Commission**, in its Fourth Report (1980) took note of the fact that custodial torture had been prevalent and admitted that torture on a person in police custody was the most dehumanizing. The police did not have a good image in the estimation of the public. Police practice torture in order to achieve quick results by short cut methods. Causing hurt is a punishable offence under sections 330-331 Indian Penal Code, 1860, but the atrocities were committed within the four walls of the police stations and thus, no evidence could be available and as a result thereof the conviction in torture by police cases has been a rare phenomenon. It was difficult to find as to who was the offender.

### Recommendations by Law Commission

While deciding on as to what amounts to torture by a public servant, the Commission has suggested definition of 'torture' wide enough to include inflicting injury, either intentionally or involuntarily, or even an attempt to cause such an injury, which will include physical, mental or psychological injury.

- ▶ **Ratification of Convention against Torture:** In order to tide over the difficulties faced by the Country in getting criminals extradited, in the absence of an anti-torture law; and to secure an individual's right to life and liberty, the Commission recommends consideration of the Convention Against Torture for ratification and in the event, the Central Government decides to ratify the Convention, then the Prevention Of Torture Bill 2017 may be considered.
- ▶ **Amendment to Existing Statutes:** The Commission has analysed the existing legal provisions in Chapter IV. The Commission has come to the conclusion that the Criminal Procedure Code, 1973 and the Indian Evidence Act, 1872 require amendments to accommodate provisions regarding compensation and burden of proof, respectively.
- ▶ **Criminal Procedure Code, 1973:** The Commission recommends amendment to section 357B to incorporate payment of compensation, in addition to payment of fine, as provided under section 326A or section 376D of the Indian Penal Code, 1860.
- ▶ **Indian Evidence Act, 1872:** The Commission endorses the recommendation made by the Law Commission of India vide its Report No.113, and, as reiterated in Report No.152, that the Indian Evidence Act, 1872 requires insertion of section. 114B. This will ensure that in case a person in police custody sustains injuries, it is presumed that those injuries have been inflicted by the police, and the burden of proof shall lie on the authority concerned to explain such injury.
- ▶ **Punishment for acts of torture:** In order to curb the menace of torture and to have a deterrent effect on acts of torture, the Commission recommends stringent punishment to the perpetrators of such acts. The draft Bill annexed to this Report provides for punishment extending up to life imprisonment and fine.
- ▶ **Compensation to Victims:** The Courts will decide upon a justiciable compensation after taking into account various facets of an individual case, such as nature, purpose, extent and manner of injury, including mental agony caused to the victim.

The Courts will bear in mind the socio-economic background of the victim and will ensure that the compensation so decided will suffice the victim to bear the expenses on medical treatment and rehabilitation.

- ▶ **Protection of Victims, Complainants and Witnesses:** The Commission recommends that an effective mechanism must be put in place in order to protect the victims of torture, the complainants and the witnesses against possible threats, violence or ill treatment.
- ▶ **Sovereign Immunity:** Going by the law of torts, which states 'liability follows negligence' the Commission is of the opinion that the State should own the responsibility for the injuries caused by its agents on citizens, and principle of sovereign immunity cannot override the rights assured by the Constitution. While dealing with the plea of sovereign immunity, the Courts will have to bear in mind that it is the citizens who are entitled for fundamental rights, and not the agents of the State.

In light of the aforesaid discussions, the Central Government may take a decision on the issue of ratification of the Convention, and in case it is decided to go for ratification, then, the Prevention of Torture Bill, 2017 may be considered.

## ECONOMIC ISSUE

# BOOSTING Horticulture Through Remote Sensing

Context

*Union Agriculture Minister Radha Mohan Singh announced March 2018 as the deadline to complete the ambitious project of developing the horticulture sector using remote sensing technology and geoinformatics.*

*Hereby, discussing about the horticulture sector in India and how integration of technology may help in its improvement.*

## Introduction

Horticulture is a boon of nature which is refined by human skill as a science to obtain more and more benefits. It involves rigorous cropping expertise, including the improvement, production, distribution and use of vegetables, fruits, woody landscape and greenhouse plants. Horticulture is now one of the fastest growing industries with striking professional opportunities.

India is bestowed with diverse soil and agro climatic conditions suitable for growing a wide variety of horticultural crops. These crops form a significant part of total agricultural produce in the country comprising of fruits, vegetables, root and tuber crops, ornamental plants, medicinal and aromatic plants, spices, condiments and plantation crops.

## Data: Horticulture sector in India

- ▶ Horticulture accounts for about **30% of India's agricultural GDP** from 13.08% of cropped area.
- ▶ Provides about 37% of the total exports of agricultural commodities.
- ▶ Horticulture production is significant, despite its comparatively lower productivity. Both in case of fruits & vegetables productivity of India (11.7 & 17.3 tonnes per hectare respectively) is about half of the productivity of USA.
- ▶ While India is a large, low cost agricultural producer, its **share in global agriculture exports is minuscule**. India produces nearly 11 per cent of all the world's vegetables and 15 per cent of all fruits, yet its share in global exports of vegetables is only 1.7 per cent and in fruits a meagre 0.5 per cent and indicates towards vast opportunity for Indian horticulture sector in WTO regime.
- ▶ India's major exports include onion, mango pulp, fresh mangoes, dried walnuts, fresh grapes.
- ▶ India's biggest export markets are South Asian & Middle East Countries.

- ▶ In 2016-17, production of horticulture crops like fruits, vegetables and spices touched a record high of 300 million tonnes, outstripping production of foodgrains for the fifth year in a row.
- ▶ Another positive for horticulture is that fruits and vegetables are mostly grown by marginal and small farmers (with less than 2 hectare of land). This means that resource-poor farmers are likely to have benefitted most from the growth in horticulture sector. More so, because the value of the horticulture output grew more than double compared with all other crops put together in the four years between 2008-09 and 2012-13. Fruits and vegetables are grown in less than 5% of the country's gross cropped area, compared to over 63% of the area used to grow foodgrains.

### What drove the growth of horticulture sector in India?

Better incomes, urbanization and higher consumption of fruits and vegetable seem to be driving the demand which is addressed by small farms. Consumption data from the National Sample Survey Organisation (NSSO) shows that while monthly consumption of cereals per person in rural areas declined from 13.4 kg in 1993-94 to 11.2 kg in 2011-12, consumption of vegetables went up from 2.7 kg to 4.3 kg during this period.

### Government initiatives for Horticulture Development

- ▶ **Use of Biotechnology in Horticulture:**
  - Biotechnology is an innovative science in which the living systems and organisms are used to develop new and useful products.
  - Biotechnological tools have revolutionised the entire crop improvement programmes by providing new strains of plants, supply of planting material, more efficient and selective pesticides and improved fertilizers.
  - Many genetically modified fruits and vegetables are already in the market in developed countries.
  - The major areas of biotechnology which can be adopted for improvement of horticultural crops are:
    - **Tissue Culture:** It is economical in time and space, provides greater output, disease free and elite off springs. Another aspect of plant tissue culture is to produce somaclonal variation which means to generate genetic variations that may be needed in breeding program
    - **Embryo Rescue** is another area where plant breeders are able to rescue their crosses which would otherwise abort.
    - **Genetic Engineering.**
    - **Molecular Diagnostics and Molecular Markers.**
    - Development of **Beneficial Microbes.**
    - **GM Crops.**
  - Role of Government:
    - Under a scheme called Small Business Innovation Research Initiative (SBIRI), the private tissue culture units are entitled for expansion of existing units.
    - Department of Agriculture and Cooperation provides financial assistance up to Rs. 21 lakhs for setting up tissue culture units (in public sector) and Rs 10 lakhs in private sector, subject to a maximum of 20% of the project cost under Integrated Development of Fruits Scheme, financial

assistance in the form of subsidy up to 50 per cent is provided for purchase of tissue cultured banana plants by various state Governments.

- ▶ **Mission for Integrated Development of Horticulture:** For holistic growth of the horticulture sector covering fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo, Government has launched Mission for Integrated Development of Horticulture (MIDH), a Centrally Sponsored Scheme. The Mission subsumes the earlier missions like National Horticulture Mission (NHM), Horticulture Mission for North East & Himalayan States (HMNEH), National Bamboo Mission (NBM), National Horticulture Board (NHB), Coconut Development Board (CDB) and Central Institute for Horticulture (CIH), Nagaland. All States and UTs are covered under MIDH.

The mission envisages production and productivity improvement of horticulture crops including fruits and vegetables through various interventions. Activities such as production of planting material, vegetable seed production, coverage of area with improved cultivars, rejuvenation of senile orchards, protected cultivation, creation of water resources, adoption of Integrated Pests Management (IPM), Integrated Nutrients Management (INM), organic farming, including insitu generation of organic inputs are taken up for development of fruits and vegetables. Capacity building of farmers and technicians are also provided for adopting improved technologies. Schemes also envisages creation of infrastructure for Post Harvest Management (PHM), Good Agricultural Prices (GAP), Centre for excellence for horticulture and marketing for holistic growth of horticulture sector.

### Latest initiative

In a bid to develop India's horticulture sector and help states identify suitable areas and crop types, the agriculture ministry is already working on a project which uses satellites and remote sensing technology. The project is known as CHAMAN.

#### CHAMAN Project:

- ▶ In 2015, the Modi government started project CHAMAN, acronym for *Coordinated Horticulture Assessment and Management using geo-informatics* to prepare a comprehensive horticultural plan.
- ▶ Using remote sensing technology to study soil conditions, land use, weather and cropping pattern, the Centre has chosen 185 districts across the country where seven selected crops are being promoted.
- ▶ Once complete, the findings of the project would be shared with all states to give boost to cultivation of horticultural crops.
- ▶ Under CHAMAN, Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat and Maharashtra have been identified as the major banana-growing states. Mango cultivation is being promoted in Andhra, Bihar, Uttar Pradesh, Karnataka and Telangana, while onion is the focus for Maharashtra, Gujarat, Karnataka and Madhya Pradesh.
- ▶ The project is being implemented by the Delhi-based *Mahalanobis National Crop Forecast Centre* and is likely to be completed by March, 2018.
- ▶ The idea is to use space technology to identify crops suitable to different areas and raise production of horticulture crops.
- ▶ The scheme is part of the government's ambitious target for doubling farmers' income by 2022. The second phase of the project envisages complete horticulture mapping of the country with two to three major districts for every state.

Remote sensing can significantly contribute to providing a timely and accurate picture of the agricultural sector, as it is very suitable for gathering information over large areas with high revisit frequency.

Reliable information on crop acreages, timely forecasts and estimates of production and yields can improve domestic and foreign trade as well as various downstream and upstream activities.

### Challenges

- ▶ The country still has some distance to cover in terms of exports as post-harvest wastage of produce in India is high.
- ▶ The lack of good planting material like seeds and technologies hinders the production of this sector. For example, in India the average mango production is 3-4 tonnes per acre as against 8-10 tonnes per acre in developed countries.
- ▶ As most of the horticultural products are perishable the lack of suitable post harvest technologies and value addition facilities at the grass root level de-incentivize the farming community to take horticulture as primary profession.
- ▶ Lack of regulated markets and multiplicity of intermediaries in marketing makes the price higher in the consumer end and lower in the production end.
- ▶ Improper knowledge about the climate and irrigation facilities makes the production fluctuate.

### Way Ahead

- ▶ The national agricultural market which provides the farmers better prices for the crops must be strengthened and the perishables must be de-notified to get high and remunerative prices.
- ▶ The financial interventions of the government like price stabilisation fund will eliminate the unexpected shocks in the market.
- ▶ Expansion of fruits and vegetables processing industry with backward linkages with farmers can help in value addition and waste reduction.
- ▶ Drought prone and climate resilient plants must be developed and supplied to the farmers so that it will help to overcome the climate change and give good yields.
- ▶ Provision of quality planting material to the growers will help in raising the yields. More produce will come with more income for farmers and farmers will be motivated to grow more of these crops ultimately reducing the pressure from the cereal crops.
- ▶ Insurance against weather risks like hail storms and other natural calamities which result in fruit drop must be compensated with suitable subsidy and MSP should be extended to the horticultural crops.
- ▶ Rejuvenation of old orchards is going on and it should be continued on larger scale.
- ▶ The private sectors must be encouraged to set up more cold chain storages and post-harvest facilities on modern scientific lines to eliminate distress sales.

## ENVIRONMENTAL ISSUE

# Climate Change Taking A Toll on Global Health



*New research published by the Lancet Medical Journal, states that on an average there has been a 5.3% fall in productivity for rural labour estimated globally since 2000, as a result of rising temperatures around the world. Lancet study estimates 1.9 million deaths in 21 Asian countries in 2015 that could be attributed to PM2.5 air pollution from sources such as coal plants, transport, and household pollution.*

*The report talks of the various ways climate change has started affecting the health of people across the planet.*

*Hereby, discussing how climate change is affecting health.*

## Introduction

Changes in the greenhouse gas concentrations and other drivers alter the global climate and bring about myriad human health consequences. Environmental consequences of climate change, such as extreme heat waves, rising sea-levels, changes in precipitation resulting in flooding and droughts, intense hurricanes, and degraded air quality have direct and indirect impact on the physical, social, and psychological health of humans.

### Key facts:

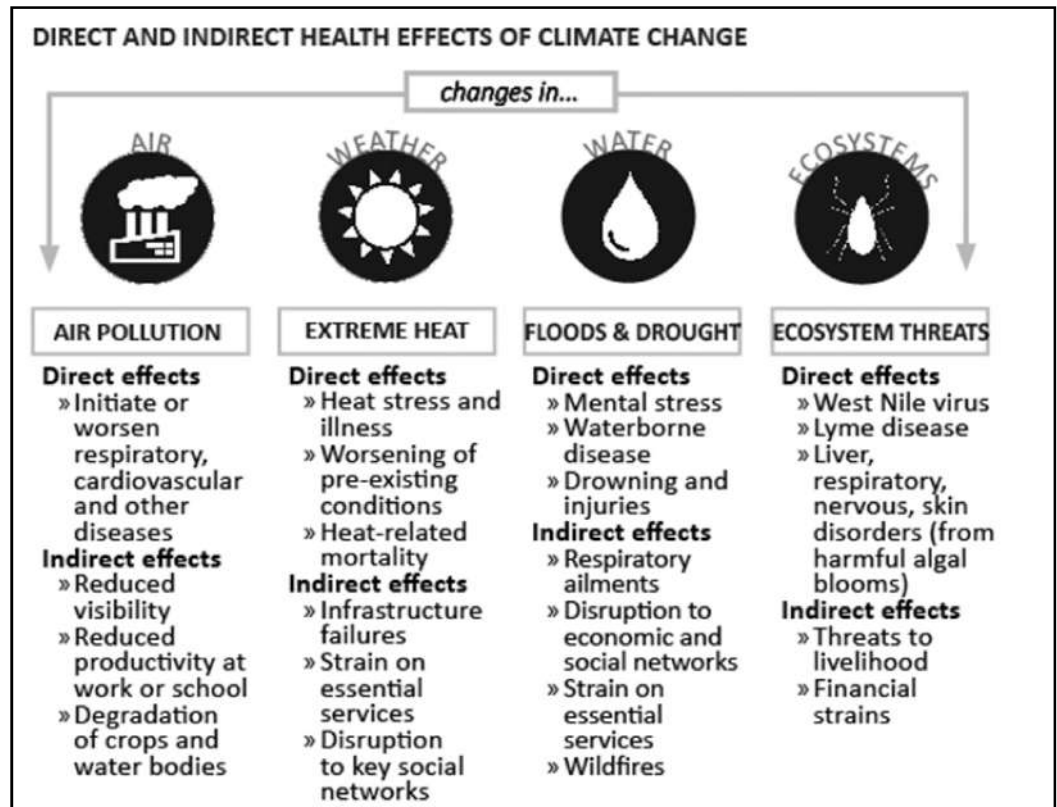
- ▶ Climate change affects the social and environmental determinants of health – clean air, safe drinking water, sufficient food and secure shelter.
- ▶ Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress.
- ▶ The direct damage costs to health (i.e., excluding costs in health-determining sectors such as agriculture and water and sanitation) is estimated to be between US\$ 2-4 billion/year by 2030.
- ▶ Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope without assistance to prepare and respond.

## What is the impact of climate change on health?

- ▶ Global warming is allowing an array of forgotten pathogens to emerge from the thawing permafrost—and possibly reinfect humans. Organic matter like dead animals, moss and plants, long preserved in ice, are now thawing, rotting, and releasing gases that not only spur global warming but create a new breeding ground for bacteria and viruses.

- ▶ Climate change is making heat waves hotter and more frequent which can cause heat exhaustion and heatstroke or worsen pre-existing cardiovascular and respiratory conditions.
- ▶ City residents also face a heightened risk because of warmer temperatures in cities from the urban heat island effect, caused by the mostly paved surfaces that absorb and re-radiate heat and the lack of green spaces and tree cover in these areas.
- ▶ Due to climate change and frequent El Nino, affects the amount of carbon dioxide in the atmosphere by causing droughts that cut the ability of plants and trees to absorb it.
- ▶ Cases of dengue fever — a mosquito-borne disease — have doubled every decade since 1990, with 58.4 million cases and 10,000 deaths in 2013.
- ▶ Increasingly variable rainfall patterns are likely to affect the supply of fresh water. A lack of safe water can compromise hygiene and increase the risk of diarrheal disease, which kills over 5,00,000 children aged under 5 years, every year. In extreme cases, water scarcity leads to drought and famine. By the late 21st century, climate change is likely to increase the frequency and intensity of drought at regional and global scale.
- ▶ Floods are also increasing in frequency and intensity, and the frequency and intensity of extreme precipitation is expected to continue to increase throughout the current century. Floods contaminate freshwater supplies, heighten the risk of water-borne diseases, and create breeding grounds for disease-carrying insects such as mosquitoes.
- ▶ Changes in climate are likely to lengthen the transmission seasons of major vector-borne diseases and to alter their geographic range. For example, climate change is projected to widen significantly the area of China where the snail-borne disease schistosomiasis occurs.
- ▶ Malaria is strongly influenced by climate. Transmitted by Anopheles mosquitoes, malaria kills over 4,00,000 people every year – mainly African children under 5 years old. The Aedes mosquito vector of dengue is also highly sensitive to climate conditions, and studies suggest that climate change is likely to continue to increase exposure to dengue.
- ▶ Increasing temperatures and more variable rainfalls and loss of agricultural land due to flash floods are expected to reduce crop yields in many tropical developing regions, where food security is already a problem. This is likely to threaten the food security in the country where malnutrition is already an important public health problem.
- ▶ Increasing global temperatures affect levels and seasonal patterns of both man-made and natural air-borne particles, such as plant pollen, which can trigger asthma. About 6% of children suffer from respiratory tract infection and 2% of adults suffer from asthma. Asthma deaths are expected to increase by almost 20% in the next 10 years if urgent actions to curb climate change and prepare for its consequences are not taken.
- ▶ Stratospheric ozone depletion is essentially a different process from climate change. However, greenhouse warming is affected by many of the chemical and physical processes involved in the depletion of stratospheric ozone. Exposure to ultra violet radiation has been implicated as a cause of skin cancer (melanoma and other types) in fair-skinned human populations living at mid to high latitudes and also to induce immunosuppression that could influence patterns of infectious disease.





### Steps needed

Health and Environment are intrinsically linked to each other, they cannot be dealt in isolation. It is well known that most diseases are water-borne and therefore preventable by providing basic access to safe-drinking water, drainage and sanitation. The basic inequities in health status as a result of inequity in access to adequate food, cleaner water, sanitation and drainage infrastructure and other resources.

However, much of the health risk are avoidable through existing health programmes and interventions. Concerted action to strengthen key features of health systems and the promotion of healthy development choices can enhance public health to reduce the vulnerability to effects of climate change.

We need to review the coping capacity of the health care system, develop and implement adaptation strategies against climate change risks. Training and retaining health personnel, improve health literacy and ecological literacy. This would involve strengthening primary health care, giving priority to neglected communicable diseases and addressing environmental diseases rampant in the tropics, ensuring nutrition and food security, health, water and sanitation. Health security of the vulnerable – women, children, elderly, dalit and adivasi communities – should be given priority. Inter-disciplinary research on health protection from climate change is essential.

*“Climate change affects every aspect of society, from the health of the global economy to the health of our children. It is about the water in our wells and in our taps. It is about the food on the table and at the core of nearly all the major challenges we face today.”*  
—Ban Ki-Moon

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**ECONOMIC ISSUE**


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# Fiscal Deficit and its Impact



*SBI research report stated that the government is likely to achieve its fiscal deficit target of 3.2% this financial year as the budgeted disinvestment receipts are on track to realise Rs.72,500 crore.*

*According to the SBI report, though there are predictions that the government is going to have a big revenue slippage in 2017-18 which may impact fiscal deficit numbers, "such projections flunk the test of logical reasoning and are grossly misconstrued".*

## What is Fiscal Deficit?

The difference between total revenue and total expenditure of the government is termed as fiscal deficit. It is an indication of the total borrowings needed by the government. While calculating the total revenue, borrowings are not included.

The gross fiscal deficit (GFD) is the excess of total expenditure including loans net of recovery over revenue receipts (including external grants) and non-debt capital receipts. The net fiscal deficit is the gross fiscal deficit less net lending of the Central government.

Generally fiscal deficit takes place either due to revenue deficit or a major hike in capital expenditure. Capital expenditure is incurred to create long-term assets such as factories, buildings and other development.

Fiscal Deficit = Total Expenditure – Total Receipts excluding borrowings.

### SBI Research Report:

- ▶ The report noted that the government will be able to meet the disinvestment target of Rs. 72,500 crore as Rs. 60,000 crore has already been achieved.
- ▶ According to the report, though there are predictions that the government is going to have a big revenue slippage in 2017-18 which may impact fiscal deficit numbers, "such projections flunk the test of logical reasoning and are grossly misconstrued".
- ▶ In the current year so far, the government has already raised about Rs.19,759 crore through minority stake sale in CPSEs and strategic disinvestments.
- ▶ The takeover of HPCL by ONGC will garner about Rs. 30,000 crore and the disinvestment in GIC raised Rs. 10,662 crore for the government.
- ▶ The government also plans to sell its entire stake in Hospital Service Consultancy Corporation (HSCC), Engineering Projects (India) Ltd (EPI) and National Projects Construction Corporation (NPCC) to a similarly-placed CPSE.
- ▶ The report however noted that to manage the fiscal deficit, the government needs to cut expenditure substantially. The government may cut around Rs.70,000 crore from capital expenditure and Rs. 38,000 crore from revenue expenditure compared to budget estimate of FY18. With this, the fiscal deficit will stay at the same level.

	Fiscal Deficit	Revenue Deficit
Meaning	It shows the excess of total expenditure over total receipts excluding borrowings.	It shows the excess of revenue expenditure over the revenue receipts.
Indicator	It measures the total borrowing requirements of the government.	It indicates inability of the government to meet its regular and recurring expenditure.

**Sources of Financing Fiscal Deficit:**

- ▶ **Borrowings:** Fiscal deficit can be met by borrowings from the internal sources (public, commercial banks etc.) or the external sources (foreign governments, international organisations etc.).
- ▶ **Deficit Financing (Printing of new currency):** Government may borrow from RBI against its securities to meet the fiscal deficit. RBI issues new currency for this purpose. This process is known as deficit financing.
- ▶ Borrowings are considered a better source as they do not increase the money supply which is regarded as the main cause of inflation. On the other hand, deficit financing may lead to inflationary trends in the economy due to more money supply.

**The implications of Fiscal Deficit:**

However, many economists and policy analysts do raise a concern when the level of borrowing by the government, i.e. the magnitude of its Fiscal Deficit in any financial year, is considered to be ‘too high’. Although it is difficult to define what level of government borrowing is ‘too high’, as it would depend on the context in which the government is borrowing and the purpose of such borrowing, as high levels of borrowing over the years do increase the accumulated stock of debt of the government and the latter could be perceived by some people as ‘unsustainable’.

- ▶ **Debt Trap:**
  - Fiscal deficit indicates the total borrowing requirements of the government. Borrowings not only involve repayment of principal amount, but also require payment of interest.
  - Interest payments increase the revenue expenditure, which leads to revenue deficit. It creates a vicious circle of fiscal deficit and revenue deficit, wherein government takes more loans to repay the earlier loans. As a result, country is caught in a debt trap.
- ▶ **Inflation:**
  - Government mainly borrows from Reserve Bank of India (RBI) to meet its fiscal deficit.
  - RBI prints new currency to meet the deficit requirements. It increases the money supply in the economy and creates inflationary pressure.
- ▶ **Foreign Dependence:**
  - Government also borrows from rest of the world, which raises its dependence on other countries.
- ▶ **Hampers the future growth:**
  - Borrowings increase the financial burden for future generations. It adversely affects the future growth and development prospects of the country.

**Fiscal consolidation**

*Fiscal Consolidation* refers to the policies undertaken by Governments (national and sub-national levels) to reduce their deficits and accumulation of debt stock.

Fiscal Responsibility and Budget Management (FRBM) became an Act in 2003. The objective of the Act is to ensure inter-generational equity in fiscal management, long run macroeconomic stability, better coordination between fiscal and monetary policy, and transparency in fiscal operation of the Government.

The FRBM rule specified reduction of fiscal deficit to 3% of the GDP by 2008-09 with annual reduction target of 0.3% of GDP per year by the Central government. Similarly, revenue deficit was to be reduced by 0.5% of the GDP per year with complete elimination to be achieved by 2008-09. It was the responsibility of the government to adhere to these targets. The Finance Minister had to explain the reasons and suggest corrective actions to be taken, in case of breach.

FRBM Act provides a legal institutional framework for fiscal consolidation. It is now mandatory for the Central government to take measures to reduce fiscal deficit, to eliminate revenue deficit and to generate revenue surplus in the subsequent years. The Act binds not only the present government but also the future Government to adhere to the path of fiscal consolidation. The Government can move away from the path of fiscal consolidation only in case of natural calamity, national security and other exceptional grounds which Central Government may specify.

### Recommendations of NK Singh panel

- ▶ The N.K. Singh panel to review India's fiscal discipline rules has recommended a debt-to-GDP ratio of 38.7% for the central government, 20% for the state governments together and a fiscal deficit of 2.5% of GDP (gross domestic product), both by financial year 2022-23.
- ▶ The panel has recommended enacting a new Debt and Fiscal Responsibility Act after repealing the existing Fiscal Responsibility and Budget Management (FRBM) Act, and creating a fiscal council.
- ▶ In 2016-17, India's debt-to-GDP ratio for the central government was 49.4% and fiscal deficit at 3.5% of GDP. The government is hoping to end 2017-18 with a fiscal deficit that is 3.2% of GDP, marginally higher than the 3% mentioned in the FRBM Act.
- ▶ The Committee recommended strong fiscal consolidation steps. According to the Committee, government has to stick on to the 3% fiscal deficit target. Government can have a flexibility of changing FRBM target by 0.5% during inevitable circumstances.

### Recommendations of 14<sup>th</sup> Finance Commission

FFC has adopted the fiscal deficit threshold limit of 3 per cent of Gross State Domestic Product (GSDP) for the States.

Further, FFC has provided a year-to-year flexibility for additional fiscal deficit to States.

FFC, taking into account the development needs and the current macro-economic requirement, provided additional headroom to a maximum of 0.5 per cent over and above the normal limit of 3 per cent in any given year to the States that have a favourable debt-GSDP ratio (means if debt-GSDP is not more than 25%, then an additional 0.25% fiscal deficit can be afforded) and interest payments-revenue receipts ratio (means if IP-RR is not more than 10%, then an additional 0.25% fiscal deficit can be afforded) in the previous two years. However, the flexibility in availing the additional fiscal deficit will be available to State if there is no revenue deficit in the year in which borrowing limits are to be fixed and immediately preceding year. If a State is not able to fully utilise its sanctioned fiscal deficit of 3 per cent of GSDP in

any particular year during the 2016-17 to 2018-19 of FFC award period, it will have the option of availing this un-utilised fiscal deficit amount (calculated in rupees) only in the following year but within FFC award period.

### **Conclusion**

There has not been any conclusion about whether the fiscal deficit is good or bad for any economy; some economists argued that it is essential for the economic growth of a country because only domestic savings is not enough for investment. And others argue that a huge deficit may lead to an increase in the tax rate and decrease in savings.

However, it can be concluded that some amount of fiscal deficit is good for economic growth as long as the borrowed money is used for productive purposes and the rate of return from that investment is higher than the interest rate paid.

## POLITICAL ISSUE

# Rajasthan Ordinance is Against Free Speech


**Context**

*Legal experts have questioned the Rajasthan ordinance which amends Sections 156 and Section 190 of the CrPC, to require prior sanction from the state or Centre, for probing corrupt activities of serving or retired public servants, magistrates and judges. This has been widely criticised by opposition parties, legal experts and the media for aiming to protect officials at the cost of accountability and free speech.*

*Hereby, discussing the provisions of the ordinance.*

## Introduction

Rajasthan government passed an ordinance which requires prior sanction (from the state or central government as applicable) for probes into the activities of public servants and judges in the course of their official functions.

The ordinance imposes a prior restraint on free speech by banning the naming of any judge or public servant being investigated, and punishing any violations of this as a crime.

The ordinance seeks to curb publishing and printing or publicising in any case the name, address, photograph, family details of the public servants. These curbs will remain till the state government has given its nod for any investigations against the said official.

## Background

- ▶ In 2012, Subramanian Swamy had moved the apex court against then Prime Minister Manmohan Singh for not granting sanction in time to prosecute those officials accused in the 2G spectrum allocation scam. The top court had directed the government to decide on such sanctions within a period of three months from receiving a request.
- ▶ If the government does not grant permission within three months, it will be treated that the sanction was granted.
- ▶ The Bombay High Court in July asked the Maharashtra government to set itself a time frame to clear requests for sanctions.
- ▶ For prosecuting public officials, generally, a prior sanction is required as per the Prevention of Corruption Act and the CrPC. It is riddled with exceptions but broadly, sanction is required for all serving officials. For those who are no longer in service, sanction is not required under the Prevention of Corruption Act.

- ▶ However, the Rajasthan ordinance seems problematic as it included everyone making no distinction between current and former officials.

### Reasons for the ordinance

- ▶ Ordinance is aimed to control false cases, so that honest and hard-working public servants can continue to work without any stress and slander.
- ▶ Overzealous inspection and constant suspicion can cramp decision making.
- ▶ The government shared data from 2013 until June 2017, and said that about 73 per cent cases were found to be false and the officials had to face slander and stress even though they were not guilty.
- ▶ False cases take away time from the judiciary and the government.

### Features of the ordinance

- ▶ Rajasthan ordinance prohibits investigation without prior sanction against judicial officers and public servants, and said the sanction against “a Judge or a Magistrate or a public servant” for any “act done by them while acting or purporting to act in the discharge of their official duties”.
- ▶ The ordinance proposes to do two things: it introduces provisos to Section 156 and Section 190 of the Code of Criminal Procedure, 1974 (CrPC) requiring prior sanction of the government before court-ordered investigation of public servants.
  - Section 156: Deals with the power of the police to investigate cognizable offences.
  - Section 190: Deals with the power of Magistrates to take cognizance of offences and order inquiries.
- ▶ It introduces a new offence under the Indian Penal Code (Section 228-B) which makes the reporting of allegations against a public servant contrary to the new provisions introduced in Section 156 and 190, punishable with imprisonment of up to two years and a fine.
- ▶ Under the new law, the media too cannot report on the accusation against such a person until the prosecution gets the go-ahead from the sanctioning authority, which may take up to six months.
- ▶ The amendments make it impossible for police to investigate, or Magistrates take cognizance of, actions by public servants or judges in the course of their duty, that are alleged to be offences, without prior permission from the government.
- ▶ This effectively bars any investigations into allegations of impropriety by public servants while the ordinance is in force (which is till 7 March 2018), unless the government okays such investigation.

### Violation of Freedom of Speech

- ▶ The ordinance basically gags the press from reporting on any investigation into a judge or public servant. The ordinance does this in a two-step process.
  - The amendments to the CrPC include the following provision:
    - No one shall print or publish or publicize in any manner the name, address, photograph, family details, or any other particulars which may lead to disclosure of identity of a Judge or Magistrate or a public servant against whom any proceedings under this section is pending, until the sanction as aforesaid has been or deemed to have been issued.

- The ordinance adds a new section 228B to the Indian Penal Code (IPC) which says that anyone contravening this provision can be punished with two years imprisonment and/or a fine.
- ▶ This means that if a journalist has details about any scam by a sitting judge or a current corrupt public servant, they can't inform the public about this. This is prior restraint upon speech, pure and simple, and unconstitutional.
- ▶ The Supreme Court in *Brij Bhushan v State of Delhi* held that prior restraint upon speech is presumptively unconstitutional. An exception to this was set out in the Media Guidelines Case (*Sahara v SEBI*), for media statements that could prejudice a case pending in the courts.
- ▶ Pre-censoring media is a violation of free speech guaranteed by the Constitution. It violates Article 19 of the Indian Constitution, which guarantees freedom of expression.
- ▶ It has effectively criminalised reporting of government malfeasance, whether by the press or by individual citizens.

### Supreme Court's Views

The Supreme Court has twice struck down this blanket requirement of prior approval. The Supreme Court had earlier struck down a statutory provision for prior government clearance for a CBI probe against officials of the rank of joint secretary and above. The Supreme Court in another case observed that such a provision destroys the objective of anti-corruption legislation and prevents independent investigation.

### Conclusion

- ▶ Media has the responsibility to keep a constant vigil on government and its functionaries. Keeping incidents and outrages in focus impacts the way they are processed by the redressal machinery. This also ensures that public attention does not get diluted.
- ▶ What people accused of wrongdoing need is speedy justice. Wrongfully targeted officials need speedy resolution and exoneration, not a cloak of secrecy.
- ▶ It is time the Centre enforced a strong body of legislation that punishes the corrupt, protects the honest, and ensures time-bound public services and whistle-blower safety.
- ▶ Centre should speed up amendments that redefine criminal misconduct among public servants at the same time protecting legitimate decisions.
- ▶ Citizens have a right to know, a journey that does not end with the right to information but includes enablement of fearless reporting.
- ▶ It is more important for a government to be open than to be right all the time.

Keeping both alive for later is duplicitous because while implicitly acknowledging its failure in considering the matter fully before moving on it, the government wishes to keep its options open for the future. What the government needs to realise is that in our hard won democracy, such an idea would always remain a bad idea. There is no future justification that would make the draconian measure more acceptable. To this extent, the Rajasthan government displays remarkable lack of foresight.



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**POLITICAL ISSUE**

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# Telangana: Tribal Hamlets to Village Panchayat Status

**Context**

*The Telangana Government has brought out a legislation aimed at according village panchayat status to all tribal hamlets in the State so that residents of these hamlets, including those in far-flung areas, would receive the benefits of the spree of welfare and development programmes.*

## Introduction

The Telangana cabinet has decided to bring out a new legislation aimed at according panchayat status to all tribal hamlets and special panchayat status to Koya and Gond habitations in the state. The proposed Act will also ensure accountability for the sarpanch and other officials.

Once the bill is passed, each of these villages would be allotted Rs. 10 lakh to Rs. 25 lakh, depending on the size of population, so that issues of immediate public importance could be taken up.

The government is expediting the process to lay roads in the tribal hamlets of Srikakulam, Vizianagaram, and East and West Godavari districts. The roads will be laid by the Panchayat Raj and Tribal Welfare departments.

## What is Hamlet?

These settlements are characterized by the presence of several smaller hamlets and separate individual habitations spreading over the entire area. These scattered hamlets are connected each other by footpaths or cart-tracks and closely related with each other in terms of cultural and social activities.

Tribes living in hamlets are not able to get the benefits of government programmes and policies. They suffer from following issues:

- ▶ Tribes, being disproportionately poor, most heavily suffer the ills of an inequitable and ineffective education system in India. Tribals are ignorant due to the lack of education and hence they are too far from the jobs and modern resources of income. Government is trying for their education but the efforts are falling short as there is a meager response from tribes.
- ▶ Poverty among tribals is on a large scale. The following factors are responsible for the poverty in tribal communities; Dependency on conventional production resources; undeveloped farming and negligible participation in jobs; unawareness and detachment from the other world and unavailing of government scheme.
- ▶ Tribes mainly suffer from hunger and malnutrition. Tribal starvation is a grave issue mainly because of their dependency on traditional foodstuffs, natural

vulnerability and isolation from the outward. Some improvements have taken place because of governmental efforts. However, comprehensive efforts are needed to uplift the tribals.

- ▶ The forests are not only the source of livelihood for tribals but there is an intricate relationship between tribals and forests in forest eco-systems. The depleting forest resources are threatening imminent food security for a good portion of the tribal population.
- ▶ There is a lack of awareness among tribal population about various developmental programmes launched by the government of India and States. This lack of awareness results in their exploitation.
- ▶ The tribals have been given numerous rights and concessions under various statutes of Central as well as State Governments. But unfortunately, they are deprived of the benefits due to their ignorance and apathy of enforcing agencies.

Thus, to overcome their hardships, government is planning to declare hamlets as village panchayats.

### Features of the Bill

- ▶ Each of these villages would be allotted Rs 10 lakh to Rs 25 lakh, depending on the size of population, so that issues of immediate public importance could be taken up.
- ▶ The Bill empowered the state government to take action on the non-performing panchayats and at the same time, provide funds in the annual budget and in the financial commission allocations.
- ▶ The Bill will provide funds received under Corporate Social Responsibility (CSR) for the development of panchayats.

### Benefits

- ▶ The Gram Sabha will be able to maintain the funds which will consist of the contribution received in any form including voluntary contributions of cash and goods and the labour of villagers; amount received through the government from minor forest produce, minor minerals etc; and surcharges imposed on the consumption of the resources or fines levied by the Gram Sabha. The Gram Sabha will have the complete right of its usage as per its own decisions.
- ▶ The Gram Sabha will ensure that resources are utilized in such a way that:
  - Livelihood means are sustained.
  - Inequality among the people does not increase.
  - Resources are not confined to a few people.

Legislation is aimed at according village panchayat status to all tribal hamlets in the State so that residents of these hamlets, including those in far-flung areas, would receive the benefits of the spree of welfare and development programmes. It will ensure the reach of functions, functionaries and funds to the tribal region.

## ECONOMIC ISSUE

# Legal Entity Identifier



*After making Legal Entity Identifier (LEI) mandatory for transactions in interest rate, forex and credit derivative market, the Reserve Bank of India (RBI) is set to make LEI compulsory for companies having an aggregate fund-based and non-fund based exposure over Rs 5 crore.*

*The LEI code has been conceived as a key measure to improve the quality and accuracy of financial data systems for better risk management, post the global financial crisis.*

*Legal Entity Identifier (LEI) is set to be made compulsory for the companies to help in preventing multiple loans to firms against the same collateral.*

## What is LEI?

- ▶ The Legal Entity Identifier (LEI) is a global reference number that uniquely identifies every legal entity or structure that is party to a financial transaction, in any jurisdiction.
- ▶ The LEI is a 20-digit, alpha-numeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO).
- ▶ It connects to key reference information that enables clear and unique identification of legal entities participating in financial transactions.
- ▶ The publicly available LEI data pool can be regarded as a global directory, which greatly enhances transparency in the global marketplace.
- ▶ Legal Entity Identifier India Limited (LEIL) will assign LEIs to any legal identity including but not limited to all intermediary institutions, banks, mutual funds, partnership companies, trusts, holdings, special purpose vehicles, asset management companies and all other institutions being parties to financial transactions.
- ▶ LEI will be assigned on application from the legal entity and after due validation of data.
- ▶ For the organization, LEI will:
  - ▣ Serve as a proof of identity for a financial entity.
  - ▣ Help to abide by regulatory requirements.
  - ▣ Facilitate transaction reporting to Trade Repositories.
- ▶ Banks will capture this number in the Central Repository of Information on Large Credits (CRILC) database that will capture details of loan above Rs 5 crore.

- ▶ The Financial Stability Board (FSB) has reiterated that global LEI adoption underpins “multiple financial stability objectives” such as improved risk management in firms as well as better assessment of micro and macro prudential risks. As a result, it promotes market integrity while containing market abuse and financial frauds. Last but not least, LEI rollout “supports higher quality and accuracy of financial data overall”.

### **Purpose of LEI**

- ▶ The global LEI system has been set up by regulatory authorities, including G-20 and the Financial Stability Board, to address the global financial crisis.
- ▶ The LEI is designed to enable the identification and linking of parties to financial transactions in order to manage counter-party risk.
- ▶ Its goal is to improve measuring and monitoring of systemic risk and support more cost-effective compliance with regulatory reporting requirements.
- ▶ The need for such a system was felt after Global financial crisis in 2008, and then the financial stability board worked on the global structure of the LEI system.

### **Procedure to obtain LEI**

- ▶ Firms can obtain their LEI code from Legal Entity Identifier India Ltd. (LEIL), which has been recognised by the Reserve Bank as an issuer of LEI under the Payment and Settlement Systems Act, 2007 and is accredited by the GLEIF as an LOU in India for issuance and management of LEI.
- ▶ Legal Entity Identifier India Ltd. (LEIL) is a wholly owned subsidiary of Clearing Corporation India Ltd.
- ▶ Apart from the LEIL, any local operating unit accredited by the Global Legal Entity Identifier Foundation (GLEIF) can issue LEI numbers.

### **Benefits**

- ▶ The LEI number will help banks in monitoring the aggregate exposure of corporate borrowers.
- ▶ It will enable banks to prevent multiple loans to companies against the same collateral.
- ▶ LEI mechanism will enable banks to effectively monitor debt exposure of companies having businesses in multiple sectors and dealing with large number of banks and non-banking finance companies (NBFCs).
- ▶ It will make it easier for banks to detect frauds and wilful defaulters and prevent ever-greening of loans.

### **RBI guidelines**

RBI has stated that corporate borrowers having exposure of Rs 5 crore and above will have to mandatorily obtain 20-digit Legal Entity Identifier (LEI) from banks, a move that is aimed at improving risk management. The Reserve Bank of India said it will implement the Legal Entity Identifier (LEI) system for all participants in the over-the-counter markets for rupee interest rate derivatives, foreign currency derivatives and credit derivatives in India, in a phased manner.

Earlier, in June 2017, the Central Bank has made Legal Entity identifier (LEI) mandatory for all participants in interest rate transaction, forex and credit derivative markets.

This initiative came in the background of RBI planning to set up a Public Credit Registry (PCR) which will capture the entire database of credit information that is accessible to all stakeholders. While Central Repository of Information on Large Credits (CRILC) maintains database of loans of over Rs 5 crore, PCR is expected to be more broad-based in its scope and capture credit data on all kinds of loans. A PCR would complement the private credit bureaus by certifying details of collateral.

### **Over-the-Counter (OTC) market:**

It is a decentralized market, without a central physical location, where market participants' trade with one another through various communication modes such as the telephone, email and proprietary electronic trading systems.

LEI have been conceived as a key measure to improve the quality and accuracy of financial data systems for better risk management post the global financial crisis.

In June 2017, the central bank made all participants mandatory in the Over-the-Counter (OTC) markets for Rupee Interest Rate derivatives, foreign currency derivatives and credit derivatives in India, to obtain LEI, in a phased manner starting from August 1 till March 31, 2018.

#### ***Details about the guidelines***

- ▶ Banks will be required to capture this number in the Central Repository of Information on Large Credits (CRILC) database that captures details of loan above Rs.5 crore.
- ▶ According to the central bank's schedule, corporates having exposure of between Rs.500 crore and Rs.1,000 crore, and between Rs.100 crore and Rs.500 crore to SCBs are required to obtain LEI by June 30, 2018, and March 31, 2019, respectively.
- ▶ Corporates having exposure of between Rs.50 crore and Rs.100 crore to SCBs are required to obtain LEI by December 31, 2019.
- ▶ A separate roadmap for borrowers having exposure between Rs.5 crore and up to Rs.50 crore would be issued in due course.
- ▶ The banks should encourage large borrowers to obtain LEI for their parent entity as well as all subsidiaries and associates.
- ▶ Borrowers who do not obtain LEI as per the schedule are not to be granted renewal/enhancement of credit facilities.
- ▶ The entities without an LEI code would not be eligible to participate in the OTC derivative markets after the date specified in the schedule.

## INTERNATIONAL ISSUE

## U.S. Pulls out of UNESCO



*The United States on October 12, 2017 announced its withdrawal from the U.N. Educational, Scientific and Cultural Organisation (UNESCO), accusing it of continuing anti-Israel bias.*

*The United States will maintain its presence at UNESCO as an observer state.*

## Introduction

UNESCO is the first UN agency to have admitted Palestine as a full member in 2011. As required by law, the U.S. has stopped funding UNESCO since then. The U.S. withdrawal will take effect on December 31, 2018. Until then, it will remain a full member.

The U.S. had earlier once withdrawn from the UNESCO, in 1984, under President Ronald Regan who accused it of favoring the Soviet Union. Under President George W. Bush, Washington rejoined the organisation in 2002.

## UNESCO

- ▶ Founded in 1945, UNESCO is best known for its World Heritage seal, used to brand and protect some of the planet's most precious places, from the Taj Mahal to the Pyramids of Giza to the Grand Canyon.
- ▶ The agency works to improve education for girls in very poor countries and in scientific fields, to promote better understanding of the horrors of the Holocaust and to defend media freedom, among other activities.
- ▶ It is a global development agency with missions that include promoting sex education, literacy, clean water and equality for women.
- ▶ UNESCO has 195 member states and ten associate members.

## Reason of withdrawal

- ▶ This move came after UNESCO designated the old city of Hebron in the West Bank, including its Tomb of the Patriarchs, a Palestinian World Heritage site.
- ▶ Reason stated by United States is UNESCO has extraneously politicized virtually every subject it deals with. It has exhibited hostility toward a free society, especially a free market and a free press, and it has demonstrated unrestrained budgetary expansion. After the 2011 withdrawal of funds, the United States has accrued \$550 million in arrears, which will top \$600 million by the end of next year.
- ▶ U.S. doesn't have as much power there, or as much need for the group's work, as it did when UNESCO first started. During the Cold War, American officials imagined UNESCO as an advocate for free speech in an era of communist propaganda.

## The U.S., UN and Palestine

- ▶ The UNESCO, which designates world heritage spots, accorded recognition in 2011 to Palestine as its 195th member. Ever since, controversies over the historical status of the region's religious symbols, that have divided the Palestinian Authority and Israel, have come into sharp focus.
- ▶ United States, long opposed to the admission of Palestine to world bodies until the question of its UN membership was resolved, promptly slashed funding, amounting to about a quarter of UNESCO's annual budget. The US had previously paid for 22 percent (\$80 million) of UNESCO's annual budget.
- ▶ The 2012 elevation to a non-member observer status at the UN came as a shot in the arm for Palestinians demanding separate statehood.
- ▶ In the meanwhile, Arab nations vested in decision-making positions at the UNESCO have sought to fast-track the designation of holy sites as endangered heritage sites, alleging Israeli attacks on their authenticity and integrity.
- ▶ In 2013, after the US missed several rounds of payments to UNESCO, the organization suspended US voting rights in its core decision-making bodies. So the US hasn't been a real UNESCO member for a while.
- ▶ UNESCO declared the bitterly contested shrine in Hebron city as an endangered Palestinian heritage site. While most of Hebron is under Palestine administration, the core of the shrine is surrounded by Israeli military guards.
- ▶ A resolution last year condemned Israel for hampering access for the Palestinians to Jerusalem's holy places.
- ▶ Under a 2015 proposal, Arab members on the body's executive aimed to classify the Western Wall, one of the holiest spots of Judaism, as part of the Al-Aqsa Mosque compound in Jerusalem's Old City.
- ▶ A potential escalation was averted only because the Director-General prevailed against any attempt to reopen the status of this UNESCO heritage location.
- ▶ Israel has denounced these moves and deplored the distortions of the Hebrew context to these sites.
- ▶ Israel and UNESCO have a contentious relationship, and Israel recalled its ambassador to UNESCO in 2016, accusing it of ignoring Jewish views of the heritage of the region.
- ▶ In a stinging attack on the world body in September, Prime Minister Benjamin Netanyahu explained to the U.N. General Assembly the Israeli view on a recent UNESCO decision that triggered the U.S. withdrawal from it.

## Implications

- ▶ The symbolism of formal US withdrawal could make things even worse. As the US moves further away from UNESCO, other countries that fund it might follow their lead. Organizations like UNESCO are always struggling to get members to pay their dues on time in any case.
- ▶ It might encourage UNESCO members to punish the US by antagonizing it further on Israel-Palestine issues. Earlier this year, UNESCO designated the core area of the West Bank city of Hebron home to the Cave of the Patriarchs, an important religious site for Jews and Muslims as a Palestinian World Heritage Site. It's easy to imagine UNESCO voting to take more actions like this in the future.

- ▶ Non-Western countries are already a powerful bloc in UNESCO, and their influence will increase further [after US withdrawal]. For example, lot more UNESCO resolutions bashing Israel, for a start.

### Conclusion

The United States indicated to the Director-General its desire to remain engaged with UNESCO as a non-member observer state in order to contribute U.S. views, perspectives and expertise on some of the important issues undertaken by the organisation, including the protection of world heritage, advocating for press freedoms, and promoting scientific collaboration and education.



## ECONOMIC ISSUE

# How to Promote Indian Entrepreneurship



*Entrepreneurship has attracted the attention of policymakers in India. A series of high-level initiatives, including Startup India, have been launched to promote private sector development. However, there are many obstacles in the promotion of Indian entrepreneurship.*

## What is Entrepreneurship?

The word “entrepreneur” comes from the French verb *entreprendre*, meaning “to undertake”. There is no consistent definition of “entrepreneur” or “entrepreneurship”. Entrepreneurship is a complex term that’s often defined simply as running your own business.

## What Entrepreneurship does for Economy and society?

Entrepreneurship is one of the most important inputs in the socio-economic development of a country, especially developing countries. Entrepreneur can break vicious circle of low income and poverty.

Path breaking offerings by entrepreneurs, in the form of new goods & services, result in new employment, which can produce a cascading effect or virtuous circle in the economy. The stimulation of related businesses or sectors that support the new venture add to further economic development.

For example, a few IT companies founded the Indian IT industry in the 1990s as a backend programmers’ hub. Soon the industry gathered pace in its own programmers’ domain. But more importantly, millions from other sectors benefited from it.

Businesses in associated industries, like call center operations, network maintenance companies and hardware providers, flourished. Education and training institutes nurtured a new class of IT workers offering better, high-paying jobs.

It creates wealth on a national scale for the government in the form of taxation, which is then redistributed accordingly to the services and communities that need it the most.

Due to the many strong arguments for entrepreneurship, promoting an entrepreneurial culture should be encouraged by word and might from the country’s leaders. This should be accompanied by directing our education system to deliver individuals with a good combination of specialist and generalist skills.

## Status of entrepreneurship in India

Entrepreneurship in India is still dominated by small enterprises. They account for over 95% of establishments and 80% of employment in the manufacturing sector.

They have also become more productive. Much of the manufacturing sector's employment growth has come in the form of small establishments in tradable sectors; they have contracted in the non-tradable sector. This experience suggests that the growth in traded industries is not due to plants achieving larger economies of scale and shipping goods at a distance, as might have initially been imagined. Instead, global supply chains have integrated small enterprises.

A large share of new enterprises in the manufacturing sector are locating in rural areas. Districts with low population density have attracted more new enterprises than more dense districts.

The share of women-headed enterprises, especially in small enterprises, has also increased.

### Obstacles in Entrepreneurship Development

- ▶ **Fragmented Policy and Policy Implementation-** There is an integrated National Policy for Skill Development and Entrepreneurship. The Policy acknowledges the need for an effective roadmap for the promotion of entrepreneurship but the key is to impart skills among masses. There should be a robust and specific policy of entrepreneurship which deals with challenges and future steps to smoothen the further development.
- ▶ **Inadequate Funding for Research and Development-** Several studies confirm a positive correlation between Research & Development and economic development of a country. In India, there is inadequate funding for R&D. India needs to put more money into R&D which ultimate benefit entrepreneurship. For this purpose Central Government launched 'A Scheme for Promoting Innovation, Rural Industry and Entrepreneurship' (ASPIRE).
- ▶ **Non-Conducive Education System-** Education plays an important role in overall development of a society. Indian education is not conducive to entrepreneurship because inadequate infrastructure, the high dropout rate at every early stage of education and corruption leads to lower level of education. At this time government and private sector need to work together at grassroot level to encourage entrepreneurship.
- ▶ **Poor Infrastructure** - India is also lacking in infrastructure in all sphere especially village level. India needs to put more resources in infrastructure development and this will lead boost entrepreneurship culture in India. Proper infrastructure is an enabler for desired output.
- ▶ **Capital Deficiency or Finance Problems-** Finance is the blood of modern business and it is the most important organ of an enterprise. It is the powerful tool of development which helps the dynamic process of an enterprise. Without the availability of adequate financial resources, the smooth running of the business will be at a standstill. Usually, small entrepreneurs started well in the initial stage but somewhere down the line in their operation they miss the route to success. In more than half of such cases, the reasons identified can be attributed to financial mismanagement. At times such entrepreneurs had a feeling of doing financially well but the year-end consolidation of accounts indicate a different picture, i.e. loss or almost on the verge of losing. One of the major difficulties for the entrepreneurs and prospective entrepreneurs is non-availability or scarcity of finance to meet their requirement. Financial support as well as financial viability, therefore, is the most important considerations of any business proposition. Most of the entrepreneurs under this study belonged to middle-class income families and hence they find it difficult to obtain credit. Govt launched Startup India scheme to support new businesses.

- ▶ **Inadequate protection of Intellectual Property Right-** India's policy is trying to provide level playing field for domestic and international stakeholders but sometimes it is tilted against the domestic interest. We need to balance all the things with proper safeguard which can encourage entrepreneurship. Under National Intellectual Property Rights (IPR) Policy 2016, a 'Scheme for IPR Awareness – Creative India; Innovative India' has been launched by DIPP.
- ▶ **Marketing Problems-** Market is the ultimate destination of all industrial concerns whether small or big. Marketing is a broad process of linking the gap between the producer and the consumer. The role of marketing in accelerating industrial development lies in selling the goods and services produced by these units. The goods have no value for the manufacturing units unless these are sold. Effective marketing not only enables the entrepreneur to sell his products on profitable terms to the ultimate consumer or user but, prospective demand can also be generated among the potential customers by discovering and creating new needs for them. Moreover, marketing function determines the success of an enterprise. If there is no market for the items produced by the enterprise, the very existence of it will be threatened after a certain period. Hence, the need for proper management of marketing aspect is vital for the successful operation of an enterprise.
- ▶ **Problems of Raw Material-** A major problem that the small enterprises have to contend with is the procurement of raw materials. The problems of raw material assume the shape of (i) an absolute scarcity, (ii) a poor quality of raw material, and (iii) high cost. Because of their smallness and weak financial base and poor bargaining power, small enterprises are required to utilize the service of middlemen to get raw materials. Such an arrangement results in higher cost due to high margins of the middlemen. This, in turn, induces the entrepreneurs to use cheap and low-quality materials, which in turn, affects the quality of their finished products. Moreover, irregular supply of certain raw materials adversely affects their production schedules and delay in delivery. The availability of raw material has been a major problem in our country. Some raw materials are very limited at times and plentiful at others causing cost fluctuations. There are usually manufactured scarcities created by corrupt producers and suppliers to raise the prices.
- ▶ **Power Problems-** One of the most important resources for the growth of enterprises is the availability of power. Nowadays many of the enterprises are mechanised and they need an uninterrupted power supply. In Mizoram, notwithstanding the great potential for producing electric power through hydroelectricity only a very small part of its potential is being utilised. There are always frequent power failures in different parts of the state, which in turn disrupt the smooth running of the enterprises. Under-utilisation of production capacity and resources on the part of business firms are the consequence of irregular power supply failures.
- ▶ **Labour Problems-** One has to keep eyes to know about the labour laws, that changes from time to time. In the modern competitive world, labourers are aware of their rights and they should, therefore, to be handled with care and patience. In fact, no production process can take place without the service of labour. Raw materials have to be collected and assembled, machines have to be operated, productions have to be undertaken and the whole activities of the business have to be administered and managed with the help of human resources.

**Government initiatives**

- ▶ **‘Start-Up’ & ‘Stand-Up’ India:** Prime Minister Narendra Modi announced a new campaign “Start-up India, Stand-up India” to promote bank financing for start-ups and offer incentives to boost entrepreneurship and job creation. Addressing the nation on the 69th Independence Day, he said, “We are looking at systems for enabling start-ups. We must be number one in start-ups... Start-up India; Stand up India.” The initiative, he said, will encourage entrepreneurship among the youth of India. Each of the 1.25 lakh bank branches should encourage at least one Dalit or tribal entrepreneur and at least one woman entrepreneur.
- ▶ **Skill Development Initiative for entrepreneurs:** Prime Minister Narendra Modi launched ambitious projects that aims to train over 40 crore people in India in different skills by 2022. The initiatives include National Skill Development Mission, National Policy for Skill Development and Entrepreneurship 2015, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme and the Skill Loan scheme. The government’s flagship scheme, PMKVY, will incentivise skill training by providing financial rewards to candidates who successfully complete, approved skill training programmes.

The scheme aims to recognise and provide skill to 24 lakh youth who lack formal certification, such as workers in vast unorganised sector. Through an initiative known as ‘Recognition of Prior Learning’ (RPL), 10 lakh youth will be assessed and certified for the skills that they already possess. Under the Skill Loan scheme, loans ranging from Rs. 5,000 - 1.5 lakh will be made available to 34 lakh youth seeking to attend skill development programmes over the next five years.

Across India, special PMKVY mobilisation camps are being organised at 100 locations with Nehru Yuva Kendra Sangathan (NYKS). A national SMS campaign is being rolled out to build awareness of the program, reaching about 40 crore subscribers. Fresh PMKVY training was initiated in 1,000 centres across all States and Union Territories in India at present, covering 50,000 youth in 100 job roles across 25 sectors.

- ▶ **Skill Development and Entrepreneurship Ministry:** The Skill Development and Entrepreneurship Ministry has been given the administrative control of two institutes that are providing training and developing programs for entrepreneurs, among other.

**Conclusion**

Government of India and many state governments announced and has taken many steps to encourage entrepreneurship in India. But there is a need to review those policies after a period of time and make the change according to the demand. One formula for all can never be fit in all the time and situations. Obstacles have to be removed to increase the ease of doing business in India.

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**ENVIRONMENTAL ISSUE**

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# Why it is Difficult to Clean Up Ganga?



*Pollution of the Ganges, the largest river in India, poses significant threats to human health and the larger environment. Severely polluted with human waste and industrial contaminants, the river provides water to about 40% of India's population across 11 states, serving an estimated population of 500 million people or more, more than any other river in the world.*

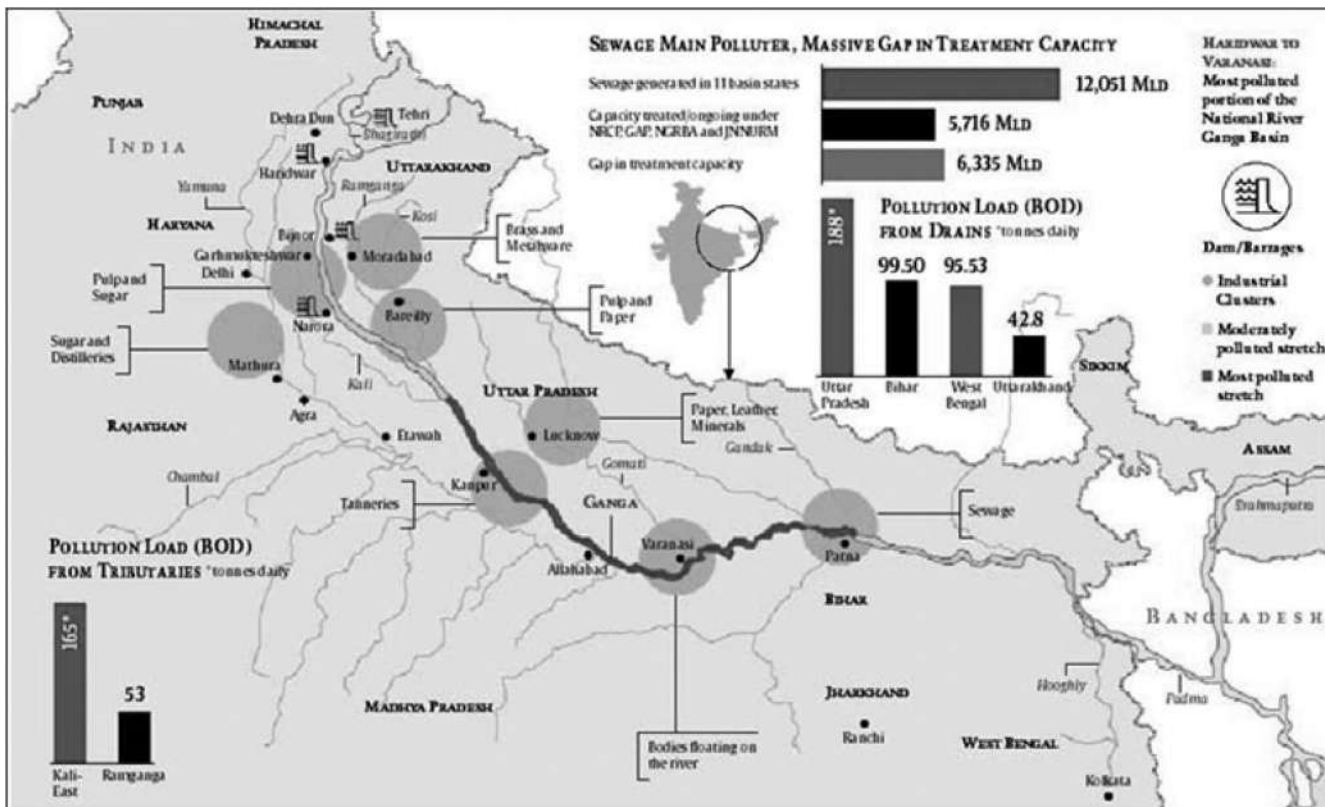
*Today, Ganges is considered to be the fifth most polluted river in the world.*

*Government has initiated many steps for cleaning Ganga however, the outcomes are poor.*

## River Pollution

- ▶ Much of the river's pollution load from chemical effluents, sewage, dead bodies, and excreta comes from the five States which are located along the river's main stem spanning Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.
- ▶ In the Ganga basin, approximately 12,000 million litres per day (MLD) of sewage is generated, for which there is a treatment capacity of just 4,000 MLD.
- ▶ Particularly, on the stretch spanning Uttar Pradesh and Uttarakhand, approximately 3,000 MLD of sewage is discharged, and a treatment capacity of just 1,000 MLD has been created to treat it.
- ▶ Though the contribution of industrial pollution, volume-wise, is about 20%, its toxic and non-biodegradable nature has a disproportionate impact.
- ▶ Then there is the municipal sewage which, at about a billion litres a day, generates 80% of the pollution load. This spans a wide range, from run-off in rural settlements to carcasses floated down the river.
- ▶ Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal together generate over 7,300 million litres of sewage per day that flows directly or indirectly into the river. About half of this comes from Tier I and Tier II towns like Kanpur, Allahabad and Varanasi. Currently, the five states together have the capacity to treat only about 3,300 million litres of sewage — or about 45 per cent of the total. The rest flows into the river untreated.
- ▶ This colossal volume might actually be even greater, because large parts of major urban centres like Kanpur and Varanasi are not even connected to the sewage network, and their waste remains unaccounted for.

- ▶ **Rural Sewage:** About 1,650 gram panchayats lie directly on the banks of the Ganga. The sewage they generate is almost entirely untreated. About half the population in these villages defecates in the open.
- ▶ **Industrial Effluents:** There are 764 grossly polluting industries on the banks of the Ganga, mostly in Uttar Pradesh. These include tanneries, paper and pulp industries, sugar mills, dyeing factories, distilleries, and cement plants. Effluents from all these flow untreated into the river. Tanneries near Kanpur alone generate about 25 million litres of effluents daily.
- ▶ **Surface Cleaning:** Solid waste, clothes, polythene, and all kinds of religious offerings are dumped into the river, and float on its surface. It is the easiest to clean them and can result in a quick visual makeover for the river.
- ▶ **Burning the Dead:** Cremation along rivers and immersion of remains is a unique reason for pollution in Indian rivers, and especially the Ganga. Burning of wood leads to air pollution as well.
- ▶ One of the efforts of the Ganga Action Plan was to build gas or electric crematoriums, especially in religious centres like Varanasi and Allahabad. Not much was achieved, however.



### Challenges:

- ▶ Finding water to dilute and assimilate waste.
- ▶ Finding innovative ways to check the growing amount of untreated sewage discharged into the river.
- ▶ Fixing the enforcement to stop industries from discharging waste into the river.

### Government Measures to clean the river

- ▶ **National Mission for Clean Ganga:**
  - The government has set up an empowered authority called the National Mission for Clean Ganga.

- This is a dedicated team of officers who are responsible for disbursing the Rs.20,000 crore fund towards a variety of projects that involve setting up of sewage treatment plants (STPs), replacing wood fired crematoriums with electric ones or those that use fuel more efficiently, setting up biodiversity parks that will enable native species from the Gangetic river dolphin to rare turtles to replenish their numbers and planting trees to improve the water table in the surrounding regions and prevent soil erosion.
- The authorities focussed on having trash skimmers ply along the river and collecting garbage, and improving crematoria.
- It has established a system called the hybrid-annuity model, used in commissioning highways, for selecting firms that will manage STPs. Under this, firms would be given nearly half the money upfront to set up a plant and the rest (with a profit margin included) at regular intervals, provided they meet certain criteria over 15 years.
- Sixty-three sewerage management projects are being implemented in Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. STPs to treat 1187.33 MLD were cleared for Hardwar (Uttarakhand) and Varanasi in (Uttar Pradesh).

**Clean river criteria:**

The ultimate objective, for the river to be clean, would be to ensure that the coliform bacteria level, biochemical oxygen demand, pH and dissolved salts remain within the standards prescribed by the Central Pollution Control Board.

► **Namami Gange programme:**

- The government's Namami Gange programme seeks to tackle the problem at several levels at the same time.
- "Rejuvenation" of the Ganga includes reviving 'Aviral Dhara', or continuous flow in stretches that have gone dry due to natural or man-made reasons, regenerating the river ecology, making the river an important inland waterway, reviving it as a habitat for dolphins and gharials, and spreading awareness about the need to keep the Ganga clean.

► **Ganga Action Plan:**

- **Clean river criteria:** The ultimate objective, for the river to be clean, would be to ensure that the coliform bacteria level, biochemical oxygen demand, pH and dissolved salts remain within the standards prescribed by the Central Pollution Control Board.

Creating sewage treatment plants (STPs) was at the core of the Ganga Action Plan that began in 1985.

- The government has now decided to rope in corporates to do this work in all the 118 urban centres along the river.
- Companies will have to create additional capacities, use existing capacities at optimum levels and they will receive some money from the government upfront for creating the infrastructure, but the rest of their investment, operation and maintenance costs, and a pre-decided profit would come in the form of annuities over the 15-year period.
- The government hopes that annuity-based payments and guaranteed returns would keep the firms interested. The companies will also be allowed to sell the treated water to generate additional revenues.

- ▶ **Rural Sewage:**
  - The government plans to use biological means to deal with this waste.
  - It wants to experiment with a model said to have been used in a Punjab village by a local spiritual leader, Baba Balbir Singh Seechewal, who is credited with the successful cleaning of the Kali Bein river with public participation.
  - Seechewal is supposed to have inculcated the practice of segregation of solid and liquid waste, treatment of waste water through oxidation ponds, use of treated water for irrigation, and composting of solid waste. He is said to have infused a sense of community participation and ownership of the river.
- ▶ **Surface Cleaning:**
  - Machines called trash skimmers have been ordered from abroad to clean the river surface near all major towns.
  - One of these skimmers is already operating in Varanasi. If the machines arrive on time, work on cleaning the river surface is expected to begin by March.
  - The government has also invited corporate groups to take up this task as part of their corporate social responsibility.
- ▶ **Burning the Dead:**
  - The current programme seeks to build at least 100 crematoriums by November this year. A standard design has been prepared and approved. Renovation and modernisation of existing crematoriums too has been ordered.
- ▶ **Others Initiatives:**
  - Several other components of the Clean Ganga programme are planned to be initiated simultaneously. These include the launch of a public awareness exercise, regeneration of aquatic biology, plantations, and riverfront development. A comprehensive law on the Ganga is also in the offing.

### Why government fail to meet the target?

- ▶ Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal together generate over 7,300 million litres of sewage per day that flows directly or indirectly into the river. About half of this comes from Tier I and Tier II towns like Kanpur, Allahabad and Varanasi. The rest flows into the river untreated. Creating sewage treatment plants (STPs) was at the core of the Ganga Action Plan that began in 1985. About 1,000 million litres of sewage treatment capacity per day was set up, but lackadaisical state governments and lack of maintenance by municipal authorities have kept a large part of this capacity on paper alone. A lot will depend on how soon the STPs are commissioned. On average, they will take about a year-and-a-half to work at their optimal capacity. The tanneries, a major polluter, will have to install new systems to ensure that no discharge leaches into the river.
- ▶ There are 764 grossly polluting industries on the banks of the Ganga, mostly in Uttar Pradesh. These include tanneries, paper and pulp industries, sugar mills, dyeing factories, distilleries, and cement plants. Effluents from all these flow untreated into the river. Tanneries near Kanpur alone generate about 25 million litres of effluents daily.



- ▶ Participation of ordinary people in identifying problems, finding solutions and implementing them is imperative for a sustainable solution to the Ganges's problems. It requires a bottom-up approach, one in which communities and common people are involved as key participants.
- ▶ The Ganges cannot be kept clean "unless the millions living in the basin want it to be so, and will participate in not dirtying it in the first place."

### Conclusion

A clean Ganga will not happen unless the government brings in a change in the mind-set of people living along the river. In addition, it would have to ban use of chemicals in agriculture; make throwing garbage into the river an offence, satellite based monitoring for polluting industries and not allowing any more dams on the river.

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**SOCIETY**


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# Sexual Misconduct and Idea of Naming Shaming



*A Facebook post "naming and shaming" academics who have allegedly exhibited "sexually predatory behaviour" has names of the 60 teachers in several universities in the country.*

*The Facebook post includes names of 12 people from Jadavpur University, 10 associated with Delhi University, five from Ambedkar University Delhi, and two from Jawaharlal Nehru University.*

*Hereby, discussing whether the ideas of naming and shaming can be a path breaker in reducing violence against women.*

## Introduction

Soon after several women publicly alleged that Hollywood producer Harvey Weinstein had sexually assaulted them, the hashtag '#Me Too' went viral on social media. Now, an initiative on Facebook by a young student of law has sparked off a massive debate on sexual harassment in academia. She invited students to name Indian academics who have sexually harassed them. She wrote that an "overwhelming number" came forward with "evidence in hand" informing her "that a professor sexually harassed them when they were a student/are still in the institution".

## Pros of Naming and Shaming

- ▶ The list is important for many reasons. For the first time women have found a common platform to collectively break their silence, especially in academia where there is an un-breachable power structure between student and teacher.
- ▶ Since the most powerful are often invested in this conspiracy of silence, breaking the silence does not transgress institutional procedures as it is only in a self-critical and sensitised atmosphere that women can openly exercise their agency to lodge formal complaints.
- ▶ The list also aims to fix standards of conduct within academia. Harvard University and the University of California, Berkeley among others, have instituted guidelines for student-teacher interactions which also prohibit consensual relationships between them.
- ▶ The understanding is that if there is abuse of power, harassment, or even if consensual relationships turn sour, the damage is inevitably borne by the powerless student.
- ▶ The secrecy attached to the list has given vent to the anger of women who have suffered harassment and made it easier for them to speak about it.

## Analysis

- ▶ Some say naming the Indian academics is also Breaking the Silence, and should be welcomed. Breaking the Silence, especially on such difficult issues, is always welcome. But it must also include a process to determine the veracity of the allegations, which, in the revelations on Weinstein, was followed meticulously.
- ▶ While evidence-gathering is not easy in such cases, if there is absolutely no procedure or ground rules by which harassers are sought to be dealt with, naming-and-shaming can become a witch-hunt.
- ▶ There are degrees and kinds of sexual assault, putting them all under one umbrella can, on the one hand, limit a problem of serious assault (such as scarring for life, pregnancy, or death) to just “harassment”, while overstating, on the other hand, the seriousness of what might be a relatively minor misdemeanor.
- ▶ A flat and indiscriminate listing of individuals can result in reputations built over years being tarred unfairly, without genuine offenders being necessarily brought to justice.
- ▶ In cases of sexual harassment allegations against important people in India in the recent past, there has always been a specific allegation, or at least a semblance of a narrative. Putting out a bare list seems to imply that innocence is excluded as a possible outcome. Moreover, not just those who’ve been named but the institutions they are associated with, are implicated.
- ▶ Since, the mere act of public naming is neither a formal complaint nor a verdict of law, there are no institutional consequences. So far, there are no reports of any universities taking cognizance of this list or initiating action of any kind.

### **The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013**

- ▶ The redress forum under the Act is an Internal Complaints Committee appointed by the employer to be comprised of a woman senior employee, two other employees, and a social worker; it is mandated that at least half the committee must be constituted of women.
- ▶ Where such a committee is not set up by the employer, or where the complaint is against the employer himself, a provision is made for the setting up, by the District Magistrate, of a panel drawn from social workers and NGOs.
- ▶ Based upon the complaint of the victim, the Committee is to conduct an inquiry and submit its recommendations to the employer (or District Magistrate), who is required to take action on the same.
- ▶ Where an offence is made out, the punishment for misconduct is as per the service rules of the employer; where no such rules exist, then as per the Rules under the Act, redress ranges from apology and censure to withholding promotion and increments, and stretches to termination.
- ▶ The Act, however, is silent on the situation where the employer’s service rules contain less stringent provisions.
- ▶ Conciliation process: Section 10 provides the possibility for conciliation between the parties to be undertaken by the Committee prior to inquiry; this can be done only at the request of the victim.
- ▶ The advantages are several — it enables better communication and understanding, is conducted in a confidential setting, and seeks a solution acceptable to both sides. At first sight, therefore, it seems quite reasonable to contemplate conciliation being used in sexual harassment cases.

## Conclusion

In many ways, the naming and shaming campaign seems to be a pendulum that has swung to the other extreme in a climate where complaints of sexual harassment are not taken seriously despite laws prohibiting sexual harassment. But this swing is like asking for the death penalty without a trial — in this case, a social media trial.

The list has names of persons who have been indicted of sexual harassment as well as persons against whom vague charges have been made without any details by the complainants.

By dismissing any form of dissent, the campaigners have shown little understanding of due process. Due process is not restricted to issues against the state or in a complaint mechanism or litigation. It involves a process that respects the rights of persons. And chief among them is that all persons have a right to know the accusation against them with a right to defend themselves not merely in a court of law or inquiry but in any public sphere.

The slew of cases filed by various governments in the country against persons using social media on charges of sedition and other provisions of the Indian Penal Code indicates that social media is extremely powerful. It has the power to make or break an individual. In this case, the list has caused irreparable damage to the reputation of these individuals.

The list can also have a potential backlash. Complaints or charges of sexual harassment are difficult to prove. The survivor undergoes a lot of agony during the process and, very often, in-house committee members do not believe her version. So, a carefully crafted strategy is required. Just putting out names at random, including of persons who are not alive, only reinforces the myth that women come up with false complaints.

We need both quasi-judicial bodies such as the one in Jawaharlal Nehru University (Gender Sensitisation Committee against Sexual Harassment) and preventive mechanisms like the code of conduct manuals in Harvard and Berkeley to further the cause of gender justice.

## ENVIRONMENTAL ISSUE

# Environmental Compliance and Enforcement in India

Context

*Particulate matter in Delhi's air increased more than four times the normal level, the Environment Pollution Prevention and Control Authority (EPCA) enforced an emergency plan which the environment ministry had notified in January. The Supreme Court-mandated body banned diesel generator sets, ordered the shutdown of the Badarpur Thermal Power Plant and directed brick kilns in the capital to shut production.*

*However, the rules failed to implement. Hereby discussing issues related to Environmental Compliance and Enforcement in India.*

## Introduction

India's economic development propelled by rapid industrial growth and urbanization is causing severe environmental problems that have local, regional and global significance. Deforestation, soil erosion, water pollution and land degradation continue to worsen and are hindering economic development in rural India, while the rapid industrialization and urbanization in India's booming metropolises are straining the limits of municipal services and causing serious environmental problems.

Air quality data in India's major cities indicate that ambient levels of air pollutants exceed both the World Health Organization and Indian standards, particularly for particulate matter.

India's rivers and streams suffer from high levels of pollution from waste generated primarily from industrial processes and municipal activities. Untreated sewage and non-industrial wastes account for four times as much pollution as industrial effluents.

To address these environmental challenges environmental legal and institutional system is required.

However, the present legal and institutional system has failed to improve environmental system. Some of the reasons have been discussed below.

## Legal enforcement authority lacks power

The lack of civil administrative authority particularly, to impose administrative fines limits the effectiveness of PCBs' enforcement efforts and leads to over-reliance on the judiciary for enforcement. Filing criminal cases against violators in trial courts or reacting to PILs is a time-consuming, unpredictable and ineffective enforcement mechanism.

For example under the Water Act, the Air Act and the EPA, the pollution control boards have the authority to issue and revoke consents to operate, require self-monitoring and reporting, conduct sampling, inspect facilities, require corrective action

and prescribe compliance schedules. The enforcement powers include emergency measures of disconnecting water or power supply and facility closure, which are widely used in some states.

But due to lack of administrative power, they fail to enforce rules.

This necessitates: (i) exploring new regulatory programs and approaches, targeting different pollution sources; and (ii) exercising greater flexibility in applying regulatory standards, supported by sound economic analysis.

### **Corruption in environmental sector**

However, there is widespread corruption in the environmental sector. It diverts funds allocated for environmental programs to private pockets through embezzlement and bribery. It facilitates trafficking in wildlife and other natural resources and leads to depletion of natural resources and pollution of environment through bribery in environmental inspections and permitting system. Corruption also contributes to the development of environmentally damaging policies and practices and to unfair allocation of environmental resources that contributes to environmentally harmful practices.

The causes of corruption in the environmental sector includes typical causes attributed to any other sectors: insufficient legislation, lack of respect for the rule of law, weak democracy, wide authority given to public officials, minimal accountability and transparency, poor enforcement, low levels of professionalism, and perverse incentives.

### **Lack of coordination: case of SPCB and CPCB**

SPCBs have primary enforcement authority in the states, while the CPCB performs the same functions for union territories. The SPCBs have further delegated some enforcement responsibilities to their regional and sub-regional offices. The CPCB's role is to provide technical assistance and guidance to the SPCBs and to coordinate activities among the states. In addition, the CPCB exercises general oversight and, if a State Board fails to comply with a CPCB direction, may temporarily assume SPCB functions. There is also an issue to coordination between SPCBs and other state-level government agencies that have some environment-related responsibilities, including departments of transport (with respect to mobile source pollution), of urban development (municipal waste), of industries (siting of industrial facilities), etc. At present, such interagency collaboration is very weak.

SPCBs receive administrative directions and some funding from their state governments. This dual line of command with the CPCB can create problems, since at times the CPCB's proposed actions are not effectively implemented due to a state government's inaction or indifference. With the exception of the National Water Quality Assessment Authority, there is no formal institutional mechanism for interagency coordination on formulating and implementing environmental regulations. The interagency task forces and working groups established from time to time to tackle specific environmental issues do not adequately address long-term coordination on environmental management and enforcement. According to the assessment, the SPCBs are interested in strengthening coordination with CPCB and other states through a communication network, and annual action planning efforts.

In the absence of strong political will to address environmental challenges, funding limitations remain a significant challenge facing all environmental institutions. The variations in the financial status and sources of funding of the PCBs lead to horizontally inequitable treatment of the regulated community. An over-dependence on fees can also lead to mixed incentives and priorities for staff.

### **Lack of Self-monitoring and Reporting**

According to the national Environmental (Protection) Rules of 1986, each polluting facility must submit an Environmental Statement at the end of each financial year

(April through March). The Environmental Statement should include the following information:

- ▶ Water and raw material consumption;
- ▶ Air and water pollution discharged by parameter (average daily quantity and concentration as well as percentage of variation from the prescribed limits);
- ▶ Hazardous waste generation (total quantity from the production process and pollution control installations) and methods of disposal;
- ▶ Solid waste generation, reuse, recycling, and disposal; and
- ▶ Pollution abatement measures implemented.

The consents prescribe parameters and respective self-monitoring frequencies, although procedures and requirements across states are not uniform. Lack of reporting or false reporting may lead to criminal or administrative penalties. The existing legal framework, however, does not authorize enforcement actions through the courts based on self-disclosed reports. Rather, government agencies can only pursue legal action on the basis of “legal” samples taken by inspectors who are certified to conduct inspections in accordance with specified procedures. As a result, not using self-reported information in correct form is a significant constraint in promoting compliance and enforcement.

### Lack of regulatory tools

There is a lack of regulatory tools and flexibility to provide proportionate enforcement response with appropriate deterrent effect against violations that do not have an immediate severe impact on the environment but represent continuous non-compliance with regulatory requirements (e.g., small but routine exceedance of emission/effluent limits, failure to do self-monitoring and reporting).

Available punitive tools for non-compliance have proven ineffective because procedures are rigid and time-consuming while penalties are too low and fail to consider the full economic and environmental impacts of the violation.

### Lack of human resource

Lack or inadequacy of skill; less than satisfactory infrastructural facilities; poor and unimaginative understanding of the law; jurisdictional conflicts and lack of coordination, among different agencies of implementation, appear to contribute to poor and in effective implementation of the laws.

*For example the key posts in CPCB and SPCBs are not being manned by officers of Indian Administrative Service or bureaucrats who possess the necessary capabilities and expertise in properly managing and planning pollution control activities nor have enough time to pay attention to these activities for obvious reasons. This trend has led to virtual relegation and replacement of technically capable persons to the place of exile from the key posts.*

### Conclusion

In India, environmental statutes though impressive in range and coverage are more often observed in breach than practice.

Awareness of the environmental issues is minimal in the community. The politicians largely give a go-by to environmental issues because they are more concerned about losing people’s votes. Huge trees are uprooted to make way for new highways. Environmental issues, thus, have no takers.

Thus awareness of environmental laws in society is must as it plays a vital role in prevention and control of pollution in industrial as well as at community levels.

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**SOCIETY**


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# Sanitation and Nutrition Linkage



*Undernutrition accounts for more than one third of child deaths around the world. When children are undernourished, they have lowered resistance to infection and are more likely to die from diarrheal diseases and respiratory infections. Frequent illness also saps the nutritional status of those who survive, locking them into a vicious cycle of recurring sickness and faltering growth.*

*Thus the poor levels of sanitation in rural areas have inhibited the effectiveness of nutrition initiatives like Integrated Child Development Services (ICDS) and mid-day meals.*

*Thus there is a linkage between Sanitation and nutrition. Hereby, discussing the linkage and how to improve the nutritional status.*

## Introduction

In a ranking of countries from lowest to highest on stunting, India ranks 114 out of 132 countries, with the incidence of stunting at 38.7 per cent, compared with Germany and Chile at 1.3 per cent and 1.8 per cent, respectively. Even Bangladesh and Nepal rank marginally higher than India. On wasting, India ranks 120 out of 130 countries, at 15.1 per cent, compared with Australia and Chile at number 1 and 2, with 0 per cent and 0.3 per cent, and South Sudan at 130 with 22.7 per cent. On the prevalence of anaemia in women of reproductive age, India ranks 170 out of 185 countries at 48.1 per cent, compared with Senegal which is the worst at 57.5 per cent and the U.S. which is the best at 11.9 per cent.

Access to safe drinking-water, sanitation and hygiene services is a fundamental element of healthy communities and has an important positive impact on nutrition.

## Linkage between Nutrition and hygiene

- ▶ Improved water sources that are not operated or maintained properly may deliver water that is microbiologically contaminated. In addition, microbial recontamination often occurs during collection of water at the source, transport and storage within the home. Similarly open defecation breeds diseases.
- ▶ Diarrhea caused by poor sanitation, lack of hygiene, and unsafe drinking water, is one of the leading causes of child death globally. Diarrheal disease inhibits nutrient absorption leading to starvation even if sufficient nutrition is consumed.
- ▶ Without safe sanitation and hygiene, these infections are transmitted via contact with or ingestion of soil contaminated with human faeces that contain worm eggs. Such infections can lead to anaemia, poor growth and impaired cognitive development.



- ▶ EED (also referred to as environmental or tropical enteropathy) is a sub-clinical condition affecting both the structure and function of the gut, which have been found to be associated with chronic enteric pathogen exposure and poor hygiene conditions. This condition may be a major cause of growth faltering because of the associated nutrient malabsorption and systemic inflammation.
- ▶ The time taken to fetch water, and the cost of water purchased from vendors when it is not readily available in the home, the amounts and quality of water consumed, and on hygiene practices, which in turn impact on nutrition. Additionally, time spent sick with waterborne diseases or collecting water impedes educational attainment, which has a significant impact on health, wellbeing and poverty over a lifetime, and potentially over multiple generations.

## Solutions

### **Better sanitation means better nutritional status, solutions are as follows:**

- ▶ Safe drinking water, proper sanitation, and hygiene can prevent under nutrition and stunting in children by preventing the development of environmental enteropathy and diarrheal disease.
- ▶ Children living in households with proper sanitation and hygiene are taller for their age, or less stunted, compared to children living in contaminated environments.
- ▶ Hand washing with soap, an element of hygiene programming, can reduce the incidence of diarrhea by 42 to 47 percent.
- ▶ Access to safe drinking water nearby also reduces risk of diarrheal disease – a 15 minute reduction in water collection time can reduce diarrheal disease by 41 percent.
- ▶ Reducing the environmental microbe load through household sanitation and hygiene.
- ▶ Reducing fecal transmission via hands through washing of caregivers' and children's hands with soap.
- ▶ Improving drinking water quality through improved access to protected water sources and hygienic methods of household water treatment and storage.
- ▶ Promoting exclusive breastfeeding for the first six months of life to ensure nutrient adequacy and exclude potentially contaminated non-breast milk liquids and foods.
- ▶ Avoiding child fecal ingestion during mouthing and exploratory play by ensuring a clean play and infant feeding environment.
- ▶ Providing hygienically prepared and stored complementary food fed using clean utensils and hands.
- ▶ Engaging communities in a process to develop and implement sanitation safety planning to safely manage, dispose of and utilize excreta.
- ▶ Supporting sanitation campaigns using social mobilization strategies, such as community-based or sanitation marketing approaches targeting both household- and community-level improvements.
- ▶ Mentoring small-scale sanitation businesses to improve supply chain efficiency and marketing skills and improve product and service models for sanitation so they are more affordable and attractive to consumers.
- ▶ Leveraging financial schemes such as village savings and loans and microfinance institutions to provide financing for household sanitation improvements.

- ▶ Developing communal, public and institutional sanitation services, as well as faecal sludge management systems, to ensure access for all and to protect the environment from faecal pollution.
- ▶ Integrating hygiene practices with sanitation facility improvements by locating a hand washing device with water and soap near a latrine to remind and enable users to wash hands after defecating.

### Government measures

- ▶ **National Sanitation and Hygiene Advocacy and Communication Strategy Framework:**
  - To accelerate the process the Ministry of Drinking Water and Sanitation (MDWS) along with UNICEF and other partners have developed the National Sanitation and Hygiene Advocacy and Communication Strategy Framework for 2012-2017.
  - The overall goal is to make sure that people have access to, and use a toilet and practice good hygiene, including hand washing with soap after the toilet and before food.
  - The strategy focuses on increasing knowledge and perceived importance of sanitation and hygiene practices, with the long term objective of changing the way society thinks so that open defecation is no longer acceptable in India.
  - The Advocacy and Communication Strategy focuses on four critical sanitation and hygiene behaviours:
    - Building and use of toilets.
    - The safe disposal of child faeces.
    - Hand washing with soap after defecation, before food and after handling child faeces.
    - Safe storage and handling of drinking water.
- ▶ **Swachh Bharat Abhiyan**
  - Swachh Bharat Abhiyan, the nationwide campaign for a clean India launched in 2014, has constructed 4 million toilets, surpassing its goal of 3.5 million toilets by 2017-18. Also, 223,550 community toilets were constructed, way ahead of the 2017-18 goal of 204,000, according to the programme website (as accessed on October 24, 2017).

### Case study of Nepal

A recent study in Nepal developed and tested innovative, evidence based behavioural change approaches to improve food hygiene practices. The intervention was implemented by conducting group sessions and household visits. Each session focused on a specific motivational theme, including nurture, disgust, social respect and others. Activities consisted of storytelling and motivational games introducing an “Ideal Mother” figure, providing reminder materials in kitchens related to five key food hygiene behaviours, video screenings, a jingle installed on mobile phone ringtones, contamination demonstrations, public pledges of commitment to the campaign, competitions and public reward ceremonies. One of the targeted behaviours was for mothers to keep food adequately hot to reduce bacterial growth. The message communicated to mothers was that if the food is hot, it will be tastier, and the child will eat more based on the “nurture driver”. Preliminary results of this campaign indicate that mothers practiced the behaviours, in particular reheating food, because they found that children liked the food better and ate more. Thus food and hygiene should be linked to improve the health status.

## Conclusion

Improved conditions of sanitation and hygiene practices are associated with reduced prevalence of stunting in India. Policies and programming aiming to address child stunting should encompass interventions, thus shifting the emphasis from nutrition-specific to nutrition-sensitive programming.

# Prelims News



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

## Indian Culture

### CHHATH POOJA

- ▶ 'Chhath Pooja' is an ancient Hindu Vedic festival historically native to eastern Uttar Pradesh, North Bihar of India and Mithila State of Nepal. The 'Chhath Puja/ chhti maiyaa' is dedicated to the Sun and his wife Usha in order to thank them for bestowing the bounties of life on earth and to request the granting of certain wishes.
- ▶ This is the only parva which signifies rising suns as well as setting sun.
- ▶ Chhath puja is performed on Kartika Shukla Shashthi, which is the sixth day of the month of Kartika in the Vikram Samvat. This falls typically in the month of October or November in the Gregorian English Calendar. The exact date of the festival is decided by Central division of Janakpurdham in Mithila Region of Nepal which is applicable to worldwide adherents.
- ▶ It is also celebrated in the summer (March-April), on Chaitra Shashthi, some days after Holi; this event is called Chaiti Chhath.

### TIPU SULTAN CELEBRATION

- ▶ The Karnataka government has celebrated the birth anniversary of Mysuru ruler Tipu Sultan.
- ▶ Tipu Sultan was born to Hyder Ali and Fatima Fakhr Un Nisa.
- ▶ Tipu was fascinated by western science and technology, and got gun makers, engineers, clockmakers and other experts from France to Mysore. He then set up his own manufacture of bronze cannons, ammunition and muskets to "Make in Mysore".

- ▶ Tipu extensively used tiger imagery to convey a sense of his awesome power. Tiger images emblazoned his golden throne, his textiles, coins, swords and his soldiers uniforms. He also used the Sun symbol, long associated with royalty and divinity among his Hindu subjects.
- ▶ Tipu was a generous patron of several Hindu temples, including the Sri Ranganatha temple near his main palace at Srirangapattana, and the Sringeri Math, whose swami he respected and called Jagadguru.
- ▶ Tipu is credited as the pioneer of Rocket Technology in India.
- ▶ Tipu Sultan wrote a military manual called Fathul Mujahidin. The manual explains the operation of Mysore rockets.
- ▶ After the death of Tipu Sultan, the British forces took away his sword and ring as war trophies.

### PAIKA BIDROHA

- ▶ Paika Bidroha will find a place as the First War of Independence against the British Rule in the history books.
- ▶ Paikas were peasant militia under the Gajapati rulers of Odisha who rendered military service to the king during times of war. They rebelled against the British rule under the leadership of Bakshi Jagabandhu Bidyadhara as early as 1817.
- ▶ The **Paik Rebellion** was an armed rebellion against the British East India Company's rule in Odisha in 1817.
- ▶ Paikas were essentially the peasant militias of the Gajapati rulers of Odisha who rendered military service to the king during times of war while taking up cultivation during times of

peace. They unfurled the banner of rebellion against the British under the leadership of Baxi Jagandhu Bidyadhara as early as 1817 to throw off the British yoke.

- ▶ The Paiks were alienated by the British regime, who took over the hereditary rent-free lands granted to them after the conquest of Khurda. They were also subjected to extortion and oppression at the hands of the company government and its servants.
- ▶ The Paikas attacked British symbols of power, setting ablaze police stations, administrative offices and the treasury during their march towards Khurda, from where the British fled.
- ▶ The Paikas were supported by the rajas of Kanika, Kujang, Nayagarh and Ghumusar and zamindars, village heads and ordinary peasants.

### GIRIJA DEVI

- ▶ Girija Devi was an Indian classical singer of the Seniya and Banaras gharanas. She performed classical and light classical music and helped elevate the profile of thumri.
- ▶ She is an eminent classical singer and Padma Vibhushan awardee.
- ▶ Awards
  - Padma Shri (1972)
  - Padma Bhushan (1989)
  - Padma Vibhushan (2016)
  - Sangeet Natak Akademi Award (1977)
  - Sangeet Natak Akademi Fellowship (2010)
  - Maha Sangeet Samman Award (2012)
  - Sangeet Samman Award ( Dover Lane Music Conference)
  - GiMA Awards 2012 (Lifetime Achievement)
  - TanaRiri Puraskar
  - Sumitra Charat Ram Award for Lifetime Achievement posthumously

### 'ADOPT A HERITAGE SCHEME'

- ▶ The Union Ministry of Tourism gave Letters of Intent (LoI) to seven shortlisted companies for adopting 14 monuments under Adopt a Heritage Scheme at the closing ceremony of 'Paryatan Parv'.
- ▶ The 'Adopt a Heritage Scheme' of Ministry of Tourism was launched on World Tourism Day i.e. 27<sup>th</sup> September, 2017 by the President of India. Thereafter, Ministry of Tourism invited Private Sector Companies, Public Sector Companies and Corporate individuals to adopt

the sites and to take up the responsibility for making our heritage and tourism more sustainable through conservation and development.

- ▶ This scheme is a unique endeavour of Ministry of Tourism in close collaboration with Ministry of Culture and Archaeological Survey of India (ASI) which envisages developing monuments, heritage and tourist sites across India and making them tourist friendly to enhance their tourism potential and cultural importance, in a planned and phased manner.
- ▶ The project primarily focuses on development and maintenance of world-class tourist infrastructure and amenities which includes basic civic amenities and advanced amenities like Cleanliness, Public Conveniences, Ease of access, secure environment, illumination and night viewing facilities for an overall inclusive tourist experience that will result in more footfall from both domestic and foreign tourists.

### MAN BOOKER PRIZE

- ▶ The American short story writer George Saunders has won the Man Booker prize for his first full-length novel, Lincoln in the Bardo.
- ▶ The **Man Booker Prize for Fiction** is a literary prize awarded each year for the best original novel, written in the English language and published in the UK.

## **Economic News**

### BENEFITS OF FORMALISING GOLD TRADE

- ▶ The Centre is taking steps for formalisation of the gold trade. Government has launched gold options trading on the leading commodity bourse MCX.
- ▶ Options are derivatives which give a buyer the right but not the obligation to buy or sell an underlying asset or instrument at a specific price on or before a certain date.
- ▶ This marks a very important evolution in trading of yellow metal itself. It hedges all risks by giving them (traders) the option of futures.
- ▶ This is the first product for options trading that the regulator SEBI has allowed.
- ▶ MCX is the leading commodity bourse in the country with a market share of over 90 per cent. It has a large presence in gold, base metals, and energy.

## **PREVENTION OF MONEY LAUNDERING (MAINTENANCE OF RECORDS) SECOND AMENDMENT RULES 2017**

- ▶ Ministry of Finance (Department of Revenue) in consultation with the Reserve Bank of India has made certain amendments to the Prevention of Money-laundering (Maintenance of Records) Rules, 2005, namely, the Prevention of Money-laundering (Maintenance of Records) Second Amendment Rules, 2017.
- ▶ These Rules, inter alia, make it mandatory for investors to submit Aadhaar number issued by the Unique Identification Authority of India (UIDAI) in respect of their investments.
- ▶ The Reserve Bank clarifies that, in applicable cases, linkage of Aadhaar number to the bank account is mandatory under the Prevention of Money-laundering (Maintenance of Records) Second Amendment Rules, 2017 published in the Official Gazette on June 1, 2017.
- ▶ These rules have statutory force and, as such, banks have to implement them without awaiting further instructions.
- ▶ The government in June had made Aadhaar mandatory for opening bank accounts as well as for any financial transaction of Rs 50,000 and above.
- ▶ Existing bank account holders have been asked to furnish the Aadhaar number issued by the Unique Identification Authority of India (UIDAI) by December 31, 2017, failing which the account will cease to be operational, the government notification had said.
- ▶ While the deadline for Aadhaar holders is December 31, those who are yet to enroll may get a three-month extension. Banks are enforcing the rule of mandatory Aadhaar for opening new accounts. There are exceptions to this, though. Small bank accounts (maximum deposit size limit of Rs.50,000) are exempt from the directive.

## **LOGISTICS DATA BANK SERVICES**

- ▶ The Logistics Data Bank's (LDB) services will soon be extended to all major ports in India. The LDB project's objective is to ensure greater efficiency in the country's logistics sector through the use of information technology.
- ▶ The Logistics Data Bank (LDB) project, (The project covers the entire movement of containers through rail or road till the Inland

Container Depot and Container Freight Station) unveiled in July 2016 to make India's logistics sector more efficient through the use of Information Technology, will soon expand operations to the country's southern region.

- ▶ Every container is attached to a Radio Frequency Identification Tag (RFID) and then tracked through RFID readers-aids importers and exporters in tracking their goods in transit.
- ▶ The LDB is being implemented through a Special Purpose Vehicle called Delhi Mumbai Industrial Corridor Development Corporation Logistics Data Services Ltd. (DLDSL)-that is jointly (50:50) owned by the Delhi Mumbai Industrial Corridor(DMIC) Trust and Japanese IT services major NEC Corporation.
- ▶ **Advantages of LDB project:**
  - The project will help in cutting down the overall lead time of container movement as well as reduced transaction costs that consignee and shippers incur.
  - It is billed as a major 'ease of doing business' initiative aimed at boosting India's foreign trade and ensuring greater transparency.
  - The service integrates information available with the agencies across the supply chain to provide detailed, real-time information within a single window.
  - The services include providing users the 'average delivery time' as well as notification through SMS and email.
  - LDB will generate visibility for containers during their transition.
  - The visibility would bring in more transparency and open up competition among each logistics operators to provide better services to end-customers i.e. export/import related companies.
  - Competitive environment would help reducing lead-time and transaction cost for export/import process.

## **DEBT TO GDP RATIO**

- ▶ The government's bank recapitalisation plan, through issue of recapitalisation bonds, will increase India's debt-to-GDP ratio, making it difficult for the government to implement the N.K. Singh fiscal discipline review committee's report.

- ▶ The N.K. Singh committee that submitted its report in April this year recommended anchoring India's fiscal discipline by focusing on bringing down the debt-to-GDP ratio of the centre steeply to 38.7% by 2022-23 from 49.4% in 2016-17. The government is yet to take a final view on implementing the recommendations of the committee.
- ▶ UBS Bank in a report stated that while recapitalisation bonds may not be counted as part of the fiscal deficit and are likely to be liquidity neutral, yet debt-to-GDP could increase by around 120 basis points if the government goes ahead with the issuance.

### What is the 'Debt-To-GDP Ratio'

- ▶ The debt-to-GDP ratio is the ratio of a country's public debt to its gross domestic product (GDP). By comparing what a country owes to what it produces, the debt-to-GDP ratio indicates the country's ability to pay back its debt. Often expressed as a percentage, the ratio can be interpreted as the number of years needed to pay back debt if GDP is dedicated entirely to debt repayment.
- ▶ This ratio is a useful tool for investors, leaders, and economists. It allows them to gauge a country's ability to pay off its debt. A high ratio means a country isn't producing enough to pay off its debt. A low ratio means there is plenty of economic output to make the payments.

### CENTRE PLANS 13 NEW INTEGRATED CHECK POSTS

- ▶ A Cabinet proposal to set up 13 new Integrated Check Posts (ICPs) is being mooted by the Union Home Ministry to encourage India's engagement with its neighbours belonging to SAARC region, as also Thailand and Myanmar.
- ▶ Among the 13 ICPs, seven will be along the India-Bangladesh border, apart from the three already operational there.
- ▶ **Facilities provided by the ICPs:** The ICPs are envisaged to provide all the facilities required for discharge of sovereign and non-sovereign functions to enable smooth cross-border movement of individuals, vehicles and goods under an integrated complex. These would facilitate the processes of immigration, customs, security, quarantine, etc. To enable this, the infrastructural facilities to be provided by the ICPs are:- Passenger terminal building,

Currency exchange, Internet, Cargo process building, Cargo inspection sheds, Warehouse/ Cold storage, Quarantine laboratory, Clearing agents Banks, Scanners DFMD/HHMD, CCTV/ PA System, Isolation Bay, Parking, Cafeteria and Other public utilities.

### CENTRE PERMITS BANKS TO SELL MORE SCHEMES

- ▶ In order to encourage savings, the government has allowed banks, including top three private sector lenders, to accept deposits under various small savings schemes like National Savings Certificate (NSC), recurring deposits and monthly income plan.
- ▶ The Small Savings Schemes can be grouped under three:
  - **Post office Deposits:** Post Office Savings Account, Post Office Time Deposits (1,2,3 and 5 years), Post Office Recurring Deposits, Post Office Monthly Account,
  - **Savings Certificates:** National Savings Certificate (VIII Issue) and Kisan Vikas Patra (iii) **Social Security Schemes:** Public Provident Fund, Senior Citizens Savings Scheme, and Sukanya Samridhhi Account.
- ▶ **National Savings Certificates**, popularly known as NSC, is an Indian Government Savings Bond, primarily used for small savings and income tax saving investments in India. It is part of the postal savings system of Indian Postal Service (India Post).
- ▶ Post Office Monthly Income Scheme (POMIS) Account. POMIS is a five-year investment with a maximum cap of Rs 9 lakh under joint ownership and Rs 4.5 lakh under single ownership. The interest rate is set each quarter and is currently at **7.8 per cent per annum**, payable monthly.

## **Polity and Governance**

### CENTRE FOR VULNERABLE IN HIGH COURT

- ▶ Vulnerable witnesses in criminal cases, often minor survivors of rape or victims of sex abuse face trauma in conventional courtrooms.
- ▶ Victims often end up being ill-treated by the very system they had approached in the hope

of justice. Delay and intimidating questions during trial in a hostile environment lead to fewer convictions.

- ▶ Thus the Supreme Court has ordered the setting up of at least two vulnerable witnesses deposition centres in the jurisdiction of every High Court across the country within the next three months.
- ▶ The Bench suggested that other high courts should adopt the Delhi HC's 'Guidelines for Recording the Evidence of Vulnerable Witnesses in Criminal Matters,' with required modifications. The Delhi HC's guidelines are filtered from the best practices followed by other countries and the police and precedents of the apex court and high courts.
- ▶ The practices include a screen or some arrangement by which the victim does not see the body or face of the accused; reducing cross-examination questions to writing and handing them over to the judge to be put to the victim in a language that is clear and not embarrassing; and sufficient breaks for victims of child abuse or rape while testifying.
- ▶ The order upholds the right of vulnerable witnesses to be protected while testifying in court and is in consonance with international norms in these matters.

### **UNIVERSAL SOCIAL SECURITY SCHEME**

- ▶ The government has drafted an ambitious Rs 1.2 lakh crore plan to provide universal social security coverage for the poorest fifth of the country as part of a bigger scheme that's being planned for all individuals.

#### **What is the need for the scheme?**

- ▶ According to The Economic Times, India's total workforce currently stands at 450 million. Though the statistics make it sound that a large fraction of the Indian population is employed, it is rather saddening that only a little over 10 percent are in the organised sector and get to enjoy the basic social security.
- ▶ In fact, among the 10 million people who add on to the workforce every year, most of them don't receive the minimum wage and lack any kind of social security coverage, the reason being that most of them belong to the unorganised sector.

#### **Features of the scheme**

- ▶ This broader programme envisages three categories – the poorest 20%, who will get a

government payout; those who subscribe on their own and formal sector workers who will need to set aside a fixed proportion of income toward the scheme.

- ▶ The scheme will have two tiers. The first of these comprises mandatory pension, insurance (both death and disability) and maternity coverage and the second, optional medical, sickness and unemployment coverage.
- ▶ Funds collected under the universal social security scheme will be divided into sub schemes and be ringfenced, meaning the benefits and the contribution will be commensurate.
- ▶ The optional element will depend on the funds collected under the mandatory scheme, the official said. The government feels the scheme will enjoy economies of scale and even those making self-contributions will find it attractive because of the large numbers involved.

While funding the scheme will be a challenge for the government, which has pledged to stick to the deficit target, it is seen as one that will gain broad popular support. The new policy will be part of the social security.

### **PRADHAN MANTRI KAUSHAL KENDRA FOR SKILLING IN SMART CITIES**

- ▶ India's first Pradhan Mantri Kaushal Kendra (PMKK) for Skilling in smart cities was inaugurated in New Delhi.
- ▶ The main aim behind the move is to bring momentum in skilling through collaborative efforts.
- ▶ The Centre is emphasizing on the commitment of the Union Government to support skilling in smart cities.
- ▶ *National Skill Development Corporation (NSDC), an executive arm of Skill Development Ministry, has collaborated with New Delhi Municipal Council Smart City Limited for the following:*
  - To extend cooperation for setting up of PMKK Centres for Smart Cities.
  - To provide skill training for unemployed youth through its short-term training (STT) module.
  - Contribute to the capacity building of municipal employees through Recognition of Prior Learning (RPL) program.



## Science & Environment

### INS KILTAN

- ▶ INS Kiltan is an indigenously-built anti-submarine warfare stealth corvette that will be commissioned into the Indian Navy.
- ▶ This is the third of the four Kamorta-class corvettes being built under Project 28. The Kamorta-class corvettes are a class of anti-submarine warfare corvettes currently in service with the Indian Navy.
- ▶ With a displacement of 3,500 tonnes, the ship spans 109 metres in length and 14 metres at the beam and is propelled by four diesel engines to achieve a speed of over 25 knots.
- ▶ It is designed by the Indian Navy's in-house organisation, Directorate of Naval Design, and built by Garden Reach Shipbuilders & Engineers (GRSE) in Kolkata.
- ▶ It is the first major warship to have undertaken sea trials of all major weapons and sensors as a pilot project.
- ▶ The ship derives its name from one of the islands in Aminidivi group of the Lakshadweep and Minicoy group of islands.

### SAWFISH

- ▶ Sawfish are elasmobranchs, meaning their skeleton is made of cartilage. They are closely related to sharks and have shark-shaped bodies and, hence, are also called flat sharks.
- ▶ Sawfishes are one of the most endangered aquatic animals in the world and the first International Sawfish Day has been observed globally on 17<sup>th</sup> October. The aim is to generate awareness about the endangered and critically endangered sawfish species, to educate people on the threats they face and to develop strategies to conserve them.
- ▶ India has protected sawfishes from being exploited by including them in Schedule I of the Indian Wildlife (Protection) Act, 1972. Sawfishes thus have a protected status similar to tigers and elephants.
- ▶ At present, there is a concentrated major effort by ICAR-Central Marine Fisheries Research Institute (CMFRI) to assess the status, current and historic distributions and abundance of sawfishes, sharks and shark-like biologically

vulnerable species which are threatened primarily by fishing pressure and habitat destruction.

### IISC - NEW TOOL TO DIAGNOSE MALARIA

- ▶ By studying the properties of normal red blood cells (RBCs) and parasite-infected RBCs, scientists at the Indian Institute of Science, Bengaluru, (IISc) have developed a new diagnostic tool for early detection of malaria.
- ▶ In this technique, laser beams are focused at the micron-sized RBC (like tweezers holding the RBC) under a microscope and imaged with a video camera.
- ▶ The Brownian motion (random movement of particles) of the normal RBC was found to be different from the infected ones.
- ▶ A photodetector was used to measure this motion of the trapped particle. The researchers quantified the fluctuations using the 'corner frequency' measurement. The corner frequency of normal cells was 25 hertz whereas it was 29 hertz for infected cells. The change in frequency was due to the difference in the rigidity of the cells; the infected cells were more rigid compared to the normal ones.
- ▶ When trapped, the RBC gets folded as it is biconcave in shape and the time taken for folding inside the trap was measured. As the infected cells were more rigid they took about 1.33 seconds to fold whereas normal cells took only 0.8 seconds. A measure of folding time can also be used to determine whether a cell is infected.
- ▶ The technique is very easy and does not require trained personnel as it is fully automated. Very little blood is needed, and it can be drawn at any time of the day. The changes can be seen in the blood even when the parasite count is very low due to the bystander effect.

### ROBOBEE

- ▶ **RoboBee** is a tiny robot capable of tethered flight.
- ▶ The goal of the RoboBee project is to make a fully autonomous swarm of flying robots for applications such as search and rescue and artificial pollination.
- ▶ The RoboBee weighs just 175 milligrams (that's 14 times lighter than a cent), and at this size, surface tension is like extra strong gravity: it's 10 times the robot's weight, and three times its lifting power.

- ▶ The RoboBee is 1,000 times lighter than any previous aerial-to-aquatic robot, and could be used for numerous applications, from search-and-rescue operations to environmental monitoring and biological studies.

### VIKRAM OPV

- ▶ The **Vikram-class offshore patrol vessel** is a series of seven offshore patrol vessels (OPV) being built at the Kattupalli shipyard by L&T Shipbuilding for the Indian Coast Guard. These are long range surface ships which are capable of coastal and offshore patrolling.
- ▶ The ship is fitted with one 30 mm automatic gun and two 12.7 mm gun with fire control systems. It would have integral twin-engine helicopter, which would enhance its operational, surveillance, search and rescue capabilities.
- ▶ The vessel is equipped with state-of-the-art radars, navigation and communication systems capable of operating in tropical conditions.
- ▶ In addition, it also has modern radars, navigation and communication systems. It has been indigenously designed and has undergone dual certification from American Bureau of Shipping and Indian Registrar of Shipping. The ships would be tasked with the roles of policing maritime zones, control and surveillance, search and rescue, pollution response, anti-smuggling and anti-piracy in the economic zones of the country.

### BOVINE TB

- ▶ The first-ever road map to combat animal **tuberculosis** (bovine TB) and its transmission to humans, referred to as zoonotic TB has been issued.
- ▶ Bovine TB, caused by *Mycobacterium bovis*, affects cattle, threatens people's livelihoods and results in major economic and trade barriers, as well as posing a major risk to food safety and human health.
- ▶ Zoonotic TB spreads through consumption of contaminated untreated meat or dairy products from diseased animals. New data released by the WHO estimates that over 140,000 people fall ill and more than 12,000 people lose their lives each year to zoonotic TB – mostly in Africa and Southeast Asia.
- ▶ There is no cure for bovine TB and it threatens animal welfare and those with livelihoods based on livestock.

- ▶ Bovine TB is most often communicated to humans through food consumption, usually non-heat-treated dairy products or raw, or improperly cooked meat from diseased animals. Direct transmission from infected animals or animal products to people can also occur. Experts maintain that for countries to achieve the global TB elimination targets, interventions addressing zoonotic TB must be introduced in the national programmes.
- ▶ The priorities outlined in this road map highlight the need for multi-sectoral action to tackle this neglected form of TB and achieve the targets of the UN Sustainable Development Goals and WHO's End TB Strategy.

### LANCET STUDY REPORT : MOST POLLUTION LINKED DEATHS OCCUR IN INDIA

- ▶ Pollution is the largest environmental cause of disease and premature death in the world today. Diseases caused by pollution were responsible for an estimated 9 million premature deaths in 2015—16% of all deaths worldwide— three times more deaths than from AIDS, tuberculosis, and malaria combined and 15 times more than from all wars and other forms of violence. In the most severely affected countries, pollution-related disease is responsible for more than one death in four.
- ▶ Pollution disproportionately kills the poor and the vulnerable. Nearly 92% of pollution-related deaths occur in low-income and middle-income countries and, in countries at every income level, disease caused by pollution is most prevalent among minorities and the marginalised. Children are at high risk of pollution-related disease and even extremely low-dose exposures to pollutants during windows of vulnerability in utero and in early infancy can result in disease, disability, and death in childhood and across their lifespan.
- ▶ With 2.51 million deaths in 2015, India has been ranked No. 1 in **pollution** related deaths.
- ▶ China recorded the second highest number of such deaths (1.8 million). India accounted for about 28 per cent of an estimated nine million pollution linked deaths worldwide in 2015.
- ▶ In the case of air pollution, the number of deaths in India from ambient air pollution was 1.09 million, while deaths from household air pollution from solid fuels were 0.97 million. In the case of water pollution, 0.5 million deaths

were caused by unsafe water source, while unsafe sanitation caused 0.32 million deaths.

- ▶ Pollution is responsible for more deaths than a high-sodium diet (4.1 million), obesity (4.0 million), alcohol (2.3 million), road accidents (1.4 million), or child and maternal malnutrition (1.4 million). Pollution was also responsible for three times as many deaths as AIDS, tuberculosis, and malaria combined.
- ▶ **The key recommendations are:**
  - Make pollution prevention a high priority nationally and internationally and integrate it into country and city planning processes.
  - Mobilise, increase, and focus the funding and the international technical support dedicated to pollution control.
  - Establish systems to monitor pollution and its effects on health.
  - Build multi-sectoral partnerships for pollution control. Broad-based partnerships across several government agencies and between governments and the private sector can powerfully advance pollution control and accelerate the development of clean energy sources and clean technologies that will ultimately prevent pollution at source.
  - Integrate pollution mitigation into planning processes for non-communicable diseases.

## Miscellaneous News

### SAUDI ARABIA HAS BECOME THE FIRST COUNTRY TO GIVE A ROBOT CITIZENSHIP.

- ▶ Saudi Arabia has become the first country in the world to grant citizenship to a robot.
- ▶ The female robot's name is Sophia.
- ▶ Sophia can change facial expressions to show human-like feelings such as anger, sadness or disappointment.

### INDIA, BRAZIL AND SOUTH AFRICA (IBSA) HAVE SIGNED THE IBSA TRUST FUND AGREEMENT

- ▶ India, Brazil and South Africa signed the IBSA Trust Fund Agreement that seeks to fight poverty in developing countries.
- ▶ The three emerging economies of India, Brazil and South Africa are brought together by IBSA to combat poverty in other developing

countries particularly Least Developed Countries (LDCs) and Post Conflict Reconstruction and Development (PCRD) countries around the world in partnership with the UN by contributing USD 1 million annually to this fund which is managed by the UN Development Programmes (UNDP) Special Unit for South-South Cooperation.

### INDRA 2017 EXERCISE

- ▶ Exercise INDRA-2017 will be conducted at the 249th Combined Army Range Sergeevskiy and in the Sea of Japan near Vladivostok. The Indian contingent will comprise of 350 personnel from Army, 80 from Air Force, two IL 76 aircraft, and one Frigate and Corvette each from the Navy," the Indian MoD states. "The Russian Federation Armed Forces will be represented by approximately 1000 troops of the 5th Army, Marines and Ships of Pacific Fleet, and aircraft from Eastern Military District."
- ▶ The joint tri-service exercise will be a demonstration of the increasing commitment of both nations to address common challenges across the full spectrum of operations.
- ▶ The Indian Army, Navy and Air Force have been holding bilateral exercises separately with their Russian counterparts but it is for the first time that the two countries are carrying out a tri-services exercise.
- ▶ INDRA-2017 will serve towards strengthening mutual confidence and interoperability as well as sharing of the best practices between the armed forces of both the countries. The joint tri-service exercise will be a demonstration of the increasing commitment of both nations to address common challenges across the full spectrum of operations.