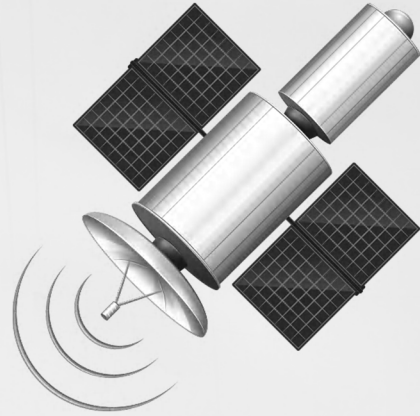


GS SCORE

**CURRENT
ANALYST**



COVER STORY:

Role of **ISRO** in **NATION BUILDING**

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ENVIRONMENT

Objective

With the changing pattern of IAS and preparation methodology, now the aspirant is facing the issue of information overload. The proper articulation of information is important for penning down one's thoughts in the Mains answer.

Thus GSSCORE is coming up with "CURRENT ANALYST" – a magazine that provides material on contemporary issues with complete analysis.

The material has been designed in lucid and QnA format so that an aspirant can develop thinking process from Basic to Advance while reading the topic.

This will enhance the informative and analytical knowledge of aspirants.

All the best !!!

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COVER STORY

ISRO and its Role in Nation Building

Context

ISRO is acting as one of the pillar of nation building. Further it is acting as the platform for establishing India's soft power.

ISRO is the space agency of the Government of Republic of India headquartered in the city of Bangalore (Karnataka). Its vision is to “harness space technology for national development”, while pursuing space science research and planetary exploration.

The Indian Space Research Organization is the sixth largest government run space agency in the world and stands in line with the other leaders in space research and development such as NASA, RKA, ESA, CNSA and JAXA.

ISRO has carried out 76 spacecraft missions, 46 launch missions. It has launched 111 satellites using indigenously developed launch vehicles out of which 57 are foreign satellites. ISRO has launched 29 Indian satellites by foreign launch vehicles too. In October 2015, ISRO had launched 23 foreign satellites from nine different countries which are: Algeria, Canada, Germany, Indonesia, Japan, Singapore and the US.

► Vikram Sarabhai on ISRO:

Vikram Sarabhai, whose vision drove the Indian Space programme and who is also considered father of the Indian Space programme had, said about ISRO in 1969.

“There are some who question the relevance of space activities in a developing nation. To us, there is no ambiguity of purpose. We do

not have the fantasy of competing with the economically advanced nations in the exploration of the Moon or the planets or manned space-flight. But we are convinced that if we are to play a meaningful role nationally, and in the community of nations, we must be second to none in the application of advanced technologies to the real problems of man and society.”

► A P J Abdul Kalam on ISRO:

Former president and scientist A P J Abdul Kalam, had this to say about ISRO:

“Many individuals with myopic vision questioned the relevance of space activities in a newly independent nation, which was finding it difficult to feed its population. Their vision was clear if Indians were to play meaningful role in the community of nations, they must be second to none in the application of advanced technologies to their real-life problems. They had no intention of using it as a means of displaying our might.”

Application of Space for national development

Satellite communication is the use of artificial satellites to provide communication links between various points on Earth. A satellite is basically a self-contained communications system with the ability to receive signals from Earth and to retransmit those signals back with the use of a

transponder—an integrated receiver and transmitter of radio signals.

There are three types of communication services that satellites provide:

- ▶ **Telecommunication services** include telephone calls and services provided to telephone companies, as well as wireless, mobile, and cellular network providers.
- ▶ **Broadcasting services** include radio and television delivered directly to the consumer and mobile broadcasting services.
- ▶ **Data communications services** involve the transfer of data from one point to another.

ISRO's mega achievements so far

- ▶ First satellite **Aryabhata** made by ISRO was launched on 19th of April 1975 by the then Soviet Union.
- ▶ The first satellite to be placed in orbit by an India made launch vehicle was **Rohini**. It was launched in 1980 by SLV-3.
- ▶ Developed two rockets Polar Satellite Launch Vehicle (PSLV) and Geo-synchronous Satellite Launch Vehicle (GSLV). PSLV is to launch satellites into polar orbits and GSLV is to place satellites in geostationary orbits. These two rockets have from then on launched numerous communication satellites and earth observation satellites.
- ▶ Satellite navigation systems like **GAGAN** and **IRNSS** have been deployed by ISRO.
- ▶ January 2014 marked an important milestone in the journey of ISRO as it successfully used an indigenous **cryogenic** engine in a **GSLV-D5** launch of the **GSAT-14**.
- ▶ ISRO on the 22nd of October 2008 sent one lunar orbiter, **Chandrayaan-1**.
- ▶ On the 24th September 2014 ISRO launched Mars orbiter. **Mars Orbiter Mission (MOM)**, which successfully entered Mars orbit, made India the first nation to succeed on its first attempt to launch a Mars Orbiter.
- ▶ ISRO became the fourth space agency in the world as well as the first space agency in Asia to successfully reach **Mars orbit**.

Over the last four decades, Indian Space program has made remarkable progress towards building the space infrastructure as the community resource to accelerate various developmental processes and harness the benefits of space applications for socio-economic development.

ISRO plays an important role in rural and urban development. The concept of development connotes overall development of the nation with a view to improve the quality of life of people. In this sense, it is a comprehensive and multidimensional concept and encompasses the development of agriculture and allied activities, village and cottage industries, socio-economic infrastructure, community services and facilities, and above all the human resources.

Some of the applications are discussed below:

▶ **Village Resource Centre (VRC)**

ISRO has embarked upon VRC programme to disseminate the portfolio of services emanating from the space systems as well as other Information Technology (IT) tools, directly down-the-line to the rural communities. VRCs essentially have: digital connectivity (for videoconferencing and information transfer) with knowledge centers and specialty healthcare providers enabled via INSAT; spatial information on natural resources generated using IRS data; a host of information pertaining to management of natural resources and socio-economic relevance; and facilities for primary healthcare services and distance education.

With the involvement of stakeholders, VRCs will catalyse rural entrepreneurship; and facilitate e-Governance and other services of social relevance. ISRO is implementing VRC programme in partnership with reputed NGOs, Trusts and other agencies including the Governmental ones.

▶ **Satellite Communication**

Satellite communications has the ability to simultaneously reach a large population, spread over vast distances, and inherently is a powerful tool to support development education and training.

ISRO had undertaken several projects that focused on development of humanity through sophisticated satellite-based communication. Right from the inception of utilizing space programmes for development, the experiments like Satellite

Instructional Television Experiment (SITE), Kheda Communications Project (KCP), Jhabua Development Communications Project (JDCP), Training and Development Communication Channel (TDCC) have been carried out.

Example:

ISRO's Gram SAT satellite connects rural development ministry with 1100 panchayats. The exercise was aimed at getting feedback on the various rural development schemes under operation in the state and to gain an insight into the problems at the field level, on which the ministry needed to focus further planning efforts.

The effort was equally aimed at enhancing the awareness of the beneficiaries on their entitlement and various processes involved for availing the benefit of the schemes.

The communication initiative was part of the ministry's effort to bring about transparency and efficiency in implementation of its various schemes all over the country, for which it has been initiating different proactive measures like online monitoring and social auditing, among others.

Gram SAT pilot projects are being run in some select states of the country and are being utilised to reach out development messages directly to the villagers by ensuring community listening, viewing and linking up large body of villagers.

► Tele-Education

The tele-education programme launched by ISRO, serviced by the exclusive satellite 'EDUSAT', is primarily intended for school, college and higher levels of education to support both curricula based as well as vocational education. With 5 Ku-band transponders providing spot beams, and one Ku-band transponder providing national beam, and 6 extended C-band transponders with national coverage beams, EDUSAT is specifically configured for audio-visual medium, employing digital interactive classroom and multimedia multi-centric system. Many important institutions such as the IGNOU, UGC, IITs, and many State Education Departments and Universities are making use of the EDUSAT network. Presently, more than 34,500 classrooms are in the EDUSAT network out of which 3,400 are interactive terminals.

Satellites can establish the connectivity between urban educational institutions with adequate infrastructure imparting quality education and the large number of rural and semi-urban educational institutions that lack the necessary infrastructure. Besides supporting formal education,

a satellite system can facilitate the dissemination of knowledge to the rural and remote population about important aspects like health, hygiene and personality development and allow professionals to update their knowledge base as well. Thus, in spite of limited trained and skilled teachers, the aspirations of the growing student population at all levels can be met through the concept of tele-education.

► Tele-Medicine

A healthy citizen contributes to make a healthy nation. The space technology, provides telemedicine facilities to the people.

Telemedicine is a confluence of Communication Technology, Information Technology, Biomedical Engineering and Medical Science. The Telemedicine system consists of customised hardware and software at both the Patient and Specialist doctor ends with some of the Diagnostic Equipments like ECG, X-ray and pathology Microscope/Camera provided at the patient end. They are connected through a Very Small Aperture Terminal (VSAT) system and controlled by the Network Hub Station of ISRO. Through a Telemedicine system consisting of simple computer with communication systems, the medical images and other information pertaining to the patients can be sent to the specialist doctors, either in advance or on a real time basis through the satellite link in the form of Digital Data Packets. These packets are received at the specialist centre.

ISRO's telemedicine network has enabled many poor rural villagers hitherto denied with quality medical services to get the best of medical services available in the country. As of now, we have 377 tele-medicine nodes consisting of 320 remote/district/ medical college/ mobile hospitals connected to 57 super specialty hospitals in different cities through ISRO's satellites. The ISRO telemedicine network is expanding to various regions in the country and has become one of the most visible and sociological applications in the world today.

► Disaster Management Support (DMS)

India is one of the most disaster prone countries in the world with increasing vulnerability to cyclones, floods, landslides, droughts and earthquakes. The Disaster Management Support (DMS) Programme of ISRO, provides timely support and services from aero-space systems, both imaging and communications, towards efficient management of disasters in the country. The DMS programme addresses disasters such as flood,

cyclone, drought, forest fire, landslide and Earthquake. These include creation of digital data base for facilitating hazard zonation, damage assessment, etc., monitoring of major natural disasters using satellite and aerial data; development of appropriate techniques and tools for decision support, establishing satellite based reliable communication network, deployment of emergency communication equipments and R&D towards early warning of disasters.

To support the total cycle of disaster/emergency management for the country, in near real time, the database creation is addressed through National Database for Emergency Management (NDEM), a GIS based repository of data. NDEM is envisaged to have core data, hazard-specific data, and dynamic data in spatial as well as a spatial form.

► **Remote Sensing Applications**

Remote sensing has enabled mapping, studying, monitoring and management of various resources like agriculture, forestry, geology, water, ocean etc. It has further enabled monitoring of environment and thereby helping in conservation. In the last four decades it has grown as a major tool for collecting information on almost every aspect on the earth. With the availability of very high spatial resolution satellites in the recent years, the applications have multiplied. In India remote sensing has been used for various applications during the last four decades and has contributed significantly towards development.

India has its own satellites like Indian Remote Sensing Satellite (**IRS**) series – **Resourcesat, Cartosat, Oceansat** etc. which provide required data for carrying out various projects. Some of the important projects carried out in the country include Groundwater Prospects Mapping under Drinking Water Mission, Forecasting Agricultural output using Space, Agro-meteorology and Land based observations (FASAL), Forest Cover/Type Mapping, Grassland Mapping, Biodiversity Characterization, Snow & Glacier Studies, Land Use/Cover mapping, Coastal Studies, Coral and Mangroves Studies, Wasteland Mapping etc. The information generated by large number of projects have been used by various departments, industries and others for different purposes like development planning, monitoring, conservation etc.

► **Urban Planning**

It pertains to a district or an entire city. High resolution satellite imagery and **LIDAR** incorporated into a GIS (Geographic Information Systems) and CAD (Computer Aided Drafting) has

gained popularity among Planners, Developers and Engineers for large scale mapping of any region for most urban and land development applications.

Information from satellite Images when combined with GIS mapping is used for:

- analysis in evaluating construction costs
- environmental impact of alternative routes for utility and transport corridors;
- land cover and land use classification;
- Identifying population groups at risk where human intervention is most needed to limit and prevent hazards during development stages.

Satellite image data is highly useful for creating or updating base maps and detecting major changes in urban land cover and land use due to their multispectral band combinations, which allows for frequent coverage and overlaying of different time sequences to classify soil and vegetation areas for the proposed development area(s).

Other applications include:

- Updating information on road networks and other urban infrastructure
- Collection and analysis of data on population density, distribution and growth
- Preparation of housing typologies
- Analysis of watersheds

Space Based Information System for Decentralized Planning (SIS-DP)

Realizing the potential and capability of remote sensing and GIS for providing cost and time-effective resource database, the Planning Commission, Ministry of Panchayati Raj and Ministry of Rural Development has proposed to prepare **District Resource Atlas** using remote sensing and GIS techniques to strengthen various aspects of decentralized district level planning through a co-ordinated approach.

The Information Communication Technology (ICT) enabled geospatial platform can be formed using space based Earth Observation (EO) systems and engaging local bodies for planning and carrying out area developmental activities in a decentralized, speedy and transparent manner.

The major objectives in village development are:

- Spatial depiction of land & water resource along with their attribute

information for preparation of District Resource Geospatial Atlas keeping Village Cadastral data as base on seamless manner for entire country; (States which are already covered may be brought to uniform standard with respect to content and accuracies).

- ▶ Development of software tools and utilities (including web based GIS applications and standalone) for providing multipurpose user driven applications for speedy, accurate and transparent decision making for district planning.
- ▶ Capacity building in state departments along with training of manpower and capability for spatial data analysis, which will maintain, updates & manage database for decentralized planning.

Village cadastral maps will be collected, scanned, vectorised and geo-referenced to be overlaid onto ortho-rectified imagery. Attribute data from user departments will be converted into spatial layer and various customized information system will be developed for use in planning activity. One node for each state will be created for providing centralized facility for archiving, organizing, updating and dissemination of information at grassroots level.

The objective of the Space based Information System for Decentralized Planning mission is to establish and enable the information system comprising of spatial natural resources and non-spatial data towards supporting the districts for the decentralized planning. This GIS database will be customized to meet the requirements of stake holder departments/ concerned in providing the digital resource atlases and any other requirements of the States based on their problems/ priority/ developmental programme at Village/ Block/ Taluka/ District level. The Mission is intended to be executed and supported by State Remote Sensing Application Centres / Institutes / IT Departments and Industries and ownership of the database and resource information will be with respective individual stakeholder departments.

▶ Engineering and Construction

Satellite images provide an **economical, accurate** and **rapid means** of obtaining quick assessment for any significant construction or

engineering project, e.g., airstrip, bridge, dam, water, power plant, sewer, industrial park, canal and storm utilities, etc.

Geographic Information Systems (GIS), global positioning system (GPS) is used in feature extraction, manipulation, and providing accurate and orthorectified geo-referenced satellite image data.

▶ Crime Mapping

GIS (geographic information systems) and data mapping applications for crime mapping has become a necessary tool in **law enforcement** agencies worldwide, probably one of the most valuable tools available. Crime mapping is a key component of crime analysis.

Satellite images can display important information about criminal activities happening around the nation and around the world. The added functionality of satellite imagery and GIS in computer mapping has increased the capabilities of crime fighting due to the efficiency and speed of the analysis.

GIS allows analysts to overlay other datasets such as census demographics, locations of stores, banks and schools, etc., to better understand the underlying causes of crime and help law enforcement administrators to devise strategies to deal with the problem. GIS is also useful for law enforcement operations, such as allocating police officers and dispatching to emergencies.

▶ Homeland Security Mapping

Every community has facilities that are critical, from emergency response to safety operations. GIS applications such as orthorectified topographic base maps, remote sensing data, and vector layers (i.e., roads, rivers, buildings) are now the basis for assessing security risks and modeling emergency scenarios. Satellite imagery and GIS data is critical to homeland security because it enables managers, supervisors and emergency personnel to integrate multiple information types into a common visual application.

▶ Airport Mapping Database

3D airport mapping use high resolution stereo satellite imagery to support airport pre-planning and design, Airport Layout Plans (ALPs), navigational mapping, airport security and aviation safety operations.

3D Digital Surface Models (DSM's) and Digital Terrain Model (DTM's) can be created to support airport and aviation operations to provide details and data for the construction of airport runways, airport terminals, airport layout design, airspace

analysis, obstruction surveys, facility mapping, taxiways, aprons/parking areas, 3D flight simulation for pilot training, aircraft operations, and GIS database development.

► **3D Urban and Terrain Modeling**

The DSM's or DEM's are utilized in support of the pre-planning and lay-out of corridor surveys, aviation, telecommunication, area developments, engineering, construction activities, environmental and cadastre applications.

3D visualization models are essential for many applications, such as military operations, flight simulator development, disaster management, mapping of buildings, updating and keeping cadastral databases current, change detection and virtual reality.

► **Satellite Images for Environmental Monitoring**

High resolution satellite imagery has facilitated scientific research activities at landscape and regional scales. Availability of satellite images can provide spatial resolutions of 0.5m or better for analysis of urban growth and transportation development for assessment and monitoring. Multispectral sensors can provide increased spectral resolution that can be used to further analyze environmental conditions, land cover and change detection, and how urban growth and associated transportation development impact these conditions.

► **Other applications**

- ISRO is very helpful in railways for providing them right direction and make aware about faults in railway lines with the help of its sensing technology.
- Combining with defence sector it provides help to army for monitoring at night and also can be used in army's new weapon as technology.
- ISRO will be very helpful in mining process, and to stop illegal mining with the help of its monitor sensing system.
- With the help of ISRO India will be able to make its relation with other countries. It will also help in making economic relation better with those countries. For ex.- Indonesia, America and Canada.
- ISRO will be very helpful in technology enhancement, due to which scientific interest has increase in India and more students go for higher studies. In INDIA, per 10000 only 1 person go in research field while in USA per 10000, 5-8 persons go for research field.

Examples:

- **GAGAN & BHUVAN:** They can perform a phenomenon role in monitoring road development process under NHA as well as its maintenance by contract organization. It will be helpful in checking road accidents.
- **DRONES:** It can work extensively in providing services to difficult terrain or during calamity in providing food, health services to the people
- **Stop Brain DRAIN:** Achievement made by ISRO can substantially stop the brain drain of science students as they will see opportunity within India. It will help in tackling old age problems of students who often go to foreign countries to seek better career prospects.
- **Astrosat:** This is the first space observatory sent by India. It can help in understanding the Neutrinos and can help in finding cures of health problems like cancer.
- **Web Based Crop Insurance System:** With the success of IRNSS it can help in improving better crop monitoring through satellite and adequate compensation as per crop degradation due to unseasonal rainfall. It can substantially improve the condition of rural people
- **Funds:** Successful launch satellites of other countries by ISRO can help in increase in forex of our country. Recently tally goes to 51 and with complete success it will improve the credibility of ISRO. That funds could be utilized for improving socio economic activities by the government by the time they are surplus.

ISRO can help India gain a scientific and technological development which is pro-people

- **Developing Scientific Temperament:** ISRO provides great opportunities in scientific research and technological development. Thus, creating awareness about value of science amongst Indian people which in future will attract youth in research and scientific activities.
- **Economic development through Resource generation:** ANTRIX the commercial entity of ISRO generates huge profit through utilising the success of our launch vehicle. That income is utilised by ISRO to further do research and reducing the burden on government for its research activities so, that government can utilise its fiscal efficiency for socio development.
- **Making India Digitally Empowered:** Digital India is the new mantra of the socio and economic development of the India. For the

success of the E-governance and the Skill development and the tele-education like activities it is necessary that the remotest of place in India must be connected through the Internet, Mobile and broadband communication. It can only happen when there are sufficient SPECTRUM and Bandwidth available for these kinds of activities.

- ▶ **Resource Mapping and resource management, Mineral exploration and managing the river conservation plans**
IRS satellite will help in preparing plans for these activities. Urban planning, forest management, Thermal imaging in the border areas will also help government in future to manage the planning and defence activities so that peaceful and democratic development of India will take place.

ISRO emerging as a soft power

Soft-Power could be defined as the ability of a state to get what it wants by attracting and persuading others to adopt its goals.

India is steadily and quietly expanding its influence over a large part of the developing world by making available its expertise and services for building and launching satellites. India's spreading influence (courtesy of space technology) is quite evident in many third world countries. This is an opportunity that India should not waste. And this opportunity goes much beyond India's existing commercial space policy. A case in point is the recent finding of water on the surface on the moon by Chandrayan 1, which has helped the Indian Space Research Organization (ISRO) to demonstrate the country's leadership in the field of science and technology.

From the last few years, India is using its space industry to extend its Soft-Power. It is establishing linkages in the space arena with countries in Africa and South America, including Nigeria, Venezuela, and Brazil. India is already working with a few international partners like NASA, but such partnerships are more from the point of view of technology collaboration. Such collaborations are a must in fields like going to the Moon and Mars.

But at the same time there is a need to engage other countries who are novices in this field. Indirectly, this could offer India a form of 'security' that is beyond tanks, fighter jets and nuclear deterrence. It would help India increase its influence over other states through non-military means.

India is particularly well suited to make very effective use of space as an Instrument of soft power for a number of reasons:

- ▶ As the ISRO Commission on "Smart Power" notes, India is the only global nation, and the expansion of the human sphere of influence into space is indisputably a global undertaking.
- ▶ The successes and challenges of space exploration, from the 'chandrayan to magalyan', these missions are dramatic examples of key characteristics such as hope, enthusiasm, and optimism.
- ▶ Unlike other countries, Indian civilian space activities have always been explicitly kept apart from the national security space activities of the defense and intelligence communities.

Commercial branch of ISRO

- ▶ The Bangalore based commercial arm of the Indian space programme, has made modest forays in the global space market for launch services, sale of satellite resources data and spacecraft hardware and components in addition to mission support service. Set up in 1992 as a Government of India owned company, **Antrix** has reported a turnover of Rs. 10, 000-million during 2008-09 and is aiming at an annual growth of 25%.
- ▶ Antrix's growth strategy is based on rapidly expanding its business to new geographical areas and enhancing the range of services offered by it. In particular Antrix is looking at nations like Algeria, Brazil and Kazakhstan to boost its commercial prospects. Meanwhile India is offered to make available Indian satellite resources data to South East Asian countries for managing natural disasters and also offered Indian help in launching small satellites built by them.
- ▶ Antrix continues to forge ahead with the sale of Indian Remote Sensing Satellite (IRS) imageries over a wide part of the world through distributors and satellite imagery marketing outfits. Satellite data sale currently account for around 10 per cent Antrix's turn over. While in Europe and North America there is fairly good demand for IRS data. The sale of IRS data products has been growing in Asian countries including Nepal, Turkey and Japan.

- ▶ While Promoting the four-stage space workhorse Polar Satellite Launch Vehicle (PSLV) as a preferred vehicle for launching small and nano satellites as piggyback payloads, (PSLV, which is a versatile platform for delivering a variety of satellite payloads into a variety of orbits), during its September 2009 mission launched Indian Ocean watch satellite Oceansat-11 along with six nano satellites of international customers as piggy back payloads in one go. In April 2008, PSLV established a new record by launching as many as 10 satellites in one go. Of these 8 were nano satellites built by research institutions in Europe, Canada and Japan and launched under a commercial arrangement with Antrix., a PSLV flight launched Israel's reconnaissance satellite TECSAR under a commercial deal. Prior to that in April 2007, PSLV was deployed to launch Italian research satellite Agile, marking a major step for Antrix in the global launch service market.
- ▶ Of the **39 satellites launched** so far by Antrix, 17 have been Indian and the rest belong to overseas customers. Antrix now has the contract for launching Algeria's Alsat-2 satellite, Italy's IMSAT spacecraft as piggy back payloads. Also in the line for launch is X-sat micro satellite of Singapore's Nanyang Technological University (NTU). PSLV has already launched satellites from countries including South Korea, Indonesia, Turkey, Belgium and Germany.
- ▶ Antrix is also exploring the African market with a particular focus on Nigeria and South Africa for promoting its launch services. Antrix has also reached an understanding with the European space transportation company "**Arianespace**" under which small satellites from Europe would be scouted for launch by Indian space vehicles.
- ▶ Antrix is hoping to achieve a breakthrough in launch services after the successful commissioning of Geosynchronous Satellite Launch Vehicle (GSLV) MK III by the end of this decade. The three stages, 629-tonne

GSLV-MK, will enable Antrix to bid for orbiting heavier class commercial communications satellites. But then there are many serious entry barriers that Antrix will have to overcome before it emerges as a leading player in the multibillion dollar global markets for launching satellites.

- ▶ Exploration and the civil applications of space are obvious, high-profile, high-leverage mechanisms for exercising soft power.
- ▶ The broad array of civil space applications provides a multitude of options for highly tailored cooperation. From exploration to remote sensing and climate change to digital economy integration, the sphere of engagement can be tailored to address security concerns or to provide significant information-gathering opportunities concerning the capabilities and intentions of other space-faring nations.

India is strategically positioning itself as a focal point for all space-related activities, from providing financial assistance to manufacturing, and launching facilities for states in Asia, Africa and South America. This approach has multiple benefits – an increase in India's global footprint, flow of benefits to the Chinese space industry, experimentation with new technologies, and win friends.

A stable balance between the short and long term and between hard and soft power is contingent in large measure on increased support for civil space operations. International politics is more than the mere acquisition and use of "Hard-Power". This is what India needs to work more on the collaboration in the space arena. India has a technologically superior and an economically affordable space programme. India should steadily and subtly use its 'space acumen' to extend its Soft-Power status on earth.

Way forward

The Indian Science and Research Organization plans to send manned mission to space, take further steps at lunar exploration and conduct interplanetary missions, besides indigenously developing the GSLV.

India has developed a sophisticated space technology system over the past few decades that play a significant role in sectors ranging from agriculture to medicine. Recently India inaugurates the '**Chandrayan-2**' mission and it will launch the 'MOM-2' in the very near future.

How can we increase (ISRO's) participation?

- ▶ Need to connect ISRO with digital India program so that more people understand technology.
- ▶ Need to open small ISRO centre in every smart city so that more people understand about it.
- ▶ ISRO need to make some micro smart technology for police stations because advance and modern technical security is the demand of internal security.
- ▶ Government need to encourage more students to go for higher studies and research. Because developed countries have more research centre and more students working on it.

Conclusion

The current Indian space program is an economically and technologically efficient integrated program, self-reliant and applications driven, preserving critical relations to the user community and committed to the pursuit of scientific excellence in the peaceful use of space for the benefit of the common man. The space

program has proven capabilities in producing world class satellites and launch vehicles, and applying them in assorted areas pertinent to national development. India is not far from China in terms of technological developments in space technologies. India's strength in PSLV's has marked its image at world level. The recent advancement in GSLV and cryogenics and launching of 20 satellites at one go, added high value to the name of India. Further the commercial arm of ISRO, Antrix is collaborating with many foreign stakeholders to further India's interest.

Citizens of the country must be proud of our national space organization and its achievements which have perpetuated socio economic developments as well. The role played by ISRO has been commendable and the more that government needs to do is to spend more of its GDP into R&D as well as to recruit young scientists and to utilize the young pool of talent which could harness much out of the less if given adequate support.

RIGHT TO PHOTOCOPY

Context

Delhi High Court judgment, involving photocopying kiosk, supported the welfare angle than the plagiarism and piracy.

The Delhi High Court has dismissed the copyright infringement petition filed by three international publishers against a photocopy shop located in the Delhi University premises (The Chancellor, Masters and Scholars of the University of Oxford V/S Rameshwari Photocopy Services).

The court ruled that making course packs for suggested reading for students by photocopying portions of various prescribed reference books does not violate the copyright of the publishers. The Delhi High Court struck a fine balance between the rights of university students to photocopy course materials and the copyrights of publishers.

To understand the judgment, we need to understand the meaning of copyright and why is it is needed?

What is the meaning of the Copyright?

Copyright is designed to stimulate activity and progress in the arts for the intellectual enrichment of the public. Copyright is intended to increase and not to impede the harvest of knowledge.

Copyright's basic rationale is that there should be promotion of creativity through sufficient protection; and at the same time it also caters for dissemination of knowledge and access to copyright material through the doctrine of fair dealing. This doctrine, **is important to creators like writers and artists as well as those such as publishers that own rights, as it provides them with a legal right of ownership of the work that they produce.**

This means that creators of an original piece of work can have some control over how it is used, which is not only fair but necessary for them to make a living from their talent and efforts. When they have the means to make a living from their work then they can continue to invest their time, and, in the case of publishers, their money into the production of new work.

Judgment of the Court

However, the Delhi High Court while rejecting the plea taken by the publishers held, "Copyright, especially in literary works, is not only an inevitable, but divine, or natural right that confers on authors the absolute ownership of their creations. It is designed rather to stimulate activity and progress in the arts for the intellectual enrichment of the public. Copyright is intended to increase and not to impede the harvest of knowledge. It is intended to motivate the creative activity of authors and inventors in order to benefit the public."

The court further stated that Photocopying and creation of course packs to be used in the course of education by students is covered under provisions of the **Copyright Act, 1957**. The provision must be given a wide enough interpretation to further a social good such as education.

The court has given its verdict on the welfarism angle. It has given paramountancy to the student interest. It also recognizes the importance of technological advancement, while holding that through photocopying, students can obtain voluminous course material at a low cost and are not required to copy each page, which cannot be held as an offence.

It also stated that the reproduction of a work by a "teacher/pupil in the course of instruction" would not constitute infringement.

Court has supported Right to Reproduction

- ▶ Section 52(1)(i) of the Copyright Act, exempts the reproduction of any work in the "course of instruction" and the publishers had contended that the term extended only to the use of copyrighted work in lectures and tutorials when the teacher is directly interacting with the pupils. The judge rejected this narrow interpretation.

- ▶ Section 14 of the Copyright Act, 1957, grants a bundle of exclusive rights such as the right to reproduction on copyright owners for commercial exploitation of the work. Making photocopies amounts to reproduction. Photocopies made in violation of Section 14 thus constitute infringement unless it is listed under Section 52 as an act not constituting infringement. The judgment holds that if any provision of the Act permits any person other than the owner to reproduce any work or substantial part thereof, such reproduction will not amount to infringement.
- ▶ The Indian copyright law uses the term ‘fair deal’ (where listed purposes are statutorily embedded) whereas the U.S.’s copyright law adopts ‘fair use’ (which is merely illustrative). Fair dealing means “the reproduction of any work:
 - By a teacher or a pupil in the course of instruction; or
 - As part of the questions to be answered in an exam; or
 - In answers to such question.
- ▶ As per Article 13 of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement, these exceptions must confine to “special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder”. Since the term ‘fair dealing’ is not defined in the Act, the judiciary determines its scope on a case by case basis.
- ▶ When the university is entitled to free photocopy of 3,000 pages every month can the possibility of commercial interest be overruled? In that context, does it comply with Article 13 of TRIPS?
- ▶ Is it justified to cover the private photocopy shop in the university premises within the expression “in the course of instruction”?
- ▶ Doesn’t the judgment provide blanket immunity to the university to meet the demands of all the students by purchasing a single book?
- ▶ The judgment places no limitation on photocopy if the material is prescribed in the course of instruction. Copyright holders invest considerably in creating works, this may impact creativity.

Proposed benefits

It will improve the access to education in a developing country like India. When access to education itself is a challenge, none of the students can be expected to purchase expensive textbooks, especially when syllabi prescribe certain portions from various books. Universities are expected to cater to students’ reading requirement without prejudicing copyright holders’ legitimate economic interests. The students’ demands can be met reasonably by permitting reproduction of reasonable excerpts.

In the world of self-publishing, blogs, etc., the publisher remains relevant because of its role to be able to provide reliability and authenticity to the information and knowledge it disseminates.

What are the limitations of the judgment?

- ▶ Determining the broader interpretation of term fair deal is wrong. If the legislature had intended to give such a wide interpretation to the words “in the course of instruction”, why does it has added, “as part of the questions to be answered in an exam or in answers to such question” which should also be covered automatically.
- ▶ The Court Commissioner had reported that “8 books were found being photocopied cover to cover”.

Conclusion

The Berne Convention and TRIPS, the IP regime ordained by the World Trade Organization, that these pacts gave India the flexibility to include such an exception. But even courts in developed countries such as Canada have exempted the use of course packs from cases of copyright infringement. For Indian students, the End law judgment is a huge relief. For the rest, it is reassurance that courts are interpreting IP laws in ways that reflect our society’s needs.

DISEASES AND CLIMATE CHANGE

Context

Many prevalent human infections, including malaria, dengue fever, and cholera, are climate sensitive. This article will establish a relation between climate change and diseases.

Climate change is a global environmental problem which has been receiving intense political attention both at domestic and international levels. The United Nations Framework Convention on Climate Change (UNFCCC) defines ‘climate change’ as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. The major characteristics of climate change include rise in average global temperature, ice cap melting, changes in precipitation, and increase in ocean temperature leading to sea level rise.

Today, worldwide, there is an apparent increase in many infectious diseases, including some newly-circulating ones (HIV/AIDS, Hantavirus, hepatitis C, SARS, etc.). This reflects the combined impacts of rapid demographic, environmental, social, technological and other changes in our ways of-living. Climate change also affect infectious disease occurrence.

Climate change and its Impact on human health

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 impact directly and indirectly on the physical, social, and psychological health of humans. For instance, changes in precipitation are creating changes in the availability and quantity of water, as well as resulting in extreme weather events such as intense hurricanes and flooding. Climate change can be a driver of disease migration, as well as exacerbate health effects resulting from the release of toxic air pollutants in vulnerable populations such as children, the elderly, and those with asthma or cardiovascular disease.

There is much evidence of associations between climatic conditions and infectious diseases. Malaria is of great public health concern, and seems likely to be the vector-borne disease most sensitive to long-term climate change. Malaria varies seasonally in highly endemic areas. The link between malaria and extreme climatic events has long been studied in India. Early last century, the river-irrigated Punjab region experienced periodic malaria epidemics. Excessive monsoon rainfall and high humidity was identified early on as a major influence, enhancing mosquito breeding and survival. The malaria epidemic risk increases around five-fold in the year after an El Niño event.

Although some evidence indicates that warming may be causing malaria, for instance, to spread to higher elevations on mountains in East Africa, predicting how climate change will ultimately influence the incidence of diseases transmitted by insect’s remains challenging. Consider that malaria was once common over much of Asia, North America and Europe in the 19th century but is not routinely present on either continent today, even after the temperature has warmed in the intervening century.

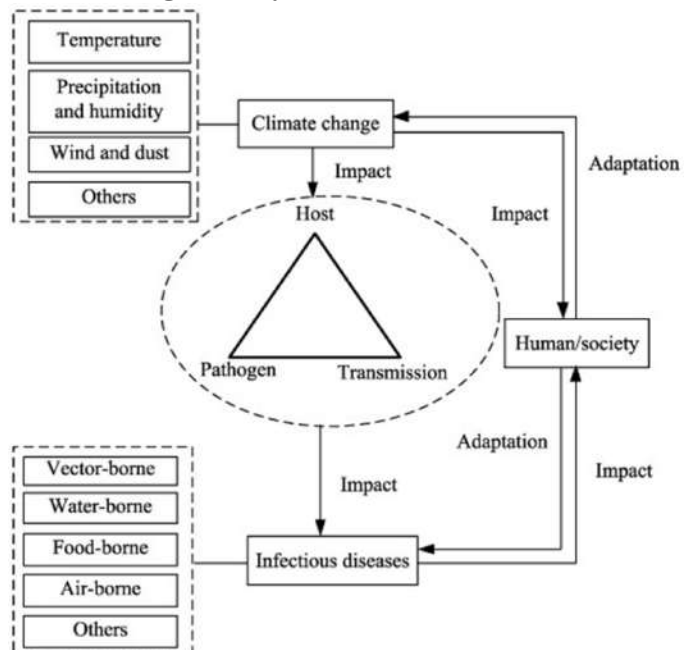


Fig. 1

In 1999, West Nile virus, which originated in Uganda and is spread by mosquitoes, killed seven in New York City. In 2014, another mosquito-borne virus has emerged, called Chikungunya (which means “bending over in pain” in the Makonde language of East Africa).

Why change in climate increases diseases?

Components which are essential for most infectious diseases: an agent (or pathogen), a host (or vector) and transmission environment. Some pathogens are carried by vectors or require intermediate hosts to complete their lifecycle. Appropriate climate and weather conditions are necessary for the survival, reproduction, distribution and transmission of disease pathogens, vectors, and hosts. Therefore, changes in climate or weather conditions may impact infectious diseases through affecting the pathogens, vectors, hosts and their living environment and long-term climate warming tends to favor the geographic expansion of several infectious diseases and that extreme weather events may help create the opportunities for more clustered disease outbreaks or outbreaks at non-traditional places and time. Overall, climate conditions constrain the geographic and seasonal distributions of infectious diseases, and weather affects the timing and intensity of disease outbreaks.

- ▶ **Climate change and Pathogens:** Pathogen refers to a wide range of disease agents, including virus, bacterium, parasite germ, and fungi. The impact of climate change on pathogens can be direct, through influencing the survival, reproduction, and life cycle of pathogens, or indirect, through influencing the habitat, environment, or competitors of pathogens. As a result, not only the quantity but also the geographic and seasonal distributions of pathogens may change. Extended periods of hot weather can raise the average temperature of water bodies and food environment, which may provide an agreeable environment for microorganism reproduction cycles and algal blooms.
- ▶ **Precipitation:** Climate change may cause shifts in precipitation, which affects the dissemination of water-borne pathogens. Rainfall plays an important role in the development of water-borne disease pathogens. Rainy season is related to the increase of fecal pathogens as heavy rain may stir up sediments in water, leading to the accumulation of fecal

microorganisms. However, unusual precipitation after a long drought can result in an increase of pathogens, causing a disease outbreak. Droughts/low rainfall lead to low river flows, causing the concentration of effluent water-borne pathogens.

- ▶ **Humidity:** Humidity change also impacts the pathogens of infectious diseases. The pathogens of air-borne infectious disease such as influenza tend to be responsive to humidity condition. For example, absolute humidity and temperature were found to affect influenza virus transmission and survival proposed that cold temperature and low relative humidity are favorable to the spread of influenza virus. Humidity change also affects the viruses of water-borne diseases. For example, the survival of water-borne viruses near water surface is limited due to the drying effect of surface water. Lastly, virus of vector-borne diseases may be impacted by humidity change.
- ▶ **Sunshine:** Sunshine is one more important climate variable that may affect the pathogens of infectious diseases. For example, sunshine hours and temperature act synergistically during cholera periods to create a favorable condition for the multiplication of *Vibrio cholerae* in aquatic environments.
- ▶ **Wind:** Wind is a key factor affecting the pathogens of air-borne diseases. Literature suggested a positive correlation between dust particle association/attachment and virus survival/transporting. It has been reported that the presence of desert dust in the atmosphere during Asian dust storms (ADSs) is associated with increased concentration of cultivable bacteria, cultivable fungi, and found that the concentration of influenza. A virus was significantly higher during the ADS days than normal days. Studies further suggested that the viruses of infectious diseases be transported across ocean by dust particles which may facilitate the transmission of viruses between distant hosts.
- ▶ **Climate change and vectors/hosts:** Hosts refer to living animals or plants on or in which disease pathogens reside. Vectors are intermediate hosts and they carry and transmit pathogen to living organisms which become hosts. This review focuses on animal hosts, especially insects. The geographical locations and population changes of insect vectors are closely associated with the patterns and changes of climate.

Temperature affects the spatial-temporal distribution of disease vectors. As temperature continues to rise, the insects in low-latitude regions may find new habitats in mid- or high-latitude regions and in areas of high altitude, leading to geographical expansion or shift of diseases. Disease vectors/hosts may survive climate change by taking shield in small-scaled environment where ambient temperature change does not prevail. For e.g. the 'cocoliztli' outbreaks in Mexico proved that rainfall can affect the outbreaks of rodent-borne diseases through its impact on rodent population. In cholera cases in Matlab, Bangladesh suggested that increased temperature and prolonged sunshine are positively related to the monthly cholera occurrences.

► **Climate change and disease transmission:**

Depending on the transmission route, disease transmission can be direct or indirect. Direct transmission refers to the transmission of a disease from one person to another through droplet contact, direct physical contact, indirect physical contact, air-borne transmission, or fecal-oral transmission. Indirect transmission refers to the transmission of a disease to humans via another organism, a vector, or an intermediate host.

Temperature change alone, or together with other variable changes such as rainfall, may

alter the transmission of diseases. Wind and dust storms affect the transmission of infectious diseases. Wind can act as a transportation means for pathogen and virus of air-borne diseases. Pathogens can spread from endemic regions to other regions through inter-regional dust storms. Human influenza virus could be transported from Asia to the Americas in winter months by prevailing wind over the Pacific found that avian influenza outbreaks tend to occur in downwind regions of ADS (e.g. Japan and South Korean) during the dust storm season.

Climate change can affect the transmission of infectious diseases through altering the contact patterns of human-pathogen, human-vector, or human-host. An analysis of the de-trended time-series malaria data in Madagascar found that the cross-year variation in malaria prevalence can mostly be explained by the minimum temperature at the start of the transmission season, corresponding to the months when the human-vector contact is the greatest.

Diseases transmitted by rodents sometimes increase during heavy rainfall and flooding events because of altered patterns of human-pathogen-rodent contact. For example, during hazard periods deer mice may enter human dwellings searching for food and thereby transmit Hantavirus to humans, leading to Hantavirus pulmonary syndrome (HPS) cases.

Examples of how diverse environmental changes affect the occurrence of various Infectious diseases In humans:

Environmental changes	Example diseases	Pathway of effect
Dams, canals, irrigation	Schistosomiasis	▲ Snail host habitat, human contact
	Malaria	▲ Breeding sites for mosquitoes
	Helminthiasis	▲ Larval contact due to moist soil
	River blindness	▼ Blackfly breeding, ▼ disease
Agricultural intensification	Malaria	Crop insecticides and ▲ vector resistance
	Venezuelan haemorrhagic fever	▲ rodent abundance, contact
Urbanization, urban crowding	Cholera	▼ sanitation, hygiene; ▲ water contamination
	Dengue	Water-collecting trash, ▲ <i>Aedes aegypti</i> mosquito breeding sites
	Cutaneous leishmaniasis	▲ proximity, sandfly vectors
Deforestation and new habitation	Malaria	▲ Breeding sites and vectors, immigration of susceptible people

	Oropouche	▲ contact, breeding of vectors
	Visceral leishmaniasis	▲ contact with sandfly vectors
Reforestation	Lyme disease	▲ tick hosts, outdoor exposure
Ocean warming	Red tide	▲ Toxic algal blooms
Elevated precipitation	Rift valley fever	▲ Pools for mosquito breeding
	Hantavirus pulmonary syndrome	▲ Rodent food, habitat, abundance

▲ increase ▼ reduction

A significant and active role by adopting proactive adaptation measures in order to control and alleviate the negative health impacts of climate change:

- ▶ The magnitude of changes in climate variables varies across the globe, posing more challenges and stresses for some societies than others. Regional specific projection of climate change induced health implications on infectious diseases is necessary.
- ▶ Given the same magnitude of climate change, some population groups and areas are more vulnerable to the elevated risks due to their lack of the ability and resources to effectively respond to the stresses and challenges. Recognizing that infectious diseases do not confine themselves within a vulnerable population group, developed countries and capable societies should work together with developing countries and less capable societies

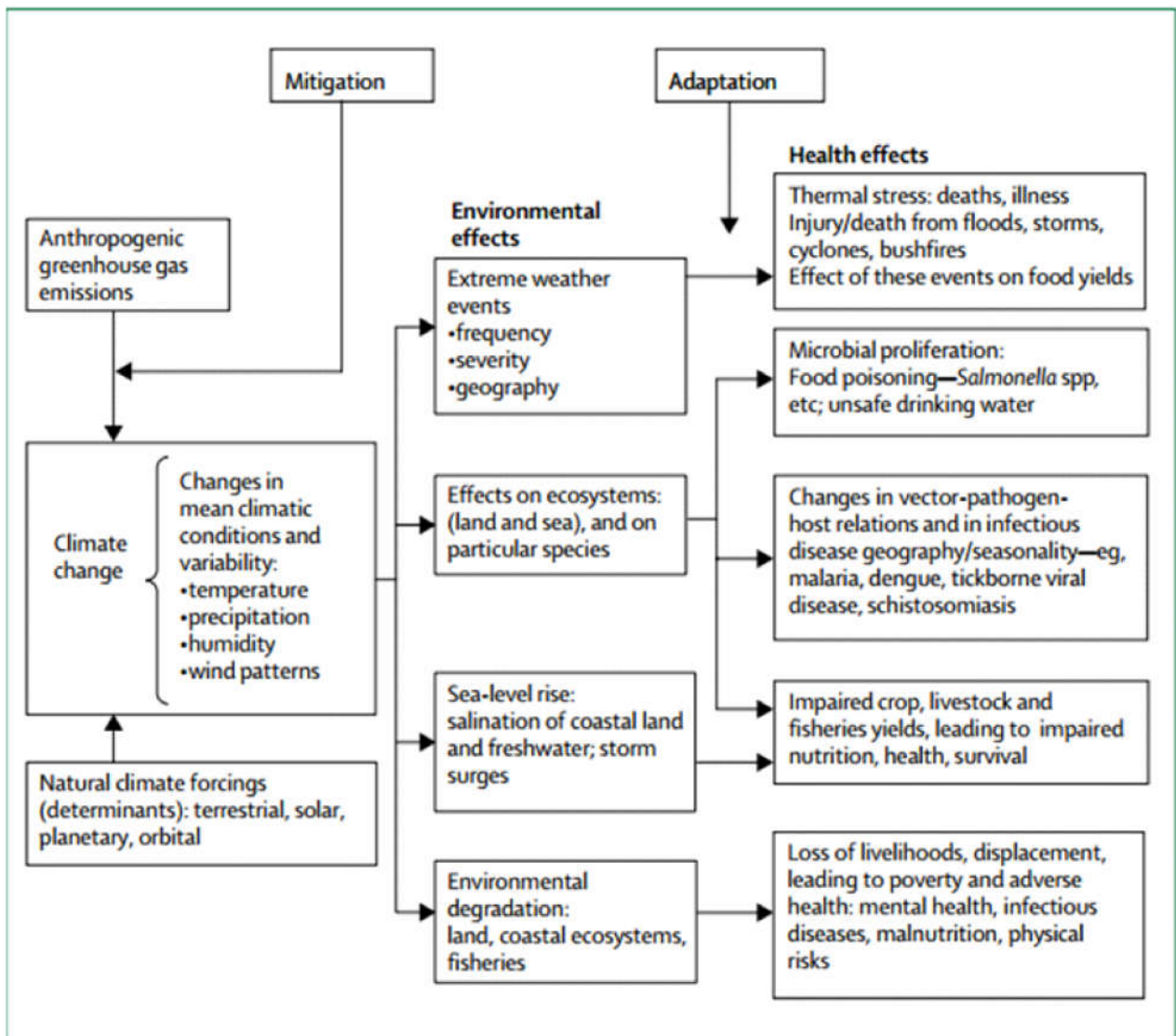


Fig. 2

to reduce their vulnerability to climate change induced health risks.

- ▶ Human vulnerability to the changing risks for infectious diseases may be altered through proper adaptation measures. One example of such is to continuously improve public health programs and to timely (re-)allocate financial and health care resources following scientific projection of spatial-temporal changes in health risk for human infectious diseases. Early warning systems based on such projections have been proven effective in helping societies take proactive measures to prevent or alleviate the possible health impacts.

Climate change will continue to affect the health risk for human infectious diseases, limiting some disease transmission but creating opportunities

for others. Reducing vulnerability through adopting adaptation measures is among the most effective approaches for human society.

Conclusion

Changes in infectious disease transmission patterns are a likely major consequence of climate change. We need to learn more about the underlying complex causal relationships, and apply this information to the prediction of future impacts, using more complete, better validated, integrated, Early Warning System (EWS) models undermining the precautionary measures. Effective early warning systems for health effects of climate change should be established broadly. Related to such early warning systems, protocols are needed for information sharing, public health awareness campaign, and resources sharing and relocation.

ISSUES RELATED TO UNDERTRIALS IN INDIA

Context

The recent data disclosed by Supreme Court states prisons in Delhi and nine States have an occupancy rate of 150 per cent of their capacity.

It is a shocking reflection on the flaws in our criminal justice system that less than one out of three people lodged in Indian jails is a convict. The vast majority of the prison population, as many as about 2.5 lakhs or 70 per cent, is made up of undertrials awaiting justice.

Criminal Law of India is a replica of colonial times. It is hostile to the poor and the weaker sections of society. The law still serves and protects the needs of the haves and ignores the have-nots. Such biasness has resulted in rich people escaping law and the jail is more often full of the unprivileged class of society. The hierarchy of courts and with appeals after appeal have led to a situation where the poor cannot reach the temple of justice due to heavy cost of its access. In other words one can state that granting justice at a higher cost indirectly means the denial of justice. Such circumstances lead to a clear violation of the Supreme Court judgement which held, legal aid to a poor is a constitutional mandate not only by virtue of Article 39A but also Articles 14, 19, 21 which cannot be denied by the government.

The Law Commission of India's 78th report on the "Congestion of undertrial prisoners in jail," submitted in 1979, also has a topical feel about it. The situation today is not unlike what it was then - people languish in jail for the want of resources to seek bail, for the lack of proper legal aid, and the hopelessly sluggish pace at which the judicial system moves. Coupled with this is the presence of a police force that seems less interested in securing convictions than in making summary arrests, effectively using custody as a form of preventive detention. If the problem of undertrials has proved so intractable, it is because it is a manifestation of fundamental and deep-rooted flaws in the criminal justice system.

Prison Statistics India 2015' report

The 'Prison Statistics India 2015' report was released by the National Crime Records Bureau (NCRB).

The highlights of the report are:

- ▶ The occupancy rate at all India level at the end of 2015 was 114.4 per cent. It results in poor hygiene and lack of sleep among other problems.
- ▶ At 276.7 per cent, Dadra & Nagar Haveli is reported to have most overcrowded prisons, followed by Chhattisgarh (233.9 per cent), Delhi (226.9 per cent), Meghalaya (177.9 per cent) and Uttar Pradesh (168.8 per cent).
- ▶ Sixty-seven per cent of the people in Indian jails are undertrials – people not convicted of any crime and currently on trial in a court of law.
- ▶ Among the larger States, at 82.4 per cent, Bihar had the highest proportion of undertrials, followed by Jammu & Kashmir (81.5 per cent), Odisha (78.8 per cent), Jharkhand (77.1 per cent) and Delhi (76.7 per cent).
- ▶ Three States from the North-east also had a high proportion of undertrials: Meghalaya (91.4 per cent), Manipur (81.9 per cent) and Nagaland (79.6 per cent).
- ▶ Seventy per cent of the convicts are illiterate or have studied only below class tenth.

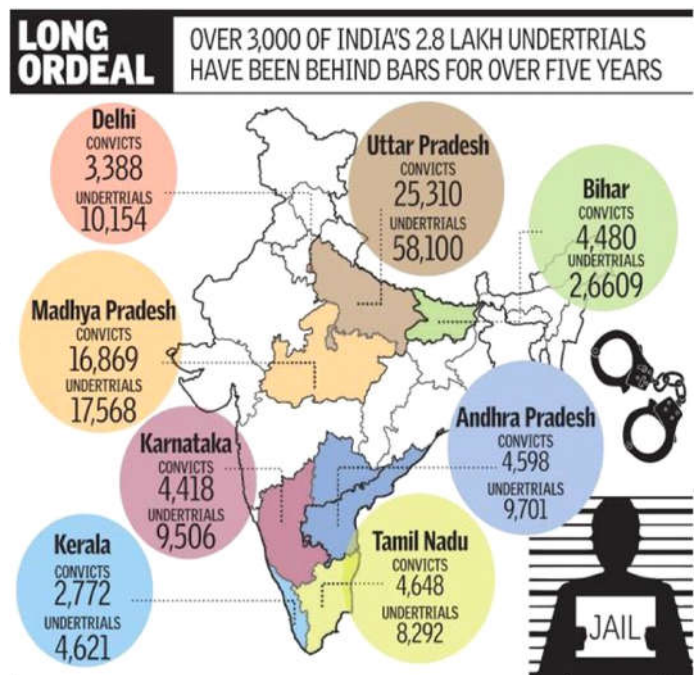


Fig. 3

NHRC Report on Undertrials

India's prisons are filled with undertrials, according to the National Human Rights Commission. Statistics compiled by its custodial justice cell reveal that 2,25,817 of 3,04,893 or 74.06 per cent of the total prison population, are those awaiting trial.

The States and Union Territories that lead the list are Dadra and Nagar Haveli, whose entire prison population is comprised of undertrials, followed by Meghalaya with 94.66 per cent undertrials, Manipur with 92.19 per cent, Jammu and Kashmir with 91.67 per cent, Nagaland 89.87 per cent, Uttar Pradesh 87.37 per cent, Bihar 86.27 per cent, Jharkhand 83.24 per cent, Mizoram 79.14 per cent, Karnataka 79.34 per cent and Delhi 78.52 per cent undertrials.

Andaman and Nicobar and Tamil Nadu recorded the lowest number of undertrials as a percentage of total prison populations with 24.05 per cent and 36.16 per cent respectively.

The total jail capacity in India is for 2,32,412 prisoners, which makes the total prison population 31 per cent higher than capacity. Delhi tops the list for States with overcrowded prisons with 217 per cent more prisoners than it has room for. The other States that have prisons filled way beyond capacity are Jharkhand with a 165 per cent overflow, Chhattisgarh 110 per cent, Gujarat and Haryana 100 per cent each, Bihar 74 per cent, Sikkim 72 per cent, Uttar Pradesh 70 per cent, Madhya Pradesh 66 per cent, Orissa 54 per cent Goa 39 per cent and Tripura 35 per cent.

The NHRC also found that 10,414 women were in jail in India, accounting for 3.42 per cent of the jail population. Mizoram leads with 10 per cent of prisoners in the State being women. This is followed by Tamil Nadu with 6.59 per cent of all prisoners being women and Dadar and Nagar Haveli with 6.45 per cent.

The Commission said children younger than 5-6 years are allowed to live with their mothers in jail, and 1,369 women prisoners had their children living with them. But it does not say how many children in total are part of the prison population.

The only let-up in the grim lists of figures is the fact that in an international comparison of the number of prisoners per 100,000 of population India does well. It has 29.69 prisoners per lakh of population against 700 per lakh in the U.S. 650 in Russia, 400 in South Africa, 300 in Thailand, 132 in U.K. and 102 in Canada.

The immediate task is to identify those who are eligible for bail and ensure their release.

Challenges Faced By Under-Trials

- ▶ Group violence and riots are common.
- ▶ With hardened criminals being around and in the absence of scientific classification methods to separate them from others, contamination of first time, circumstantial and young offenders into full-fledged criminals occurs very frequently.
- ▶ Most of the prisons face problems of overcrowding and shortage of adequate space to lodge prisoners in safe and healthy conditions. Most of the prisoners found in prisons come from socio-economically disadvantaged sections of the society where disease, malnutrition and absence of medical services are prevalent. When such people are cramped in with each other in unhealthy conditions, infectious and communicable diseases spread easily.
- ▶ The Right to Speedy Trial - as recognised by the Supreme Court in Hussainara Khatoon vs. Home Secretary, Bihar is violated due to protracted delays. This delay is due to all kinds of reasons such as -
 - Systemic delays.
 - Grossly inadequate number of judges and prosecutors.
 - Absence or belated service of summons on witnesses.
 - Presiding judges proceeding on leave.
 - Remands being extended mechanically due to lack of time and patience with the presiding judge.
 - Inadequacy of police personnel and vehicles which prevents the production of all prisoners on their due dates.
 - Many a times, the escorting police personnel merely produces the remand papers in the courts instead of actually producing the prisoner in front of the magistrate. This practice is widely reported, notwithstanding the strict requirement of the law in section 167(2)(b) of the Criminal Procedure Code, 1973 which says that - 'No Magistrate shall authorize detention in any custody under this section unless the accused is produced before him.'
- ▶ Right to bail is denied even in genuine cases. Even in cases where the prisoner was charged with bailable offence, they are found to rot in prisons due to exorbitantly high bail amount.

- ▶ The police usually pick them up “because the number of cases had to be brought up to the specified figure”. The authorities refuse to release them without bail whereas the standing law on Section 110 says that you cannot ask for bail from such persons, only the history ticket is required.
- ▶ In the absence of a system, that takes a proactive role in providing legal services to prisoners their right to effective Legal Aid is also violated due to politicisation of legal aid schemes as many lawyers are hired on political consideration who get a fix salary without the pressure of disposing off cases at the earliest.

Recommendations

- ▶ The number of judges should be increased to 50 judges per one million of population to reduce the burden of the judges.
- ▶ There should be a separate cell in the police to ensure timely service of summons.
- ▶ Rules can be amended to authorise the service of summons through telephone and E-mail in the modern era of information technology. Even examination of witnesses can be conducted through video-conferencing.
- ▶ There should be a minimum fixed tenure for the investigating officers to ensure timely completion of investigation and trial as provided in section 15 of the Punjab Police Act 2007.
- ▶ It is suggested to set up dedicated police squads in all the districts for production of undertrials in the courts. Besides this, video-conferencing facility can be started for smooth and speedy trials. Undue adjournments should not be allowed by the trial courts on flimsy grounds.
- ▶ There should be proper coordination between various organs of Criminal Justice Administration like police, judiciary, prosecution and the prison officials.
- ▶ The police should refrain from vexatious arrests. The definition of cognizable offence should be delinked from police power of arrest.
- ▶ The directions of the Supreme Court of India in the DK Basu case (AIR 1997 SC 610) should be implemented to protect the rights of the arrested persons.
- ▶ Bail should be granted in non-serious cases and poor people should be released on personal bond.
- ▶ Free legal aid should be provided to the needy person under detention and quality of the service should be improved.
- ▶ The concept of plea bargaining should be applied in letter and spirit to dispose of cases coming under the purview of this provision.

MATERNAL HEALTH - JANANI SURAKSHA YOJANA PAYS DIVIDEND

Context

A new study brings in first conclusive evidence of the role played by Janani Suraksha Yojana (JSY) in reducing 'socio-economic disparities' existing in maternal care. The study found that after the implementation of the JSY, "there was generally a narrowing of the gap between the less educated and more educated women and between the poorer and richer women."

The highest attainable standard of health is a fundamental right of every person. Gender-based discrimination, however, undercuts this right. It can render women more susceptible to sickness and less likely to obtain care, for reasons ranging from affordability to social conventions keeping them at home.

Thus the United Nations Millennium Summit had adopted the Millennium Development Goals (MDGs) as a response to the world's main development challenges. One of the MDGs (Number 5) aims at reducing Maternal Mortality Ratio (MMR) by three quarters between 1990 and 2015.

Similarly the new SDG has adopted the goal of reducing the global maternal mortality ratio to less than 70 per 100,000 live births and to ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes by 2030.

The MMR, defined as number of maternal deaths per 100,000 live births.

Government of India has launched the Janani Suraksha Yojana in 2005 as part of the National Rural Health Mission (NRHM) to improve maternal and neonatal health by promotion of institutional deliveries (childbirth in hospitals).

Why in the news recently?

A new study brings in first conclusive evidence of the role played by Janani Suraksha Yojana (JSY) in reducing 'socio-economic disparities' existing in maternal care. While previous studies had shown the impact of JSY in reducing maternal mortality, it was not known if it had reduced socio-economic inequalities – differences in access to maternal care between individual people of higher or lower socio-economic status.

Maternal Health in Focus (Reduce MMR to 1/1000 live Births)

- ▶ Globally, about 800 women die every day of preventable causes related to pregnancy and childbirth; 20 per cent of these women are from India.
- ▶ Annually, it is estimated that 55,000 women die due to preventable pregnancy-related causes in India.
- ▶ India's maternal mortality rate reduced from 212 deaths per 100,000 live births in 2007 to **178 deaths in 2012**. The advance is largely due to key government interventions such as the Janani Shishu Suraksha Karyakaram (JSSK) scheme which encompasses free maternity services for women and children, a nationwide scale-up of emergency referral systems and maternal death audits, and improvements in the governance and management of health services at all levels.
- ▶ However, adolescent and illiterate mothers and those living in hard to reach areas still have a much greater chance of dying in childbirth. Adolescent girls outside Indian cities are especially vulnerable as teenage marriage and pregnancies are very high in rural and remote areas of the country.

What is Janani Suraksha Yojana and who are the Beneficiaries?

- ▶ **Janani Suraksha Yojana (JSY)** is a safe motherhood intervention under the National Rural Health Mission (NRHM) being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among the poor pregnant women. The Yojana, launched on 12th April 2005, is being implemented in all states and UTs with special focus on low performing states.

- ▶ JSY is a 100% centrally sponsored scheme and it integrates cash assistance with delivery and post-delivery care.
- ▶ The Yojana has identified ASHA, the accredited social health activist as an effective link between the Government and the poor pregnant women in 10 low performing states, namely the 8 EAG states and Assam and J&K and the remaining NE States. In other eligible states and UTs, wherever, AWW (Anganwadi workers) and TBAs or ASHA like activist has been engaged in this purpose, she can be associated with this Yojana for providing the services.

Important Features of JSY

- ▶ **Focus on Poor Pregnant Woman:** The scheme focuses on the poor pregnant woman with special dispensation for states having low institutional delivery rates namely the states of Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Odisha and Jammu and Kashmir. While these states have been named as Low Performing States (LPS), the remaining states have been named as High performing States (HPS).
- ▶ **Tracking Each Pregnancy:** Each beneficiary registered under this Yojana should have a JSY card along with a MCH card. ASHA/AWW/ any other identified link worker under the overall supervision of the ANM and the MO, PHC should mandatorily prepare a micro-birth plan. This will effectively help in monitoring Antenatal Check-up, and the post delivery care.
- ▶ **Eligibility for Cash Assistance:** BPL Certification - This is required in all HPS states. However, where BPL cards have not yet been issued or have not been updated, States/UTs would formulate a simple criterion for certification of poor and needy status of the expectant mother's family by empowering the gram pradhan or ward member.

How far is it successful?

As per the new study Janani Suraksha Yojana (JSY) has played important role in reducing 'socio-economic disparities' existing in maternal care. The study was conducted by researchers from Delhi based National Council of Applied Economic Research. This is for first time study has shown JSY has reduced socio-economic inequalities in maternal care compared to earlier studies which showed impact of JSY in reducing maternal mortality.

Three key services of maternal care were used for the analysis:

- ▶ Full Antenatal Care (full ANC)
- ▶ Safe delivery
- ▶ Postnatal care

Highlights of the Report

- ▶ JSY has led to reduction of prevalent differences in access to maternal care between individual people of higher or lower socio-economic status.
- ▶ It has led to enhancement in utilisation of health services among all groups especially among the poorer and underserved sections in the rural areas.
- ▶ Utilisation of all three maternal healthcare services was remarkably higher among illiterate or less educated and poor women.
- ▶ Usage of all three maternal healthcare services by the Dalit, Adivasis, OBC and Muslim women increased between the surveys.
- ▶ However, inequalities still exist in access to maternal care but JSY has narrowed gap in access to healthcare between the marginalised group of women and financially better-off.
- ▶ Women in their early 20s more likely avail maternal health care services as compared to older women.
- ▶ The incidence of women availing maternal healthcare decreases with the increase in the number of children.

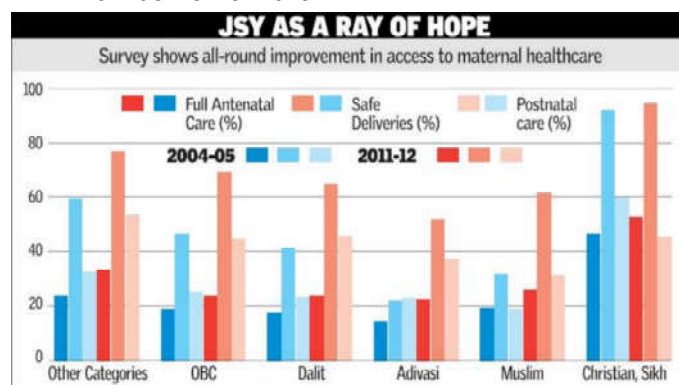


Fig. 4

What are the other program targeting pregnant women?

- ▶ **JSSY** - Building on the phenomenal progress of the JSY scheme, Janani Shishu Suraksha Karyakram (JSSK) was launched in 2011.
- ▶ It provides service guarantee in the form of entitlements to pregnant women, sick newborns and infants for free delivery including caesarean section and free treatment in public health institutions.

- ▶ This includes free to and fro transport between home and institution, diet, diagnostics, drugs, other consumables and blood transfusion if required. The child health programme under the National Health Mission (NHM) comprehensively integrates interventions that improve child survival and addresses factors contributing to infant and under-five mortality.
- ▶ Since neonatal deaths are the biggest contributor to child deaths which is approximately 57% of the under five deaths, improving child survival hinges on improving newborn health.
- ▶ It is now well recognised that child survival cannot be addressed in isolation as it is intricately linked to the health of the mother, which is further determined by her health and development as an adolescent.
- ▶ Therefore, the **concept of Continuum of Care**, which emphasises care during critical life stages in order to improve child survival, is being followed under the national programme.

What initiatives GOI should take to improve maternal health?

▶ Increase Public Investment

The government must fulfil its promise of 2-3 per cent GDP investment in healthcare. It is clear that performance on maternal/infant mortality cannot be improved without certain basic, solid and targeted investments in infrastructure, i.e. motivated and well-paid staff, established and integrated audit and regulatory systems, excellent political communication, with citizens who come to expect well-performing public services as a right. A holistic approach to healthcare should consider nutrition, sanitation, access to water, housing, transport, education, immunisation, employment and gender, and this oversight is integral - the World Health Organisation has found that environmental conditions such as diarrhoea and malnutrition contribute to twenty four percent of mortality in developing countries. The relevant Ministries must therefore integrate their programmes to coordinate efforts and build a collective effort towards reducing morbidity and mortality.

Public private partnerships should be reviewed to ensure that service delivery is being strengthened so as to achieve universal access to healthcare. Ultimately, private partnerships cannot be an alternative to adequate government investment, and it must remain the obligation of the state to ensure access to treatment for every citizen: this is not something that the market can be relied upon

to provide. In the interim, there is need for certain preliminary measures before wider implementation of any partnership initiatives - particularly in the poorest districts where commercial schemes will struggle to generate profits.

▶ Resource utilization

Resources must be rationally allocated, and transparency and accountability safeguards installed at all levels in public and private service delivery institutions. Stringent measures for financial accountability will discourage corruption, particularly demands for informal payments for delivery of health services. There are already policies and laws concerning abortion, right to food, right to information, child marriage etc. In reality, there must be a set of guidelines, parameters and standards with clearly defined roles for different agencies in order to ensure that these are implemented; the framework provided by the Indian Public Health Standards should be extended to the private sector, and there must also be effective audit, review and accreditation procedures. Accreditation enables all stakeholders - government, private partners, patients - to reach a consensus on appropriate practices within a given climate. At present, there is no operational accreditation body for medical providers. The current Medical Council reportedly rarely takes up cases and practitioners are not held to account, and is basically, therefore, non-functioning. Publicly available health impact assessments and democratically elected local health councils are effective methods of enhancing accountability.

▶ Improve Primary Care Infrastructure

In terms of developing state level infrastructure (aside from monitoring and accreditation), there are a number of measures that need to be taken at the levels of policy and implementation. The government must concentrate on ensuring total availability of critical infrastructure, staff, equipment and supply inputs at all levels of public health facilities for delivery and emergency care, especially in remote areas. Priority should be given to poor, underserved and marginalized communities, providing transport for logistical access to centres where necessary. Aganwadi centres must be open at hours that suit the local community: this may often mean outside of typical working hours for parents who must work to support their families. There is a need for affirmative action for excluded and vulnerable populations such as young people, SC and ST and people living with HIV/AIDS - added to which must be the ensured accessibility of comprehensive,

integrated healthcare services, including diverse contraceptive methods and safe abortions. Services have to be available to each member of the community and accessible - logistically and financially - to the poorest and most marginalised.

► **Reduce Child Marriage**

The Child Marriage Restraint Act, 1976, should be strictly enforced to reduce the number of high risk teenage pregnancies and increase the potential for educated girl citizens. Education and awareness campaigns should also be launched, applying not only to child marriage but also to the issues of sex selection, contraception and safe abortion.

Conclusion

The fact that the number of beneficiaries under Janani Suraksha Yojana has increased

manifold i.e. from 7.38 lakh beneficiaries in 2005-06 to 104.38 lakhs in 2014-15, itself is an indicator of high awareness levels and far reaching success among the pregnant women. Also the fact that about 9 lakh ASHA workers get performance based incentives under JSY for motivating pregnant women to give birth in a health facility is an indication of high awareness about the scheme.

Further, out of the total JSY beneficiaries reported in 2014-15, a large majority of (nearly 87%) beneficiaries belong to rural areas.

The recent study revealed that JSY has led to an enhancement in the utilisation of health services among all the social groups especially among the OBC, Dalit, Adivasis and Muslim women increased considerably, thereby reducing the prevalent disparities in maternal care.

SAARC AND ITS RELEVANCE

Context

India and few other nations decided to pull out of the SAARC summit in Islamabad and the meeting got postponed for indefinite time.

Introduction

The South Asian Association for Regional Cooperation (SAARC) is the regional inter-governmental organization and geopolitical union of nations in South Asia. Its member states include Afghanistan, Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan and Sri Lanka.

SAARC comprised of seven unequal states in terms of size, population, political system and development status. On one extreme it has India, the second most populous country in the world (after China), and on the other, the Maldives, with a population of barely 200,000. Similarly, on one side it has such nuclear powers with large armed forces as India and Pakistan and on the other, small states like Bhutan and the Maldives, the combined military strength of which would not exceed the police force of New Delhi or Karachi.

Why was it in the news recently?

Recently, India decided to pull out of the SAARC summit in Islamabad, with Afghanistan, Bhutan and Bangladesh deciding to follow suit. Since the previous Nepal summit, Pakistan has blocked all protocols to better link the region, while India has pursued a "SAARC minus Pakistan" plan to push through with agreements it is keen on. Meetings in the run-up to Islamabad have been overshadowed by ongoing India-Pakistan tensions for months now.

Problems Besetting the Organization

When SAARC was conceived as a regional organization the vision was clear:

- ▶ To make the region a thriving example of mutual cooperation, collective self reliance and peaceful coexistence.
- ▶ Acceleration of economic growth, the promotion of welfare of people and improvement in their quality of life has been the central objectives.

Conscious efforts have been made to encourage economic cooperation and to exclude

all contentious and bilateral issues. But the region is full of contradictions that broadly fall under two heads:

- ▶ Divergent security interests
- ▶ Indo-centric nature of the region.

Major obstacles in function of SAARC

- ▶ **Built In Contradictions:** SAARC suffers from a built-in contradiction. India's disproportionately large size inhibits its neighbor's participation as equal partners, crucial in any cooperative endeavor. India accounts for 72 per cent of the region's area, 77 per cent of its population, and 78 percent of its GNP. Its armed forces account for about 50 per cent of the region's total armed strength and if one excludes Pakistan (which accounts for about 25 per cent), the ratio between India and the remaining five taken together would be nine to one.
- ▶ **Conflicting Security Perceptions:** This gross disparity coupled with distrusts emanating from socio-historical reasons gives rise to conflicting security outlooks. Except Pakistan, India perceives no threat from any other country within the region. Threat to its security is actually extra-regional and in this context Pakistan's linkages with China assumes relevance. For others in the region (excluding Bhutan, whose foreign policy is more or less guided by India, and the Maldives, which is too small to protect itself without India's help, as the 1988 coup attempt showed), India itself is a threat, which can be faced only through extra-regional connections. This dichotomy in the region's perceptions and corresponding security doctrines cannot augur well for the SAARC.
- ▶ **Problem of Diverse Political Culture:** The diverse political culture of the region is also not conducive to cooperation. From the point of view of governmental systems operative in the region, there are four democracies (Bangladesh, India, Nepal and Sri Lanka), one state with military dictatorship background (Pakistan), one monarchy (Bhutan), and one one-party presidential system (the Maldives).

- ▶ **State-religion Relationships:** India, notwithstanding its being predominantly Hindu and of late witnessing an unprecedented Hindu militancy stands for secularism, while all the remaining six avoid declaring themselves as such. Bangladesh, the Maldives and Pakistan have an Islamic thrust; Bhutan and Sri Lanka, Buddhist; and Nepal, Hindu.
- ▶ **Global Linkages:** With respect to structural linkages with the global system, which has indeed undergone massive change of late, there were two categories, broadly speaking. The first, in which India was included, had a fairly powerful capitalist class which had over the years developed stakes in both the world capitalist and socialist systems, though remaining independent of both. The other had deep structural linkages with the world capitalist system and the bourgeoisie there was largely comprador. Bangladesh, Maldives, Pakistan, and Sri Lanka belonged to this category. Bhutan's economy is largely Indo-centric. That of Nepal is both Indo-centric as well as developed market economies oriented.

These systematic diversities led to divergent nation building strategies which tended to thrive at each other's expense rather than contribute to each other's gain.

Implications of the foundational problems

- ▶ **Absence of Required Political Thrust:** The cumulative effect of the existing problems discussed above is the absence of a political thrust to make SAARC take bold strides. By shying away from 'bilateral and contentious' issues the organization deprives itself of the opportunity to deliberate on the most important questions that need to be addressed. This lack of confidence in each other has its own ramifications. For example, inter-state trade is still minuscule. India is a potential supplier of industrial goods and services to almost all the South Asian states but they prefer to depend on the industrial West, Japan, and even China instead of India.
- ▶ **Problem of Resource Development:** Another area in which progress is negligible is resource development. The Indian subcontinent's river system is such that if properly tapped, with the entire region in mind, it would do wonders in terms of development, affording irrigation, power generation, and drinking water.

How does it affect India's interests?

- ▶ India bears the brunt in more than one way. Situated at the core of the region, its boundary touches that of almost all the countries of SAARC while no two other members have common borders.
- ▶ As a multi-ethnic, multi-lingual, and multi-religious society, India offers all the countries in the region some connection to their ethnic, linguistic, or religious brotherhoods, while no two other countries have cross national ethnic populations visible enough to be of any consequence barring the notable exception of Bhutan and Sri Lanka.
- ▶ The 'Indo-centricity' of the problem often drags India into the region's ethnic strife, which it seldom relishes. At the same time, however, India has the opportunity to twist the arm of a recalcitrant neighbor to gain strategic concessions.

Indo-Pak Recent Conflict

- ▶ **Pathankot Attack:** Basic courtesies were set aside by both countries after the Pathankot attack. Islamabad dropped any plans to send a representative to India to formally extend an invitation to the summit, as is the custom.
- ▶ **Ministers Visit:** Home Minister Rajnath Singh was given a mixed welcome by his Pakistani hosts during the Home Ministers' meeting in Islamabad in August, prompting Finance Minister Arun Jaitley to cancel his visit for the subsequent SAARC Finance Ministers' meeting.
- ▶ **URI Attack:** Uri proved to be the final straw, especially in view of Pakistan's refusal to even issue a statement condemning the attack, galvanizing India to reach out to other SAARC member-countries in an effort to "diplomatically isolate" Pakistan. But Sri Lanka and the Maldives, and Nepal, the acting SAARC Chair, have kept out of the boycott.
- ▶ **Pakistan's Ine of action:** However, Pakistan continues to receive support from several other countries outside of the SAARC, most notably China, and also has a new relationship with Russia that conducted its first-ever military exercises in Pakistan just days after the Uri attack. Iran too sent four naval warships to the Karachi port to participate in a Passage exercise (PASSEX).

SAARC minus Pakistan

- ▶ India has pursued a "SAARC minus Pakistan" plan to push through with agreements it is keen on.



Fig. 5

► Afghanistan and Bangladesh too had downgraded their participation in these meetings because of their anger with Pakistan on its continued support to terror groups in the respective countries.

Conclusion and Future Prospects

With one-fifth of the world’s population, South Asia is home to two-fifths of the world’s poor. It has abysmally low intra-regional trade. It was precisely to work around bilateral tensions in the subcontinent, especially between its two biggest members, and to make space for discussion on common issues such as trade, infrastructure,

sustainable development and poverty alleviation, that SAARC was set up.

The founding principle was that together South Asia had a better chance of fighting its shared ills, an idea that held the group together for decades in the face of intermittent regional tensions. This is not the first time that a SAARC summit has been postponed. But given the prevailing environment of deep mistrust and tension, it is unlikely that the summit will be rescheduled to take place in the near future. This is something that will cause serious damage to the multilateral process and raise even more questions about the future and relevance of SAARC.

ETCA: THE STRIVE TOWARDS REJUVENATED INDO-LANKA TRADE

Context

India and Sri Lanka has signed an Economic and Technological Cooperation Agreement (ETCA).

Introduction

The relationship between India and Sri Lanka is more than 2,500 years old. Both countries have a legacy of intellectual, cultural, religious and linguistic interaction.

In recent years, the relationship has been marked by close contacts at all levels. Trade and investment have grown and there is cooperation in the fields of development, education, culture and defence. Both countries share a broad understanding on major issues of international interest.

Why was it in news recently?

India-Sri Lanka bilaterally agreed to conclude the proposed ETCA (Economy & Technology Cooperation Framework agreement), in addition to the existing FTA (Free Trade Agreement) by the end of this year.



Fig. 6

India Sri Lanka Bilateral Relations

Areas of Cooperation

► Cultural/Soft power Cooperation

- In April 2015, India granted visa-on-arrival facilities for Lankans visiting India;
- Share religious (Buddhism) and linguistic (Tamil) ties; in April 2015 India announced Ramayana train in SL and Buddhist circuit in India; in March 2015, India organized a dialogue between Buddhists of Theravada tradition in SL and Nalanda tradition in India.

► Diplomatic Cooperation

- During former president's Rajapaksa tenure SL tilted towards China, but in Jan, 2015 Sirisena came to Power who has promised to correct pro-China tilt.
- PM of India and SL President have met 3 times since 2014 NDA govt. came to power.

► Economic and Commercial Relations

- Economic relations are strong since FTA came into force in 2000. India and Sri Lanka enjoys a robust trade and investment relationship. Sri Lanka is India's largest trade partner in South Asia. India in turn is Sri Lanka's largest trade partner globally. Trade between the two countries grew particularly rapidly after India-Sri Lanka Free Trade Agreement came in force in March 2000. Over the next eight years, bilateral trade multiplied nearly five-fold.
- According to Sri Lankan Customs data, the bilateral trade amounted to US\$ 4.01 billion in 2012. In recent months, the two countries have continued discussion to take the economic and commercial engagement to the next level.

- **Developmental Cooperation:** The conclusion of the armed conflict saw the emergence of a major humanitarian challenge, with nearly 300,000 Tamil civilians housed in camps as Internally Displaced Persons (IDPs). The Government of India put in place a robust programme of assistance to help the IDPs return to normal life as quickly as possible and has also consistently advocated the need for them to be resettled to their original habitations as early as possible. With the shift from relief and rehabilitation to reconstruction and development, the Government of India turned its attention to the housing requirements of the IDPs.

► **Strategic & Defence Cooperation**

- ▣ **Nuclear Energy:** During Sirisena's visit to India, agreement on cooperation in peaceful uses of nuclear energy was signed (involves exchange of expertise, but excludes construction of nuclear reactors).
- ▣ **Defence:** Cooperating in a trilateral format on maritime security between India, SL and Maldives. India and Sri Lanka also enjoy a growing defence relationship built on extensive training and Service-to-Service linkages. The commonality of concerns of both countries, including with respect to the safety and security of their sea lanes of communication, informs their bilateral exchanges in this field.
- ▣ **UNSC:** SL supports India's candidature for UNSC.

Conflict Zones

- **Peace Process:** India has deep interest in peace and stability in Sri Lanka. Peace in Sri Lanka can only contribute to the further deepening and expansion of Indo-Sri Lankan ties to mutual advantage. The Government of India is committed to the unity, sovereignty and territorial integrity of Sri Lanka and to the restoration of a lasting peace through a peaceful, negotiated settlement that meets the just aspirations of all communities.
- **The Fishermen Issue:** Arrest of Indian fishermen on the Sri Lankan side of the International Maritime Boundary Line (IMBL) in the Palk Straits and the Gulf of Mannar by Sri Lankan authorities has been a long-standing problem. The catch on the Sri Lankan side is better both in terms of quality (high-value prawns) and quantity.
- **The Kachativu Issue:** Kachativu, meaning of 'barren island' lies about 15 km from Rameswaram and 20 km north of Neduntivu off the Jaffna peninsula and is just 1.5 km from the International Boundary Line in Sri Lankan waters after the 1974 agreement. The windswept, desolate 112 hectares has very little plant or animal life. Its only man-made structure is a church, dedicated to St. Antony. The Island's importance stems from the fact that the sea around it is rich in white and brown prawns and other varieties of fish. After a good catch, fishermen from Rameswaram used to rest and dry their nets there. While Sri Lanka (then Ceylon) claimed that Kachativu belonged to it because the Portuguese and later the British rulers of Sri Lanka exercised jurisdiction

over it from Colombo, India argued the island formed part of the zamin of the Raja of Ramanathapuram.

Though the dispute erupted now and then in the late 1960s, it figured for the first time at the highest level when Prime Minister, Kumaratunga's visit to New Delhi on the last week of December, 1998. Negotiating teams had been at work on the pact since the middle of December, without clinching every detail of it. At one stage External Affairs Minister Jaswant Singh urged the teams to go that extra mile to uphold the principle of free trade.

What Is the status of FTA signed between India and Sri Lanka In 1998?

- Signatories of FTA (Free Trade Agreement) countries have to reduce trade barriers and to create a stable and transparent trading and investment environment to make trade easier, something similar to open market.
- To facilitate the trade relations between the two countries, the India-Sri Lanka FTA was signed in 1998. This FTA is in operation since 2000 and is only in goods. As per this agreement, while India provides duty free access to 4227 Sri Lankan Products; Sri Lanka provides duty free access to 2802 Indian products. The FTA was significant because it alone multiplied the trade by 8 times by 2011.

Issues with FTA

- In comparison to India, Sri Lanka received more benefits. While 70% of Sri Lanka's exports are covered under FTA, only 30% of India's exports to Sri Lanka were covered under the preferential route of the FTA.
- There have been complaints from Sri Lankan side that the existence of non-Tariff barriers (NTBs) for market access has prevented Sri Lanka to export more to India. Though some barriers have been removed few others remain. Experts from Indian side have different answer for this problem.
- Apart from this, India and Sri Lanka are also signatories of South Asia Free Trade Agreement (SAFTA).

Economic and Technological Cooperation Agreement (ETCA)

- The two countries were also holding negotiations to finalize Comprehensive Economic Partnership Agreement (CEPA). With negotiations dragging for years on account of opposition from Sri Lanka's business communities, CEPA could not be finalized. CEPA aimed to liberalize trade in services and investment.

- ▶ Both the countries are now negotiating to conclude a new trade pact called the Economic and Technological Cooperation Agreement (ETCA).
- ▶ ETCA is negotiated as an extension over the existing FTA and it is expected to be signed by this year end. It will encompass India's five fastest growing southern states which have a population of 250 million and a combined GDP of \$400 billion and Sri Lanka's 22 million population with an US \$80 billion economy. This would make the GDP of the sub region to be \$500 billion.
- ▶ ETCA aims to attract investment in this \$500 billion economy.

Objectives of ETCA

- ▶ Strengthen and advance the economic, trade, investment and technology cooperation.
- ▶ Promote further liberalization of trade in goods, trade in services and gradually establish transparent, fair and facilitative trading, investment and investment protection mechanisms.
- ▶ Establish a cooperation mechanism and expand areas of economic cooperation.

Hurdles In ETCA

- ▶ Conclusion of ETCA with India is opposed by some interest groups and political parties in Sri Lanka. The protest against ETCA is based in huge trade deficit. As per official Sri Lankan figures, Indian exports to Sri Lanka was US\$ 4,268 million while Sri Lankan exports to India was just US\$ 643 million in 2015. This huge trade deficit is not liked by the business community in Sri Lanka.
- ▶ They claim that ETCA is to be largely advantageous to India and oppose conclusion of any trade pacts with India. However, Indian officials and pro-liberalisation advocates in Sri Lanka have offered different explanations on the gains of FTA. According to them, high Indian exports were mostly independent of FTA and argue that Sri Lanka got more benefits out of FTA than India.

- ▶ Also, Sri Lanka is at present facing a major balance of payments (BOP) crisis. At this juncture, it would be difficult for the Sri Lankan government to push for the economic pact and convince the opposition parties who believe that economic pacts with India are disadvantageous to them.
- ▶ However, India has helped the Sri Lankan government to tackle the BOP problem by boosting the foreign exchange reserves of Sri Lanka by US \$1.1 billion with a Reserve bank of India credit swap for six months followed by another emergency credit swap in March. Credit Swaps are temporary arrangements to increase Sri Lanka's foreign exchange reserves until the loans from IMF took effect in June.

Why this meet is Important from India's Perspective and Its Implications on Geopolitics of South Asia?

- ▶ India-Sri Lanka meet on ETCA has significant meaning in strengthening relationship with neighbors as India has a lot of differences with Pakistan and China.
- ▶ Presence of China soured Indo-Sri Lankan relationship in past due to Chinese investment in the Colombo Port City Project along with the management of the port which makes India suspicious about the military element of China.
- ▶ Sri Lankan PM clarified earlier that they are negotiating free trade agreement (FTA) with China under its "one Belt, One Road" initiative as it is necessary to make the Chinese investment in the country realize their full potential.
- ▶ To strengthen the bilateral relation between India and Sri Lanka, India PM Narendra Modi met Sri Lankan President Maithripala Sirisena before the BRICS-BIMSTEC Summit 2016 at Goa.

Conclusion

Today the relationship between both the countries is strong and poised for a quantum jump by building on the rich legacy of historical linkages and strong economic development partnerships that have been forged in recent years.

PLAN TO WIDEN EPF COVERAGE

Context

The centre is reconsidering a plan to widen the social security net for workers by bringing more factories under the provident fund coverage.

What is Provident Fund?

Provident Fund is a mandatory, tax-qualified, defined contribution, retiral benefit plan wherein equal contribution at the rate of 12% is made by the employer and the employee.

It is run by government for the benefit of its citizens. It is a form of social safety net into which workers must contribute a portion of their salaries and employers must contribute on behalf of their workers. The money in the fund is then paid out to retirees or in some cases to the disabled who can not work.

In India EPFO and PFRDA are two leading social security organisations led by Government.

The Employees' Provident Fund Organisation (EPFO), is an Organization tasked to assist the Central Board of Trustees, a statutory body formed by the Employees' Provident Fund and Miscellaneous Provisions Act, 1952 and is under the administrative control of the Ministry of Labour and Employment, GoI. It is one of the largest social security organisations in India in terms of the number of covered beneficiaries and the volume of financial transactions undertaken.

Why recently in news?

In the recent move, the centre is reconsidering a plan to widen the social security net for workers by bringing more factories under the provident fund

coverage. The Labour Ministry had proposed to bring down the threshold limit for coverage of firms under the Employees' Provident Fund (EPF) to factories with at least 10 workers. At present, the EPF Act is applicable to factories with minimum 20 workers.

Provisions for Social Security in India

India, being a Welfare State, has taken upon itself the responsibilities of extending various benefits of Social Security and Social Assistance to its citizens. The Social Security legislations in India derive their strength and spirit from the Directive Principles of the State Policy as contained in the Constitution of India.

In India, out of an estimated work force of 91 percent all should be having the benefit of formal Social Security protection including the workers who are in the unorganised sector. Several and successive attempts have been made in the past to address the multifarious problems faced by the workers in the unorganised sector through legislative as well as programme oriented measures.

Even though these measures have not succeeded in achieving the desired objective partly on account of the ignorance, illiteracy and lack of unionisation of workers on the one hand and the resource constraints of the State on the other. Some of the programmes have provided a good setting through which the hopes and expectation of the workers in the unorganised sector have been considerably aroused.

- ▶ Article 38 is a mandate to the state to secure a social order for the promotion of welfare of the people,
- ▶ Article 39 provides for equal rights to adequate means of livelihood to all citizens and distribution of wealth and material resources to subserve common good and prevention of concentration of wealth and means of production etc.,
- ▶ Article 41 provides for right to work, education and public assistance in certain cases such as unemployment, old age sickness and disablement.



Fig. 7

- ▶ Article 42 stands for providing just and human conditions of work and maternity relief.
- ▶ Article 43 deals with living wage for workers and Article 43-A intend to secure workers.

What are the government initiatives so far?

A. Employee's Provident Fund (EPF)

- ▶ **Employee's Provident Fund (EPF)** is a retirement benefit scheme that's available to all salaried employees. This fund is maintained and overseen by the Employees Provident Fund Organisation of India (EPFO) and any company with over 20 employees is required by law to register with the EPFO. It's a savings platform that helps employees save a fraction of their salary every month that can be used in the event that they are rendered unable to work, or upon retirement.

- ▶ **Tax Benefits:** The employer contribution to EPF is tax-free, and employee's contribution is tax-deductible under Section 80C of the Income Tax Act. The money invested in EPF, the interest earned and the money eventually withdraw after the mandatory specified period (5 years) are exempt from income tax.
- ▶ The administration of the Act is carried out by the Central Board of Trustees which comprises representatives of three parties' viz. the government, employers and employees. The Board is assisted by the Employees' Provident Fund Organisation (EPFO) which falls under the purview of the Government through the Ministry of Labour and Employment.
- ▶ The EPFO, therefore, provide services to an unusually large number of subscribers. This, coupled with the large number of associated transactions involved, ranks the EPFO among the largest organisations, globally. Currently EPFO provides service to more than 5 crore members. Under the Act, the EPFO operates three schemes in all viz.
 - Employees' Provident Fund Scheme, 1952
 - Employees' Pension Scheme, 1995 (which replaced the Employees' Family Pension Scheme, 1971)
 - Employees' Deposit Linked Insurance Scheme, 1976

Under the Act, member employees are eligible for provident fund, pension and insurance benefits as per the above mentioned schemes.

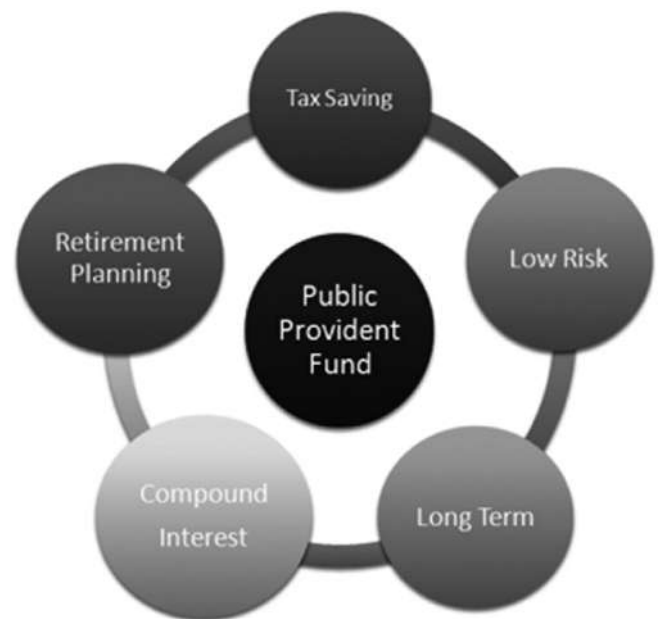


Fig. 8

Benefits of the EPF Scheme

The EPF scheme is one of the most important savings schemes in India for many reasons. Key advantages are highlighted below:

- ▶ **Tax-free earnings:** The interest earned on funds held in an EPF account is tax-free. Withdrawals at maturity / beyond 5 years are also tax-free (except in case of premature withdrawal). This helps optimise growth and returns on savings. Contributions made towards EPF are tax deductible under Section 80C of the Income Tax Act, 1956.
- ▶ **Financial Security:** Funds in the account are not easy to withdraw and so savings is ensured.
- ▶ **Retirement:** Eventually, the amount collected provides financial security at time of retirement.
- ▶ **Emergencies:** The funds are also useful in times of emergencies to meet certain requirements for which premature withdrawals are allowed in certain cases.
- ▶ **Loss of Income:** If an employee for some reason cannot work any longer, these funds help tide over loss of income.
- ▶ **Resignation:** After 2 months of resignation employees can withdraw accumulated amounts in their PF accounts.
- ▶ **Death:** The accumulated amount is passed on to the employee's nominee providing them financial stability.
- ▶ **Disability:** If employees cannot work any longer, EPF balances can be withdrawn to tide one over.
- ▶ **Retrenchment or discharge:** This is where employees are laid off from work. PF savings

can bridge the income gap till another job can be found.

- ▶ **Long-term savings option:** This is a sound savings option for employees with long-term investment goals.
- ▶ **Source of funds:** In times of need, EPF funds can provide an employee much needed liquidity. Funds can be borrowed to meet certain pressing needs such as medical, housing, marriage and education.
- ▶ **Pension:** Under the Act, along with provident funds, an employer also contributes towards an employee's pension fund which the employee can eventually use upon retirement.
- ▶ **Insurance:** Under the Act, an employer also contributes towards an employee's life insurance in the absence of a group cover, thereby ensuring employees are insured.
- ▶ **Universal access:** Employees can transfer their accounts when they change employers and with the introduction of the Universal Account Number (UAN) they can now access their EPF accounts through a single-point.

B. Employee Pension Scheme

- ▶ It is a pension scheme that offers widow pensions, pension on debasement. Under this scheme, nominees can also receive pensions. Out of the total contribution made by employer, 8.335 goes toward EPS account. The amount deposited towards EPS account is subject to a maximum of Rs. 1250. In order to enjoy the benefit of this scheme, an employee's basic salary needs to be Rs. 6500 per month.
- ▶ Both Employee Provident Fund and Employee Pension Schemes are pension offered by government of India to help employees secure their retirement days. The two schemes provide assured returns on investments and these schemes are particularly designed for salaried employees.

C. National Pension Scheme by PFRDA

The **Pension Fund Regulatory and Development Authority (PFRDA)** is a pension regulatory authority which was established by Government of India on August 23, 2003. PFRDA is authorized by Ministry of Finance, Department of Financial Services.

- ▶ PFRDA promotes old age income security by establishing, developing and regulating pension funds and protects the interests of subscribers to schemes of pension funds and related matters.
- ▶ **PFRDA Is regulating NPS**, subscribed by employees of Govt. of India, State Governments and by employees of private institutions/ organizations & unorganized sectors. The PFRDA is ensuring the orderly growth and development of pension market.
- ▶ On 23rd August, 2003, Interim PFRDA was established through a resolution by the Government of India to promote, develop and regulate pension sector in India.
- ▶ The contributory pension system was notified by the Government of India on 22nd December, 2003, now named the **National Pension System (NPS)** with effect from the 1st January, 2004. The NPS was subsequently extended to all citizens of the country w.e.f. 1st May, 2009 including self employed professionals and others in the unorganized sector on a voluntary basis.

What is the present PF coverage in India?

- ▶ At present, 8.7 crore workers are subscribed to EPFO out of which around 3.77 crore workers made active contributions to their PF account till 2015-16. The proposal to cover factories with at least 10 workers under the EPF Act was one of the recommendations of the 44th Indian Labour Conference Session held in 2012.

What is the current issue about widening the coverage of EPF?

The centre is reconsidering a plan to widen the social security net for workers by bringing more factories under the provident fund coverage. The Labour Ministry has proposed to bring down the threshold limit for coverage of firms under the Employees' Provident Fund (EPF) to factories with atleast 10 workers.

Currently, the EPF Act is applicable to factories with minimum 20 workers only. But there is a debate on the contradictory government stance. On the one hand, there is a proposal to bring larger number of people under the EPF fold and on other hand, there is another proposal to give workers an option to opt out of EPFO and move to NPS.

ANALYSIS OF SWACHH BHARAT MISSION

Context

Swachh Bharat Abhiyan day has been celebrated on 2nd October.

The World Health Organization states that: Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and feces. Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities. The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal.

Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities.

What are the beliefs of the cleanliness?

Indians have deep-seated beliefs about cleanliness and waste.

Pure and pristine: Believe in ritual baths before prayers or festivals. Water and the colour white symbolize cleanliness and purity.

Ownership: Believe in cleaning ourselves, our homes and our immediate surroundings. Through cleaning, we establish ownership. Not included in this ownership is the collective notion of common goods and common spaces. It possibly derives from our scarcity mindset, developed over centuries when it was important to preserve one's immediate cohort.

Health: Clean signifies germ-free. At the same time, it is often just a perception cleaning a table with a dirty rag does not really clean.

Shame: While being clean is good, dirt is considered impure and the act of cleaning has stigma associated with it and is often delegated to someone else job typically based on class, caste and gender codes.

Internal or external: If produce is clean from the outside, assume it is hygienic or healthy. If the visible part of the room is clean, even if dust is swept under the furniture, it doesn't bother us. If the syringe that is used is new, the overflowing and unsegregated wastebasket at the clinic does not affect us.

These deep-seated beliefs about cleanliness influence the cities, markets, temples and hospitals look.

Data on sanitation

According to House listing and Housing Census 2011, 47% of the households have latrine facility within premises with 36% households have water closet and 9% households have pit latrine. There is an 11% decline in households having no latrine from 64% to 53% in 2011. Most of these numbers are made up by people who live in urban slums and rural areas. A large populace in the rural areas still defecates in the open. Slum dwellers in major metropolitan cities, reside along railway tracks and have no access to toilets or a running supply of water.

Thus to improve the sanitation in the nation various initiatives have been launched.

Past Initiatives

The central government has been implementing schemes to improve access to sanitation in rural areas from the 1st Five Year Plan (1951-56) onwards. Major schemes of the central government dealing with rural sanitation are outlined below:

- ▶ **Central Rural Sanitation Programme (CRSP-1986):** The Central Rural Sanitation Programme was one of the first schemes of the central government which focused solely on rural sanitation. The programme sought to construct household toilets, construct sanitary complexes for improving the quality of life of the rural people and also to provide privacy and dignity to women.
- ▶ **Total Sanitation Campaign (1999):** To make greater focus on Information, Education and Communication (IEC) activities in order to make the creation of sanitation facilities demand driven rather than supply driven.
- ▶ **Nirmal Bharat Abhiyan (NBA):** In 2012, the Total Sanitation Campaign was replaced by the Nirmal Bharat Abhiyan (NBA). The objective was to accelerate the sanitation coverage in the rural areas.

About Swachh Bharat Abhiyan

This mission was launched on 2nd of October 2014 (145th birth anniversary of Gandhiji) by targeting its completeness in 2019 on 150th birth anniversary of Gandhiji, under national campaign covering 4,041 statutory cities and towns, to clean the streets, roads and infrastructure of the country.

Under the new programme, NBA will be re-structured into Swachh Bharat Mission with two sub-Missions - Swachh Bharat Mission (Gramin) and Swachh Bharat Mission (Urban). The two missions will fall under the Union Ministry of Drinking Water and Sanitation (for Rural) and the Union Ministry of Urban Development (for Urban).

The main objectives are:

- ▶ To bring about an improvement in the cleanliness, hygiene and eliminating open defecation and manual scavenging system and to bring behavioral changes among Indian people regarding maintenance of personal hygiene and practice.
- ▶ To accelerate sanitation coverage all over India to achieve the vision of Swachh Bharat by 2nd October 2019.
- ▶ To motivate Communities and Panchayati Raj Institutions (PRIs) to adopt sustainable scientific Solid & Liquid Waste Management sanitation practices and facilities through awareness creation and health education.

Funding pattern Includes

- ▶ Budgetary allocations
- ▶ Funding and technical support from the World Bank, corporations as part of corporate social responsibility (CSR) initiatives, and by state governments under the 'Sarva Shiksha Abhiyan' and 'Rashtriya Madhyamik Shiksha Abhiyan' schemes.
- ▶ **Swachh Bharat Kosh (SBK):** Swachh Bharat cess is an increase in the service tax by 0.5% on all the services in India.
- ▶ The funding for 9 crore toilets is expected to come from 3 primary sources – Ministry of Drinking Water & Sanitation, Ministry of Rural Development, and the States in the ratio of 75:25 between centre and State and 90:10 for North Eastern state.

Key challenges

- ▶ **Mindset of People:** About 590 million persons in rural areas defecate in the open. The mindset of a major portion of the population habituated to open defecation needs to be changed. Many

of them already have a toilet but prefer to defecate in the open.

- ▶ **Scientific Solid & Liquid Waste Management sanitation practices:** There is no professional expertise in the Municipal Corporation to keep the city clean and it remains unclear how and where the waste will be disposed and what extent of the responsibility for managing waste lies with citizens.
- ▶ **Sustainability:** The lack of any resources for maintenance of school toilets and community sanitary complexes could result in rapid deterioration and subsequent non-usage of these over time, severely impacting the sustainability of the programme.
- ▶ **Lack of staff:** Inadequate dedicated staff at the Field Level for implementation of rural sanitation.

Reframing the problem of waste to reverse belief systems

To change beliefs around dirt and cleanliness, first need to change the popular dialogue around these latent belief systems. It will be more willing to do our part if understand that:

- ▶ Waste has value that it can be easily sold or converted into energy or fertilizer.
- ▶ Waste needs to be feared either through punitive measures like fines or through its negative impact on the health and well-being of our families.
- ▶ The act of cleaning itself is not shameful or derogatory.
- ▶ Our small steps towards cleaner behaviours are noticed and appreciated.

Culture-led beliefs are never static. At any given time, there are residual and dominant beliefs, but also some new emergent beliefs usually shaped by media, movies, the economy, and political and social discourse. Beliefs around cleanliness can be actively shaped when clean actions are shown in media. Celebrities posing with the humble broom gather sniggers and trolls today. But a repeated message that envelops us across platforms and is subtly embedded in content, especially television, can go a long way in shaping perception.

Creating triggers for Behaviour Change

Adoption of clean infrastructure and clean habits would require changes in beliefs and actions. That is tough. Change requires motivation, and multiple emotions must be invoked to influence behaviour.

Pride: Taking pride flag and get offended by a word deemed seditious, but are not concerned about the street in which we live in. What would it take to make a country that is more than its symbols?

Respect: We respect our own property in private. We clean our homes and shops and even leave our shoes outside. Yet the refuse spilling from our gates plagues our neighbours, and the open disposal at our public spaces festers germs. How can respect shift from celebrities and religious symbols to public health and sanitation?

Competition: In a nation of multitudes, our need to stand out is extremely high. How can this competitive streak be harnessed for the urban and rural commons?

Appreciation: Love for receiving empathy and connect is great, but the ability to express enthusiasm and appreciation is low. How can it use the power of appreciation to transform behaviours?

Shame: Personal and communal honour is a matter of pride, and its violation can lead to deep shame. How can it can be extended this to the public common space, and leverage the power of social media to 'shame' each other into better behaviour?

Fear: Could the fear for the health and well-being of loved ones be tapped into?

Addressing Swachh Bharat solutions for multiple stakeholders

Every problem has multiple stakeholders and hence the solutions must address the real, unmet and talent needs of each of these groups. When the obvious solutions fail – in this case, adoption and behaviour even where infrastructure exists – it need to use innovative solutions and behaviour change triggers. These solutions will combine technology, digital, psychographics and behavioural economics to drive outcomes.

It can define four major stakeholder segments, and interlinked solutions are needed across these segments.

A. Government:

There are several layers of governing bodies from the central government which creates the policies, to the state government, the urban local bodies and rural development centres.

Also, government is a combination of individuals with their own aspirations and capabilities. How well we integrate solutions to tap the potential and intent of each person will determine the success of the enterprise.

Capacity building: Training workshops and video-based lessons for officers and staff members can go a long way. Tracking and monitoring mechanisms, aided by technology, can measure progress.

Inter-departmental cooperation: Only municipal wards are under the ambit of the urban development ministry. Educational and healthcare institutions, monuments, animal and produce markets, roads, train stations and airports are all governed by different ministries. Realizing this, the central mission body is creating a compendium of specific ideas and tools to cascade to different ministries at central, state and city levels. The challenge will lie in last-mile awareness and clarity on leveraging available funds, processes and resources to execute at the local level.

Rewards and Incentives: Government officials are individuals vying for rewards and career progress. Setting up outcome-based recognition and rewards frameworks, and linking them with competitions (city cleanliness rankings), celebrations (Swacchta Divas, or cleanliness day), champions of the month, and best departments will ensure engagement and performance.

Changing laws and practices: Creating strong laws around effluents or littering, offering easily understood subsidies for waste recycling or conservation initiatives, strengthening the fines system and linking it with Internet of Things (IoT)-enabled tracking will help better following of rules. Further, linking it with citizen apps and complaints hotlines will improve transparency.

Institutional cleaning staff

Under the governance of the local bodies are the actual functionaries municipal employees or contract staffs who do the daily hands-on work. Salary levels are low, and the repetitive work requires continuous motivation.

Capacity building: Every staff member needs to understand and internalize the goals, processes and expected outcomes. Training is not enough. Lack of cleaning supplies and tools causes motivation levels to slacken and habits to break. Hence enabling staff with knowledge and tools is crucial. Tracking of work is even more critical. With radio frequency identification and IoT enablement, some municipalities are trying to track implementation. Bins and trucks have embedded devices which track the route taken by trucks, number of bins emptied and so on.

Rewards and Incentives: Technology is also not the final answer. Staff can flummox the best tracking devices and find loopholes in processes. Corporates, sports people and the armed forces routinely use the power of shared purpose and future impact to motivate individuals. Giving meaning to work and recognizing it through simple mechanisms like uniforms, badges, employee recognition systems and local competitions will allow staff to take their work seriously.

Appreciation: If citizens recognize the efforts of their local cleaners, even through smiles and words of appreciation, it can trigger the limbic brain that influences emotions and drives subconscious behaviour.

B. Corporate entitles:

Companies are already coming together to adopt the cause of cleanliness, encouraging employee participation and spreading the message. But they may need to do even more. While industrial waste, effluents and emissions are not a part of the mandate of Swachh Bharat Mission, a large part of the toxic environment of our cities and towns comes from unsafe industrial practices and low-efficiency products. In an integrated manner, through climate control goals, the state is aiming to reduce pollution and improve sanitation. Businesses will need to design better facilities and better products.

Reducing waste footprint: At the macro level, companies will need to adopt better mechanisms, technologies and processes for waste and water management. If hotels, malls, factories and offices pledged to improve their swacchta footprint through grey water recycling, purchasing recycled products and at-source cleaning, it will reduce the mission's overall burden. Local non-profits and grassroots businesses are already aligning with urban local bodies in some areas for last-mile segregated garbage collection.

Waste to value businesses: Young entrepreneurs are setting up businesses to collect waste and e-waste, and recycle or up-cycle these products or convert waste to energy. Even in rural areas, a few entrepreneurs are setting up biogas plants. There is commerce and enterprise in waste, and more localized solutions are needed.

Leverage small business owners: Shopkeepers and stall keepers can significantly contribute to the face of our streets and markets, even through a simple act of keeping a small bucket for garbage disposal.

C. Citizens:

This is the toughest pillar. Habits become beliefs and beliefs can be held strongly. Citizens who behave differently when expected to, inside luxury hotels or malls or a regimented office environment, behave in the opposite manner when unfettered by the propriety of expectations.

Education: Sporadic school-led cleanliness drives will not change beliefs. But an integrated system of competitions, recognition, street performances, experiential and activity-based initiatives that are conducted in a tiered manner from local to national levels might help in deeper belief changes.

Competition: Just like national cleanliness rankings, cities could compete within themselves at the locality, street and society level. Using social media to spread the word might possibly inspire others to contribute to their own communities. Cleanliness ambassadors, students or older citizens, can spread the message to local businesses and roadside stalls.

Tackling superstition: Media, celebrities and community influencers can play a huge role in debunking myths around cleanliness and the stigma attached to the act of cleaning whether inside our homes, our places of work or worship or our public spaces.

In the end, as much as creating commercial interests and infrastructure for cleanliness is needed, Swachh Bharat Mission will succeed—or fail—because of people. Disbelievers can harm the effort by not participating and even more by being cynical. If we do not reframe the problem and identify ways for each set of stakeholders to contribute, we will not move ahead in this journey.

Way Forward

- ▶ There is need to strengthening of administrative infrastructure at state level, through merging of drinking water supply and sanitation departments to avoid the unnecessary duplication and confusion at present. There is also need to explore Inter Personal Communication through NGOs, SHGs, School children, local women's groups etc for dissemination of information and for motivation of the people.
- ▶ The high degree of policy priority accorded to sanitation with the introduction of Swachh Bharat Abhiyan could go a long way in achieving an open defecation free India in the coming years.

- ▶ A package of comprehensive sanitation and hygiene interventions need to be rolled. It can result in averting 45 percent of adverse health impacts, and avoid all the adverse impacts of inadequate sanitation related to water, welfare, and tourism losses.
- ▶ Community-led public-private partnerships needed to improve access to toilets and awareness campaigns in schools and slums in both urban and rural sectors.

‘Swachh Bharat Abhiyaan’ is not just about cleaning surroundings but also seeking the participation of people in creating trash-free environment, providing sanitation facilities and paving a way for Swachh Bharat eventually. This campaign will not only help citizens adopt good habits of cleanliness but also boost our image as a nation, sincerely working towards cleanliness.

HIV AND AIDS (PREVENTION AND CONTROL) BILL, 2014

Context

The Union Cabinet has given its approval to introduce amendments to the HIV and AIDS (Prevention and Control) Bill, 2014. The Bill seeks to safeguard the rights of people living with and affected by HIV.

As per the recently released, India HIV Estimation 2015 report, National adult (15–49 years) HIV prevalence in India is estimated at 0.26% (0.22%–0.32%) in 2015. In 2015, adult HIV prevalence is estimated at 0.30% among males and at 0.22% among Females.

The total number of People Living with HIV (PLHIV) in India is estimated at 21.17 lakhs (17.11 lakhs–26.49 lakhs) in 2015 compared with 22.26 lakhs (18.00 lakhs–27.85 lakhs) in 2007. Children (<15 years) account for 6.54%.

The prevalence of HIV is decreasing over the last decade but percentage of PLHIV receiving Anti-Retroviral therapy (ART) treatment are merely 28.82% against global percentage of 41%.

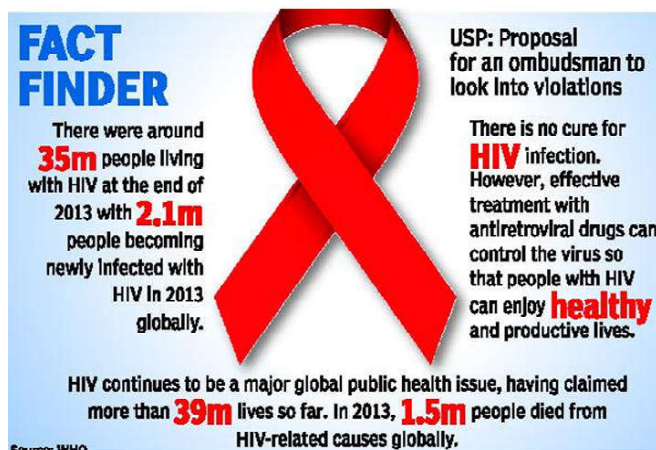


Fig. 9

Rights for HIV patient

Union of India has signed various treaties, agreements and declarations relating to HIV/AIDS, the protection of rights of those who are HIV positive, those who are affected by HIV/AIDS and those who are most vulnerable to HIV/AIDS in order to secure their human rights and prevent the spread of HIV/AIDS. The two conventions that aim at non-discrimination on the basis of creed, political affiliation, gender, or race are the International Covenant on Civil and Political Rights, the

International Covenant on Economic, Social and Cultural Rights. They also cover within their ambit non-discrimination of the people infected with HIV.

The Universal Declaration of Human Rights also lays down that the principle of non-discrimination is fundamental to human rights law. It equally applies to people suffering from HIV/AIDS because they have to suffer a very high level of stigma and discrimination. It lays down certain work related provisions for a HIV/AIDS infected people which includes right to life, liberty and security of person, no person should be subjected to forced testing and/or treatment or otherwise cruel or degrading treatment, all people including HIV+ persons have the right to work and participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits and all persons including the people living with a positive 'HIV' diagnosis are equal before the law and are entitled without any discrimination to equal protection by the law.

People diagnosed with HIV+ are also entitled the rights enshrined in Art. 25(1) of the Declaration which includes the right to adequate standard of living, assistance, medical care and necessary social services, and the right to security in the event of unemployment according to their needs and their treatment choices.

The UNAIDS Guidelines, 1996 emphasizes on the duty of the states to engage in law reform. It also guides the states to identify legal obstacles so as to form an effective strategy of HIV/AIDS prevention and care. It also lays stress on enactment of anti-discrimination and other protective laws that would protect HIV/AIDS diagnosed people from discrimination in both the public and private sectors would ensure their privacy, confidentiality and ethics in research involving human subjects and would lay emphasis on education and conciliation and provide for speedy and effective administrative and civil remedies.

Discrimination faced by the HIV patient

HIV-related stigma and discrimination refers to prejudice, negative attitudes and abuse directed at people living with HIV and AIDS. Time and again, there have been reports of HIV affected children being discriminated in schools. Additionally, people living with HIV are facing discrimination in employment because of their HIV status. Women living with and affected by HIV are facing increasing levels of violence within and outside the home. Apart from the fact the State is unable to provide assured Anti-Retroviral Therapy (ART) and drugs for opportunistic infections, PLHIV live the

uncertainty of not being able to access the required second line, third line and new treatment therapies which will assure them a dignified life.

Research by the International Centre for Research on Women (ICRW) found the possible consequences of HIV-related stigma to be:

- ▶ loss of income and livelihood
- ▶ loss of marriage and childbearing options
- ▶ poor care within the health sector
- ▶ withdrawal of caregiving in the home
- ▶ loss of hope and feelings of worthlessness
- ▶ loss of reputation.

HOW STIGMA LEADS TO SICKNESS

Many of the people most vulnerable to HIV face stigma, prejudice and discrimination in their daily lives. This pushes them to the margins of society, where poverty and fear make accessing healthcare and HIV services difficult.

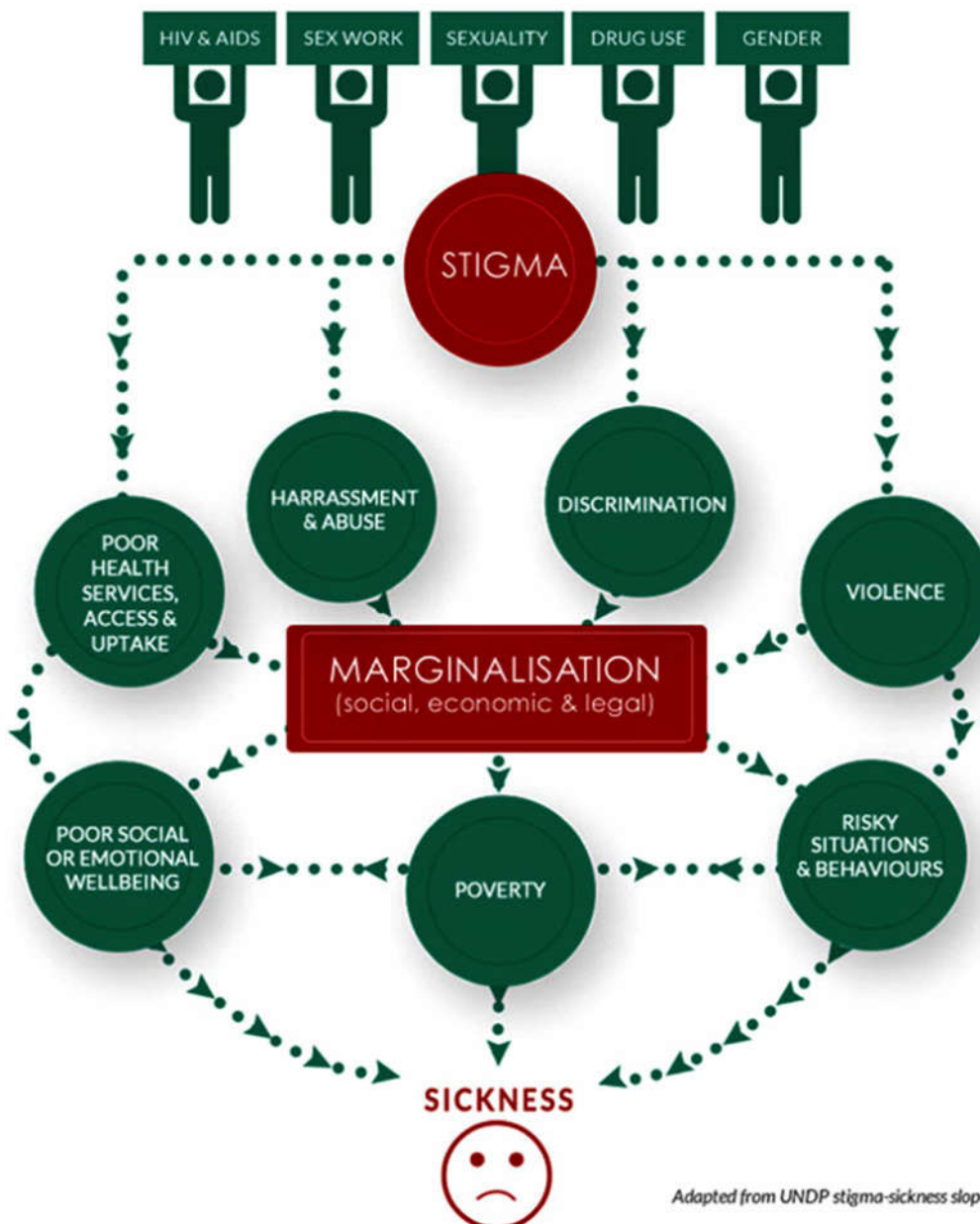


Fig. 10

The Bill seeks to prevent social stigma and discrimination against people living with HIV (PLHIV). It also seeks to strengthen legal accountability and establish formal mechanisms for inquiring into complaints and redressing grievances to probe discrimination complaints against those who discriminate against PLHIV.

What are the features of the Bill?

- ▶ The Bill lists the various grounds on which discrimination against HIV positive persons and those living with them is prohibited. These include the denial, termination, discontinuation or unfair treatment with regard to:
 - Employment,
 - Educational establishments,
 - Health care services,
 - Residing or renting property,
 - Standing for public or private office, and
 - Provision of insurance (unless based on actuarial studies).

The requirement for HIV testing as a pre-requisite for obtaining employment or accessing health care or education is also prohibited.

- ▶ Every HIV infected or affected person below the age of 18 years has the right to reside in a shared household and enjoy the facilities of the household. The Bill also prohibits any individual from publishing information or advocating feelings of hatred against HIV positive persons and those living with them.
- ▶ The Bill requires that no HIV test, medical treatment, or research will be conducted on a person without his informed consent. No person shall be compelled to disclose his HIV status except with his informed consent, and if required by a court order.
- ▶ Informed consent for an HIV test will not be required in case of screening by any licensed blood bank, a court order, medical research, and epidemiological purposes where the HIV test is anonymous and not meant to determine the HIV status of a person. Establishments keeping records of information of HIV positive persons shall adopt data protection measures.
- ▶ A person between the age of 12 to 18 years who has sufficient maturity in understanding and managing the affairs of his HIV or AIDS affected family shall be competent to act as a guardian of another sibling below 18 years of age. The guardianship will apply in matters relating to admission to educational establishments, operating bank accounts, managing property, care and treatment, amongst others.



Fig. 11

What is the responsibility of Government?

Union Government has scrapped customs import duties for drugs and test kits used to treat Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS).

The Bill requires that "No person shall be compelled to disclose his HIV status except with his informed consent, and if required by a court order". Establishments keeping records of information of HIV positive persons shall adopt data protection measures. According to the Bill, **the Central and State governments shall take measures to:**

- ▶ Prevent the spread of HIV or AIDS,
- ▶ Provide anti-retroviral therapy and infection management for persons with HIV or AIDS,
- ▶ Facilitate their access to welfare schemes especially for women and children,
- ▶ Formulate HIV or AIDS education communication programmes that are age appropriate, gender sensitive, and non-stigmatizing, and
- ▶ Lay guidelines for the care and treatment of children with HIV or AIDS.

Every person in the care and custody of the state shall have right to HIV prevention, testing, treatment and counseling services. The Bill suggest that cases relating to HIV positive persons shall be disposed' off by the court on a priority basis and duly ensuring the confidentiality. The ombudsman one who is appointed by the government shall submit a report to the state government every 6 months stating the number and nature of complaints received, the actions taken and orders passed.

Judicial Responsibility and code of conduct

- ▶ Cases relating to HIV positive persons shall be taken by the court on a priority basis. In any legal proceeding, if any PLHIV is a party, the court may pass orders that the proceedings be conducted by suppressing the identity of the person, in camera, and to restrain any person from publishing information that discloses the identity of the applicant.
- ▶ When passing any order with regard to a maintenance application filed by PLHIV, the court shall take into account the medical expenses incurred by the applicant.

There are no financial implications of the Bill. Most of the activities are being already undertaken

or can be integrated within the existing systems of various Ministries under training, communication and data management, etc. The Bill makes provision for appointment of an ombudsman by State Governments to inquire into complaints related to the violation of the Act and penal actions in case of non-compliance. The Ombudsman need not be a separate entity, but any existing State Government functionary can be deputed or given additional charge.

The Bill would provide essential support to National AIDS Control Programme in arresting new spread of HIV infections and thereby achieving the target of **“Ending the epidemic by 2030”** to meet goal Sustainable Development Goals.

CONTROVERSY OVER PATENT RIGHTS OF BT. COTTON

Context

Dispute between Monsanto and Indian seed companies over the patent rights is going on.

Seed is the basis of agriculture; the means of production and the basis of farmers' livelihoods. The Maharashtra Hybrids Seed Company (Mahyco) jointly with the US seed company Monsanto has developed the genetically modified Bt Cotton to tackle the bollworm problem that had devastated cotton crops in the past, by introducing into the cotton seed a gene of the common soil microbe called *Bacillus Thuringiensis* that encoded an insecticidal protein lethal to the bollworm (hence the name Bt. Cotton).

In 2002, Bt Cotton became the first and only transgenic crop approved by the GEAC for commercial cultivation in six States namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Tamil Nadu. It has been further extended to Punjab and Haryana. The Bt Cotton seeds were marketed by the Monsanto-Mahyco joint venture.

Monsanto patented Bt cotton. The microbiological processes and microorganisms are patentable under the Indian Patents Act, and Monsanto's patents cover most of these components. Using the patented technology, Monsanto created a host of donor Bt cotton seeds and distributed them to seed companies under specific agreements mandating the payment of royalties while seed companies used these donor seeds to introgress the desirable genetic trait into their own specific hybrid varieties by backcrossing.

Any seed company that uses this donor seed and creates a new plant variety is entitled to register such variety under the PPVFRA. This new plant variety registration, however, does not extinguish Monsanto's upstream patent rights. Neither does the patent right override the plant variety protection. They co-exist. The seed companies cannot commercialise their hybrids without a patent licence from Monsanto similarly, Monsanto cannot sell or distribute these hybrids without permission from the seed company.

It is clear if Monsanto refuses to licence the seed companies, they can move for a compulsory licence (CL) under the Patents Act, provided they satisfy the terms of Section 84, which states that a CL could be granted if the patented invention is exorbitantly priced or not available in reasonable quantities to the public or is not being worked in the territory in India. But this licence application has to be under the terms of the Patents Act, and not the PPVFRA.

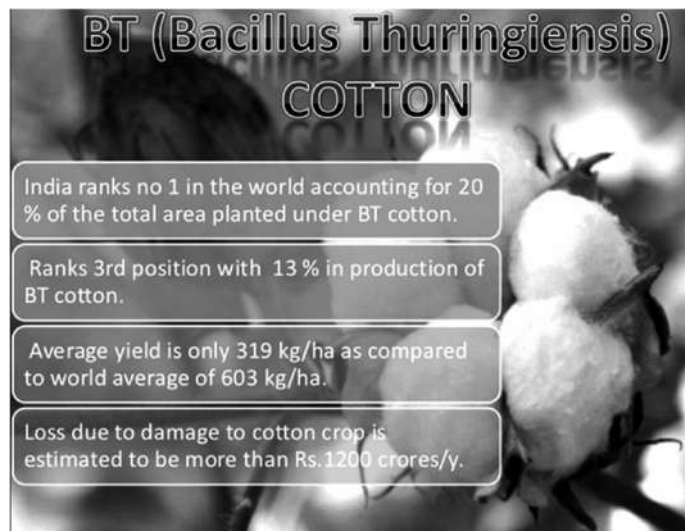


Fig. 12

Reason for dispute

The dispute between Indian seed companies and Monsanto came up over the question whether, Patents Act or the Protection of Plant Varieties and Farmers' Rights Act applies to Bt-cotton patent.

The patent by Monsanto created following controversies:

- ▶ First are the farmer's rights to reliable and affordable seed and with it the duty of the government to protect farmers right to livelihood and right to life. It is the government's duty under Art 21 of the constitution to protect the life of all

its citizens. The Cotton Seed Price Control Order issued by the Government of India needs to be seen in the context of farmer's rights.

- ▶ Second is the issue of IPRs, patents, royalty, technology fees in the context of false claims and a failing technology, and the duty of Government to act to revoke a patent according to Article 64 and Article 66 of the Indian Patent Act. There is a show cause notice served to Monsanto by the Central Government regarding the patent.
- ▶ The third is the issue of monopoly on seed. The Government has a duty to prevent monopolies being established.

Now the issue is that government is planning to revoke the patent granted to Bt-cotton.

In 2009, Bollgard began to fail as bollworms became resistant to the Cry1Ac gene. The company recommended that it would be safer for the farmers to adopt Bollgard-II instead.

In 2015, it was first reported by the Central Institute of Cotton Research (CICR) that Bollgard-II has also started to develop pink bollworm. Surveys have indicated that the damage to the cotton crop from pink bollworm attacks are "particularly severe" in Gujarat with an estimated 9 per cent yield loss, and it was found to have spread to wider areas. Monsanto said that while results of the CICR study were awaited. Internal studies indicated resistance by pink bollworm in some districts of Gujarat to Cry2Ab protein, a key component of Bollgard II. This has reportedly been proliferated by improper insect resistance management practices, absence of refuge (non-Bt seeds) and spread of illegal seeds.

India's private seed companies are now considering production of non-hybrid Bt cotton seeds.

But the Ministry of Agriculture, suggested (in an official draft notification) that Monsanto's patents over upstream GM technology must necessarily yield to downstream plant variety rights, i.e. government supported the rights of Monsanto over the technology.

RBI'S NEW MONETARY POLICY COMMITTEE: TO EASE TIES WITH GOVERNMENT

Context

Government created the Monetary Policy Committee (MPC) by amending the Reserve Bank of India (RBI) Act. The six-member Committee is entrusted with the task of bringing "value and transparency to monetary policy decisions".

Introduction

Monetary policy is the (macroeconomic policy) laid down by the central bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity. It ensures price stability and general trust in the currency.

Why was it in the news recently?

Recently the biggest change in the RBI's eight-decade history has been made to ease out the relationship between the central bank and government on monetary policy decisions.

Government created the Monetary Policy Committee (MPC) by amending the Reserve Bank of India (RBI) Act. The six-member Committee is entrusted with the task of bringing "value and transparency to monetary policy decisions". The government announced **three candidates** to join an equal number of RBI representatives on a new monetary policy committee, paving the way for India's first collective interest-rate decision.

Background

In India, monetary policy of the Reserve Bank of India is aimed at managing the quantity of money in order to meet the requirements of different sectors of the economy and to increase the pace of economic growth.

The RBI implements the monetary policy through open market operations, bank rate policy, reserve system, credit control policy, moral persuasion and through many other instruments. Using any of these instruments will lead to changes in the interest rate, or the money supply in the economy. Monetary policy can be expansionary and contractionary in nature. Increasing money supply and reducing interest rates indicate an

expansionary policy. The reverse of this is a contractionary monetary policy.

Who recommended the separate MPC for effective decisions on Interest Rates?

In Jan 2014, the Urjit Patel Committee (UPC) Report recommended the string of institutional reforms. The merit of the UPC Report to Review and Strengthen the Monetary Policy Framework was its analytical rigour and clear recommendations on improving the efficacy of monetary policy.

Key recommendations of the Urjit's Panel were:

- ▶ The headline Consumer Price Index (CPI) should be the nominal anchor for monetary policy and the Reserve Bank of India (RBI) should make this the predominant objective.
- ▶ The nominal anchor for inflation should be set for a two-year horizon at 4 per cent with a band of plus or minus 2 per cent. Since the present CPI inflation is 10 per cent the Committee recommends a 'glide path' of 8 per cent for January 2015 and 6 per cent for January 2016.
- ▶ The Central Government needs to reduce the fiscal deficit to 3.0 per cent of GDP by 2016-17. Administered prices, wages and interest rates are impediments to transmission of monetary policy and should be eliminated.
- ▶ Monetary policy decisions should be vested in a Monetary Policy Committee (MPC) comprising the Governor, the Deputy Governor and Executive Director in charge of monetary policy and two external full-time members. The decisions of the MPC will be by voting. Members

will be accountable for failure to attain the target—failure being defined as inability to attain the target for three successive quarters.

- ▶ The real policy rate should be positive. In the first phase the weighted average call rate would be the operative target and the repo rate would be the single policy rate. The funds available at the repo rate would be restricted and increasingly liquidity would be provided at the 14 day term repo; longer-term repo auctions should be introduced.
- ▶ In the second phase, the 14-day repo rate would be the operative target and recourse to outright two-way open market operations (OMO) would determine liquidity. OMO should not used to manage yields on government securities.
- ▶ There should be a remunerated standing deposit facility at the RBI to sterilise excess liquidity.
- ▶ With an independent debt management office, the market stabilisation scheme and cash management bills should be phased out.
- ▶ All sector specific refinance should be phased out as committed to the Asian Development Bank in 1992.

Government Initiative to Amend RBI Act

The Centre brought the Monetary Policy Committee (MPC) one step closer to reality in June 2016 by notifying the changes made to the Reserve Bank of India (RBI) Act. Through this the statutory basis of MPC is made effective. The rules governing the procedure for selection of members of MPC and terms and conditions of their appointment and factors constituting failure to meet inflation target under the MPC framework have also been notified.

Composition and Objectives of MPC

- ▶ It will comprise of six members with three members from RBI, including the Governor, who will be the ex-officio chairperson, a Deputy Governor and one officer of the central bank. The panel will meet four times a year and publicise its decisions. The other three members will be appointed by the Centre on the

recommendations of a search-cum-selection committee to be headed by the Cabinet Secretary. These three members of MPC will be experts in the field of economics or banking or finance or monetary policy and will be appointed for a period of four years and shall not be eligible for re-appointment.

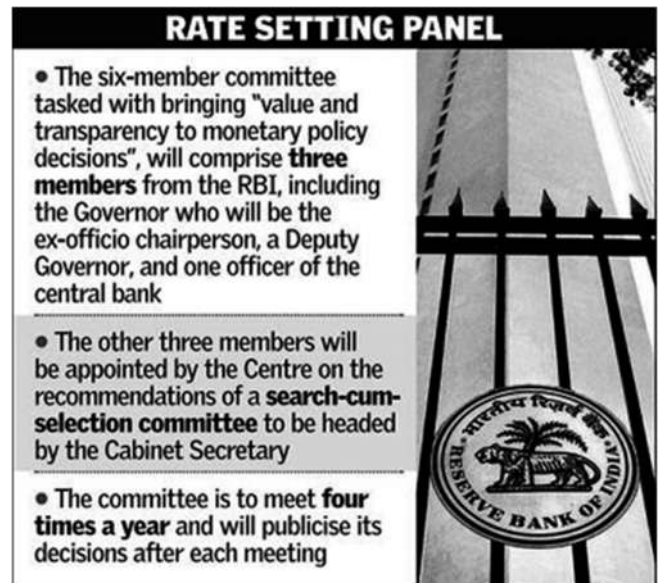


Fig. 13

Objectives and Functions of Monetary Policy Committee

- ▶ The Committee is tasked with bringing “value and transparency to monetary policy decisions”.
- ▶ A fix and collective methodology has been setup in monetary policy formulation with the setting up of MPC. Now, MPC will discuss the advice of technical advisors for two days and formulate the policy by voting, tie breaker will be done by RBI governor through casting vote which will keep more accountability on the RBI’s shoulder.
- ▶ The mandate of the committee is to keep inflation within the central point of 4% for the next five years, while keeping growth considerations in mind. The tolerance band for inflation is 2% on both sides of the central point. If the targets are not met for three consecutive readings, the MPC will have to give in writing to the government why it failed to meet the desired objective.
- ▶ There will be better decision making with the accountable appointment of experts at executive level in the committee.

How will it affect the earlier decision making structure?

The move for MPC frees the RBI Governor from facing the brunt of criticism from the

government, which has historically held contradictory demands of lower borrowing costs as well as a tight rein on inflation. Moreover, since the panel will be guided by an inflation target, its technocrats in Mumbai will be empowered to stand up to pressure from the government.

The monetary policy committee was set up in India due to the following reasons:

- ▶ The way of deciding country's monetary policy by a single person, who is not directly answerable to public is likely to fail to fulfill public's desire. As, all tools of monetary policy were controlled by RBI governor on the advice of technical advisors but it was RBI governor's prerogative to follow it or not.
- ▶ RBI governor was not required to give any formal reasons for opting any monetary policy, whether accepting or rejecting technical advisors' recommendations, which leads to non-transparency in policy making.
- ▶ With monetary policy framework agreement that has set an inflation target of 4 per cent with tolerance band of 2 per cent, it was not possible to make single person accountable for it.
- ▶ Both, fiscal and monetary policy is to regulate country's economy. Fiscal policy is formulated

by representatives of citizens of India i.e. union government. Whereas monetary policy was decided by an appointed person, who was answerable to standing committee on finance. So, at the time of mismatch between approach of government and RBI governor, there was only one option-removal of RBI governor.

It has been observed in past that whenever a dispute arises between union government and RBI governor then it was RBI governor, who had to step down e.g. Benegal Rama Rao, K. R. Puri, Manmohan Singh etc. (they left the office because of differences with the government).

Minutes of the First MPC meeting

- ▶ The first MPC meeting held on October 3 and 4, 2016 at RBI. Minutes of the meeting have been released on October 18, 2016. In this meeting each of the three government appointed non RBI members along with two RBI members have voted for reduction of 25 basis points from existing repo rate of 6.5 per cent. Unanimous voting of all members set new repo rate i.e. 6.25 per cent.
- ▶ After the first cumulative decision on monetary policy by MPC, it's time to analyze the need of MPC and what India will gain from it.

E-CIGARETTE: REALITY OF VAPING

Context

A number of youths several youth have started using the devices to consume drugs peddled in cartridge. Teachers in Karnataka are discovering that many school and college students are switching over to e-cigarettes, which are officially banned for sale but available in a variety of shops. The World Health Organisation (WHO) has red flagged the growing market for e-cigarettes in India, underlining that the use of the devices is no less harmful than traditional cigarettes.

Introduction

Tobacco use especially through cigarettes is a risk factor for many diseases, especially those affecting the heart, liver, and lungs, as well as many cancers. In 2008, the World Health Organization named tobacco as the world's single greatest cause of preventable death.

An electronic cigarette or e-cigarette is a handheld electronic tobacco device that vaporizes a flavored liquid. The user inhales the vapor. Using e-cigarettes is often called vaping. The fluid in the e-cigarette, called e-liquid, is usually made of nicotine.

Prolonged use of smokeless tobacco products also can lead to serious health issues, such as cancer and heart disease. These products also contain numerous substances that increase the risk of cancer of the mouth and throat.

The World Health Organisation (WHO) has red flagged the growing market for e-cigarettes in India, underlining that the use of the devices is no less harmful than traditional cigarettes.

Burden of Tobacco Use (India)

- ▶ Nearly 8-9 lakh person die in India due to tobacco use every year.
- ▶ 30% of cancer deaths, majority of cardiovascular and lung disorders.
- ▶ 40% of TB and other related diseases are attributed to tobacco consumption.
- ▶ Over 80% of oral cancers are caused due to tobacco use. As per the WHO Global Report on "Tobacco Attributable Mortality" 2012, 7% of all deaths (for ages 30 and over) in India are attributable to tobacco.
- ▶ Within non-communicable diseases group, 9% of deaths are attributable to tobacco, of which 58% of deaths due to trachea, bronchus, lung cancers caused due to tobacco use.

- ▶ In addition, 25% of deaths caused by respiratory diseases and 28% of deaths caused by Chronic Obstructive Pulmonary Disease (COPD) are attributable to tobacco. BURD



Fig. 14

Why was it in the news recently?

The Karnataka government imposed a ban on sale (including online) and use of e-cigarettes in the State, based on the recommendations of the State high powered committee on tobacco control. But recently, teachers in Karnataka are discovering that many school and college students are switching over to e-cigarettes, which are officially banned for sale but available in a variety of shops.

What are E-cigarettes?

Electronic cigarettes, or e-cigarettes, include e-pens, e-pipes, e-hookah, and e-cigars are known collectively as ENDS – electronic nicotine delivery systems. E-cigarettes are devices that allow users to inhale aerosol (vapor) containing nicotine or other substances. Unlike traditional cigarettes, e-cigarettes are generally battery-operated and use a heating element to heat e-liquid from a refillable cartridge, releasing a chemical-filled aerosol.

Components of E-cigarettes?

The main component of e-cigarettes is the e-liquid contained in cartridges. To create an e-liquid, nicotine is extracted from tobacco and mixed with a base (usually propylene glycol), and may also include flavorings, colorings and other chemicals.

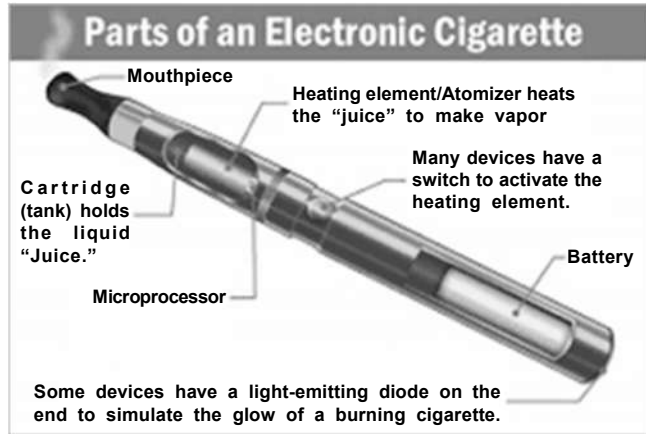


Fig. 15

E-Cigarettes (Electronic-Cigarette) have grown in popularity since they arrived on the market in 2007. Marketing campaigns have suggested that e-cigarettes are less hazardous to your health than smoking cigarettes, but the devices' long-term effects on health have not been studied.

Disadvantages of E-Cigarette

There are various disadvantages of E-Cigarettes:

- ▶ E-Cigarette is endless in nature due to higher number of puffs per filling, which leads to higher consumption.
- ▶ It does not emit tar but metals such as tin, lead, nickel, and chromium have been found in e-cigarette liquids and vapor, which is injurious to health and have potential to cause cancer.
- ▶ E-cigarettes deliver high levels of nanoparticles, which can trigger inflammation (asthma), stroke, heart disease, and diabetes.
- ▶ Cartridge of E-Cigarette contains nicotine (a highly addictive chemical) and leakage of liquid can cause toxic exposure to nicotine.
- ▶ There are several cases of E-Cigarette explosion have been reported around the world and due to proximity to human face, it can cause serious injuries as in a case of explosion, it burnt cornea of a boy in Florida.
- ▶ It does not contain tobacco and due to this it does not come under the ambit of existing laws. In the absence of legal framework, manufacturers are not accountable and do not hesitate to add inappropriate (toxic) substances on the name of flavor.



Fig. 16

National Tobacco Control Programme (NTCP)

- ▶ Cigarettes and other Tobacco Products Act (COTPA) enacted in 2003 Govt. of India ratified WHO's FCTC in 2004
- ▶ NTCP launched by MOH&FW in 2007-08, with the following objectives -
 - To bring about greater awareness about the harmful effects of tobacco use and Tobacco Control Laws.
 - To facilitate effective implementation of the Tobacco Control Laws.

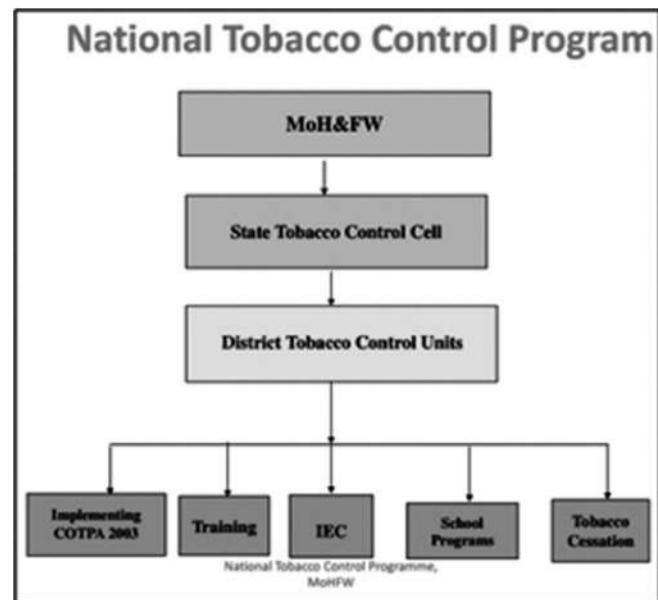


Fig. 17

WHO Efforts for Tobacco Control

The World Health Organization Framework Convention on Tobacco Control (WHO FCTC) is a treaty adopted by the 56th World Health Assembly in May 2003.

The FCTC, one of the most quickly ratified treaties in United Nations history is a supranational agreement that seeks "to protect present and

future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to "tobacco smoke" by enacting a set of universal standards stating the dangers of tobacco and limiting its use in all forms worldwide.

WHO cautions India over E-Cigarettes

The World Health Organisation (WHO) has red flagged the growing market for e-cigarettes in India, underlining that the use of the devices is no less harmful than traditional cigarettes.

In the absence of a regulation the use of e-cigarettes has grown; they are easily accessible to even the non smokers. In many countries these e-cigarettes are available in candy flavors, giving an impression they are not harmful. We have sought a regulation on their use to protect public health. There should be a ban on smoking of e-cigarettes in public as well and a restriction on their use. From the current \$ 3 billion, the market for e-cigarettes is expected to grow 17 times by 2013.

The WHO has also expressed concern over the notion that e-cigarettes aid in kicking the habit; it has cautioned that there is not enough evidence to conclude that e-cigarettes help users quit smoking.

Karnataka State Ban on E Cigarettes

After the ban on unapproved sale of E-Cigarette in Punjab, Chandigarh and Maharashtra, Karnataka and Kerala government imposed a complete ban on any kind of sale of E-Cigarette including online sale.

In June 2016, The Karnataka State government imposed a ban on sale (including online) and use of e-cigarettes in the State, based on the recommendations of the State high powered committee on tobacco control. There were numerous feedbacks that large number of youngsters in the state is being addicted to e-cigarettes.

The sale of nicotine, apart from tobacco products under Control of Tobacco Products Act (COTPA), is permitted only for tobacco cessation in accordance with the Drugs and Cosmetics Act, 1940. However, this clause is being misused by companies. It is unfortunate that e-cigarettes are sold in medical shops and even online.

However, Imposing ban on E-Cigarette without banning conventional Cigarette raises question about the comparative aspects of conventional cigarette and e-cigarette.

Recent Issues of Vaping in Karnataka

Teachers in Karnataka are discovering that many school and college students are switching over to e-cigarettes, which are officially banned for sale but available in a variety of shops.

One teacher from a noted Bengaluru college who alerted it found her 18-year-old son also using it. The son tried to assure his mother that it was not harmful because "it was not smoking but vaping." Another teacher from a school found girls in her class vaping during the lunch break.

Also the Karnataka State Commission for Protection of Child Rights (KSCPCR) has discovered that teens have turned e-cigarettes into devices for consuming 'e-drugs' such as hashish oil, marijuana wax and cannabis products sold by the black trade in cartridges. Nicotine cartridges cost about Rs. 400.

The Committee recently reviewed enforcement on the ban on sale (including online), manufacture, distribution, trade, import and advertisement of e-cigarettes.

The incidence of high school students using e-cigarettes to vaporise marijuana and other drugs being 27 times higher than the adult rate. This new addiction method helps users to discretely vape deodorized drugs and its extracts without the neighbouring person realising as it does not need to ignite the flame.

While online sales have stopped, e-cigarettes are easily available in petty shops, fancy stores, provision stores and even bakeries.

As per the Indian Medical Association, E-Cigarette is not harmful as conventional cigarette but not good enough to encourage.

Conclusion

E-cigarettes are a nicotine product. Youth are using e-cigarettes at increasing and alarming rates. Between 2014 and 2015, studies found e-cigarette use among high school students increased by 19 percent, with more teens now using e-cigarettes than normal cigarettes.

The tobacco industry aggressively markets e-cigarettes to youth, glamorizing e-cigarette use in advertisements and offering e-cigarettes in candy flavors like bubble gum and gummy bears. Kids can also easily buy e-cigarettes online.

Basic measures like Ban on tobacco use and sale is must to curb the menace. Access restrictions are needed for youth and kids to protect them from becoming the next generation

hooked on nicotine. Smokers who wish to quit can learn more about ways that have been proven safe and effective.

WHO REPORT ON TB IN INDIA

Context

The Global Tuberculosis Report - 2016 released by the World Health Organisation highlights the problem in India's battle with the disease. The results show that the number of TB cases rose largely because researchers found that earlier estimates in India, from 2000-2015, were far too low.

The Sustainable Development Goals (SDGs) for 2030 were adopted by the United Nations in 2015. One of the targets is to end the global TB epidemic. The WHO End TB Strategy, approved by the World Health Assembly in 2014, calls for a 90% reduction in TB deaths and an 80% reduction in the TB incidence rate by 2030, compared with 2015.

This global TB report is the first to be produced in the era of the SDGs and the End TB Strategy. It provides an assessment of the TB epidemic and progress in TB diagnosis, treatment and prevention efforts, as well as an overview of TB-specific financing and research. It also discusses the broader agenda of universal health coverage, social protection and other SDGs that have an impact on health. Data were available for 202 countries and territories that account for over 99% of the world's population and TB cases.

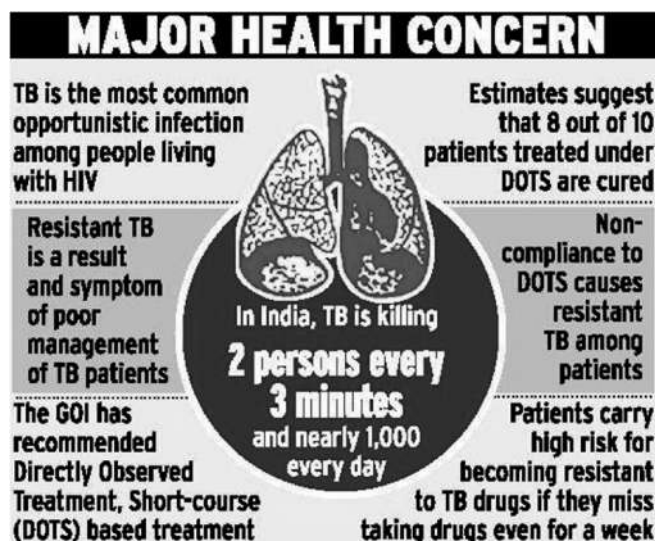


Fig. 18

What are the key findings of the report?

► The TB epidemic is larger than previously estimated, reflecting new surveillance and survey data from India. However, the number of TB deaths and the TB incidence rate continue to fall globally and in India.

- These six countries have 60% of the burden: India, Indonesia, China, Nigeria, Pakistan and South Africa. Emphasizing that TB cases in India are hugely under-reported, only 56% cases were officially reported across the country in 2014 and 59% cases in 2015. Global progress depends on major advances in TB prevention and care in these countries.
- India, China and the Russian Federation accounted for 45% of the combined total of 580 000 cases of the multidrug-resistant TB (MDR-TB) and rifampicin-resistant TB (RR-TB) who were also newly eligible for MDR-TB treatment.
- In the context with TB care and protection, notified TB cases increased from 2013–2015, mostly due to a 34% increase in notifications in India. However, globally there was a 4.3 million gap between incident and notified cases, with India, Indonesia and Nigeria accounting for almost half of this gap. Five countries accounted for more than 60% of the gap: India, China, the Russian Federation, Indonesia and Nigeria.
- There were an estimated 1.4 million TB deaths in 2015, and an additional 0.4 million deaths resulting from TB disease among people living with HIV. Although the number of TB deaths fell by 22% between 2000 and 2015, TB remained one of the top 10 causes of death worldwide in 2015.
- In 2015, 6.1 million new TB cases were notified to national authorities and reported to WHO while notified TB cases increased from 2013–2015, mostly due to a 34% increase in notifications in India. The aggregate numbers have increased since more cases are being reported.
- There were an estimated 1.04 crore new (incident) TB cases worldwide in 2015. There were an estimated 14 lakh deaths due to TB, and an additional 4 lakh deaths resulting from TB disease among people living with HIV. TB treatment averted 4.9 crore deaths globally between 2000 and 2015, but important diagnostic and treatment gaps persist.

- ▶ The proportion of known HIV-positive TB patients on ART was above 90% in India, Kenya, Malawi, Mozambique, Namibia and Swaziland.
- ▶ In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide, of which 5.9 million (56 per cent) were among men, 3.5 million (34 per cent) among women and 1.0 million (10 per cent) among children while people living with HIV accounted for 1.2 million (11 per cent) of all new TB cases. The disease claims the lives of 1.8 million people worldwide each year.

Highlights of the report in Indian context

- ▶ India accounts for 27% of the global **TB burden**. The report revised the estimated number of TB cases in India to 28 lakhs as against 22 lakhs reported in 2015. The revised estimates are based on data from various sources, including sub-national prevalence surveys and enhanced TB notification from the private sector.
- ▶ In India, TB is infected highly and many people are unaware of it. This is because of the lack of accurate reporting system in place. Higher TB estimates from India reflect the underlying reality. “India ignored TB patients for a long time in the private sector, and national prevalence and drug resistance surveys were not done.
- ▶ The Indian TB programme is also heavily reliant on insensitive diagnostic tools such as sputum smears that miss many TB cases.” the 'missing' or 'unreported' cases are either not properly diagnosed or are not notified to the government by private sector doctors.
- ▶ A large section of the population is being treated in the private sector and these are not notified to the government. Absence of quality surveillance data on privately-treated patients and commercial sales of drugs add up to the disease's burden estimates.
- ▶ The TB epidemic is larger than previously estimated, reflecting new surveillance and survey data from India while asserting that the country was one of six nations which accounted for 60 per cent of the new cases in 2015. However, the number of TB deaths and the TB incidence rate continue to fall globally and in India. Acknowledge the reality, collect better data on the true burden of tuberculosis deaths and drug resistance, and allocate greater funding to tackle this huge problem.

What is the meaning of TB Mortality?

Deaths from TB among HIV-negative people are classified as TB deaths in the most recent

version of the International classification of diseases (ICD-10). When an HIV-positive person dies from TB, the underlying cause is classified as HIV. For consistency with these classifications, this section makes a clear distinction between TB deaths in HIV negative people and TB deaths in HIV-positive people.

What is ‘the End TB Strategy’?

The vision is to a world free of TB; zero deaths, disease and suffering from TB and to end the global TB epidemic.

What are its principals?

- ▶ Government stewardship and accountability, with monitoring and evaluation
- ▶ Strong coalition with civil society organizations and communities
- ▶ Protection and promotion of human rights, ethics and equity
- ▶ Adaptation of the strategy and targets at country level, with global collaboration

What are its pillars and components?

1. INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION

- ▶ Early diagnosis of TB including universal drug-susceptibility testing, and systematic screening of contacts and high-risk groups
- ▶ Treatment of all people with TB including drug-resistant TB, and patient support
- ▶ Collaborative TB/HIV activities and management of co morbidities.
- ▶ Preventive treatment of persons at high risk, and vaccination against TB

2. BOLD POLICIES AND SUPPORTIVE SYSTEMS A

- ▶ Political commitment with adequate resources for TB care and prevention
- ▶ Engagement of communities, civil society organizations, and public and private care providers
- ▶ Universal health coverage policy and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control.

- ▶ Social protection, poverty alleviation and actions on other determinants of TB

3. INTENSIFIED RESEARCH AND INNOVATION

- ▶ Discovery, development and rapid uptake of new tools, interventions and strategies
- ▶ Research to optimize implementation and impact, and promote innovations

Incidence and mortality due to ZONOTIC TB

Mycobacterium bovis is the causal agent of bovine TB in cattle and zoonotic TB in people. Bovine TB has a major impact on livestock productivity, and on the livelihoods of poor and marginalised communities. The most common route of transmission to people is through the consumption of unpasteurized dairy products.

In the context of WHO's End TB Strategy, which calls for diagnosis and treatment of every TB case, zoonotic TB must be better addressed. This requires a holistic approach that links the human and animal health sectors to reduce the risk of TB transmission at the human-animal interface.

The first pillar of the End TB Strategy is “Integrated, patient-centered care and prevention”. It has four components:

- ▶ Early diagnosis of TB including universal drug susceptibility testing (DST), and systematic screening of contacts and high-risk groups

- ▶ Treatment of all people with TB including drug-resistant TB, and patient support;
- ▶ Collaborative TB/HIV activities, and management of co-morbidities; and
- ▶ Preventive treatment of persons at high risk, and vaccination against TB.

The second pillar of the End TB Strategy is “bold policies and supportive systems”. It has four components:

- ▶ Political commitment with adequate resources for TB care and prevention;
- ▶ Engagement of communities, civil society organizations, and providers of public and private care;
- ▶ UHC policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control; and
- ▶ Social protection, poverty alleviation and actions on other determinants of TB.

NATIONAL WATER FRAMEWORK BILL, 2016

Context

The Draft National Water Framework Bill, 2016 provides an overarching national legal framework based on principles for protection, conservation, regulation and management of water as a vital and stressed natural resource, under which legislation and executive action on water at all levels of governance can take place.

To resolve several inter-state disputes over river water sharing through model legislation, the Centre has come out with a draft National Water Framework Bill, 2016, providing for a mechanism to develop and manage river basin in an integrated manner so that every state gets “equitable” share of a river's water without violating rights of others. Though this bill is a model law for all the states in the country, it will not be binding on any state as the water is in the state list under **Article 246** of the Indian constitution.

A framework law is a broad set of principles which provides a framework to the Centre, States and the local government to exercise legislative or executive powers.

The laws and the executive actions of different levels of government institutions will have to comply with the framework law.

The deviations from the framework law can be challenged in courts of law.

Why there is need for a Framework?

- ▶ Under the Indian Constitution water is primarily a State subject, but it is an increasingly important national concern in the context of:
 - The judicial recognition of the right to water as a part of the fundamental right to life;
 - The general perception of an imminent water crisis, and the dire and urgent need to conserve this scarce and precious resource;
 - The severe and intractable inter-use and inter-state conflicts;
 - The pollution of rivers and other water sources, turning rivers into sewers or poison and contaminating aquifers;
 - The long-term environmental, ecological and social implications of projects to augment the availability of water for human use;
 - The equity implications of the distribution, use and control of water;

- The international dimensions of some of india’s rivers; and
- The emerging concerns about the impact of climate change on water and the need for appropriate responses at local, national, regional, and global levels.

Thus responsibilities lie on the Central government, apart from those of the State governments for proper utilization of water.

Salient features of the bill

- ▶ Every person has a right to sufficient quantity of safe water for life within easy reach of the household regardless of caste, creed, religion, age, community, class, gender, disability, economic status, land ownership and place of residence.
- ▶ States should recognise the principle that the rivers are not owned by the basin-States but are public trustees.
- ▶ All basin States have equitable rights over a river water “provided such use does not violate the right to water for life” of any person in the river basin.
- ▶ All the basin States are equal in rights and status, and there is no hierarchy of rights among them, and further, in this context, equality of rights means not equal but equitable shares in the river waters
- ▶ Bill also mentions that the disputes are because none of the states knows his/her contribution to a river’s catchment area. When a State will know its exact contribution to the catchment area, it will know quantum of its rightful share
- ▶ Bill focuses on right measurement of the water at basin-level.
- ▶ It proposes establishing institutional arrangements at all levels within a State and beyond up to an inter-State river basin level to “obviate” disputes through negotiations, conciliation or mediation before they become

acute. i.e. Establishing River Basin Authority (RBA) for each inter-State basin to ensure optimum and sustainable development of rivers and valleys.

Critical Analysis of the Key Features of the Bill

The Bill has nine chapters, touching every aspects related to uses and management of the water separately. The analysis is as follows:

- ▶ **Right to Water for life:** Bill's foremost features is right to water for life, irrespective of socio-economic status of the person. This point of the Bill further make relevant (State)-government and water providing agencies accountable as it defines as their duty to provide 'safe' water.

This point was quite necessary as it tried to provide legal teeth to the Article-47 read with Schedule 7 (State List point 17) of Indian Constitution.

- ▶ **Basic Principles:** This point of the Bill gives priority to water for life over the other uses of water including irrigation and makes everyone responsible for water resources. According to the Bill, Government should behave like as public trustee while managing water resources and should take care of linkage between flowing river and aquifers . Government and public should work for rejuvenating river system with the concept of 'AviralDhara' (Continuous Flow), 'NirmalDhara' (Unpolluted Flow) and 'SwachhKinara' (Clean Riverbank) by community participation.

This portion of the Bill, explicitly defines the status of the government over water resources and ask them to behave like public trustee but at the same time it is like DPSP (Directive Principle of State Policy) for water. Promises are there but not the remedies!

- ▶ **Integrated River Basin Development and Management:** This part of the Bill talks about the management of River on the government part. It asks every state to take responsibility of their rivers/ river basins and Union government will make 'River Basin Authority' for each inter-state river basin and states has to take active participation in their respective River Basin Authority. Further, it also asks states to act in the manner through which national development can be achieved without losing the social and historical importance of the river/ river basin.

With the escalating problem of Cavery water distribution, concept of River Basin Authority is welcoming but in the aforesaid Bill there is no structural definition of the River Basin Authority (RBA). Although it talks about the individuality of each RBA and their five year master plan but does not talks about the separation of powers as water is State subject.

- ▶ **Planning for Water Security:** Water is basic unit for life and the current water management approach is not doing well as it lowered per capita availability to about 1500 liters and polluted around 80% of available surface water. In this situation the Bill is codifying the rules for concerned governments (Union & states) to safeguard available water for normal and crisis situations, even at micro level of administration.

It recommends to switch from water intensive agriculture to water conserving agriculture for sustainable development such as drip irrigation etc.

- ▶ **Sectoral Use of Water:** Management of better utilization of water at different sectors viz. urban, rural and industrial has been defined in the Bill under this topic. It asks state governments to formalize methods to reuse water in flush after the treatment within the house and management of waste water in the urban area. For rural areas community forming should be promoted and for industry, discouragement to the water waste by laws/ penalties.

- ▶ **Access to and Transparency of Water Data, Promotion of Innovation and Knowledge Management:** This portion of the Bill is on the concept of 'informed citizen is responsible citizen' as Bill asks all concerned authorities to upload data related to water resources and central government will develop IndiaWRIS (India's Water Resources Information System) and will maintain all relevant data at single platform i.e. Geographical Information System.

Through this section government open the door for researchers to develop sustainable water management system by providing authenticated data.

- ▶ **Water Conflicts Prevention and Resolution:** One of the major aspects related to water resources is distribution of water amongst the sharing states of river basin. Water Dispute Act 1956 was amended in 2002 and this Bill is an attempt to incorporate other related aspects to water dispute. It clearly

defines that no state is owner of any river but a trustee and it should act in the same manner. Every state has equal share and equal means equal rights to have water for life, not equal division.

Bill contains the concept of morality while using rivers and ask upper basin states to act in judicious manner and to inform every lower basin state before any intervention into the river.

► **Enforcement and delegated legislation:**

Further, Bill talks about the enforcement of the Bill and executive steps to be taken in case of violation of guidelines of the Bill. It also asks state government to make laws for better application of the Bill.

Water Bill and International Laws

Water Bill has covered aspects of international legal recognition of the “doctrine of reasonable use” for both surface and groundwater. According

to the Article 5 of the 1997 UN Watercourses Convention states: “Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner.” And the Article 4 of the International Law Commission draft articles on groundwater (2008) also states that “Aquifer States shall utilize trans-boundary aquifers or aquifer systems according to the principle of equitable and reasonable utilization”.

In totality, a cadre of water management professionals, integrated institutions, tariffs and public education seem to be needed. The draft law touches on these but remains bureaucratic and technocratic details in its approach. With the accelerating speed of exploitation of natural resources, it is the time to see the result of the Ministry of Water Resources’ Bill, in which ministry considered water as a valuable natural resource and not just an input to be exploited and priced.

IMPOSING A TRADE EMBARGO ON PAKISTAN

Context

Amid tensions between the two countries, it has been suggested that India should impose a trade embargo on Pakistan by suspending its most-favored nation (MFN) commitment towards Pakistan in the World Trade Organisation (WTO). Would India be able to justify its MFN violation if Pakistan were to challenge this in the WTO's dispute settlement body (DSB)?

Introduction

The current India-Pakistan tension in the wake of the Uri attack seems like another round of hostilities meant to re-define the economic lines between the two countries.

With the statement of European Parliament's Vice President Ryszard Czarnecki about the possibilities of imposing economic and political sanctions by European Union on Pakistan in sight of human rights violations in Baluchistan province of Pakistan, debate on possibilities of a trade embargo on Pakistan by India got strength. It has been suggested that India should impose a trade embargo on Pakistan by suspending its Most-Favored Nation (MFN) commitment towards Pakistan in the World Trade Organisation (WTO). But the issue is whether it would be economically and legally feasible?

Indo Pak Trade relations

Relationship between two neighbors was improving after the visit of Prime Minister Narendra Modi to Pakistan last year but with Uri attack it is deteriorating day by day. First things comes in the mind of general public is to stop any kind of relationship with Pakistan viz. sports, entertainment, trade and business. Although, we are watching intense boycott of Pakistan's entertainers along with no sports activity except Asian Champions Trophy (Hockey) but at the same time there is no impact on business. It is the time to see feasibilities to impose a trade embargo on Pakistan.

What is MFN Status?

The MFN provision, given in Article I of the General Agreement on Tariffs and Trade (GATT), 1994, puts every WTO member (including India) under an obligation to extend any benefit (say, lowering tariff rates) accorded to one member (say, the U.S.) to all other WTO members (including Pakistan). This core non-discrimination principle is the cornerstone of the world trading system.

The MFN status was accorded in 1996 as per India's commitments as a member of the World Trade Organisation (WTO).

According to the WTO, though the term MFN "suggests special treatment, it actually means non-discrimination. Pakistan, a founding member of the WTO like India, is yet to grant the MFN tag to India (and Israel).



Fig. 19

What can be the restrictions under cancelling MFN Status?

Arguing for India suspending its MFN commitment towards Pakistan would mean India restricting imports from Pakistan without restricting imports of like goods from other countries, or/and India restricting exports to Pakistan without restricting the export of like goods to other countries.

This can be achieved by imposing

- ▶ Trade quotas
- ▶ Higher tariffs, taxes,
- ▶ Even totally banning some or all traded products.

Economic Feasibility

- ▶ From the Indian perspective, trade from any country is beneficial in case of trade surplus i.e. higher exports than the imports. Pakistan is one of the countries from which India has trade surplus as India's exports to Pakistan are of

\$2.1 billion whereas imports from Pakistan are \$441 million, which is less than 20% of total trade. This favorable economical trade situation with Pakistan does not favor trade embargo.

- ▶ Bilateral trade between the two nations was just \$2.6 billion in 2015-16, which represented a minuscule 0.4 per cent of India's overall goods trade worth \$643.3 billion and around 3.5% per cent of Pakistan's overall goods trade worth \$75 billion in the same year. Therefore, even if India revokes the MFN (Most Favored Nation) status, it would only have a "symbolic" impact and this kind of reactionary action could also result in India losing goodwill in the South Asian region, where India enjoys a trade surplus and is a party to a free trade pact called SAFTA (South Asian Free Trade Area), which also includes Pakistan.
- ▶ However, such a situation has not arisen in the recent past, not even after the attack on the Indian Parliament in December 2001, when only partial sanctions were imposed and trade was banned through the air and land routes (which is marginal), while it continued through the sea-route.
- ▶ Even, Pakistan had brought down the number of banned Indian goods to 1,209 items from about 6,000 while India has reduced duties sharply on a number of Pakistani products. Trade experts say that putting a complete ban on trade would not be a judicious decision as the balance of trade is heavily in India's favor.

Legal Feasibility

- ▶ India became signatory/contracting party of WTO's General Agreement on Tariffs and Trade (GATT) in year 1996 and with this India become the part of MFN principle as well. According to the MFN principle of the WTO's GATT each of the WTO member countries (including India and Pakistan in this case), should "treat all the other members equally as 'most-favored' trading partners."
- ▶ If India impose a trade embargo on Pakistan then by default it will revoke the MFN status and Pakistan can challenge this in WTO's dispute settlement body (DSB). This challenge cannot be justified by India on the pretext that Pakistan does not honor MFN obligations towards India. The correct recourse to Pakistan's action is to mount a legal challenge in the WTO and not indulge in tit-for-tat.
- ▶ If India is able to make case under the GATT national security exception i.e. Article 21(b)iii.

This article of GATT states that "Nothing in this Agreement shall be construed to prevent any contracting party (including India in this case) from taking any action which it considers necessary for the protection of its essential security interests taken in time of war or other emergency in international relations."

- ▶ It gives a country very wide discretion to unilaterally decide its national security measures, a certain degree of "judicial review" is still possible. So, at least India has to give reasonable explanation to the DSB as to why restricting the export of cotton and tomatoes to Pakistan or/and restricting imports of dates, light oil and port-land cement (these commodities constitute almost 50 per cent of India's imports from Pakistan) is necessary to protect India's essential security interests.
- ▶ National security exception can be invoked only if the measure adopted relates to arms and ammunitions, or any emergency in international relations (EIR) but it can't be justified in the presence of socio-cultural relationship and continuation of transport.

Conclusion

- ▶ There will be minimal impact on Pakistan of trade embargo by India as it will only result in a very marginal decline of Pakistan's total exports and that too assuming that Pakistan is unable to find alternative markets. Even prohibiting all Indian exports to Pakistan, such as textiles, chemicals and agricultural products, will also not have any noticeable impact on Pakistan because Pakistan can always source these goods from other countries. On the contrary, restricting India's exports, which have contracted considerably in the last 18 months, might hurt India more than Pakistan.
- ▶ Therefore, given the negligible economic impact and potential legal problems, suspending MFN to impose trade sanctions on Pakistan will only escalate tensions without much benefit. Instead of weakening trade ties, India and Pakistan should pay heed to this famous claim that 'when goods don't cross borders, soldiers will'.
- ▶ Free trade connects countries, and thus incentivises peace. Empirically, it has been shown that higher levels of free trade reduce military conflicts. India and Pakistan should boost free trade amongst themselves, Pakistan should honour its MFN commitment to India in the WTO, and India should use the SAARC platform to push for deeper trade ties.

EU - GOOGLE ANTITRUST ROW

Context

Tension between the EU (European Union) and technical giant Google have been rising since April'2015, when EU objected Google's Android OS under EU Antitrust Rules. The tussle between them is not new, as both have been engaged in legal war on tax avoidance also.

Introduction

The EU launched an anti-trust investigation against Google in 2010, following complaints by Microsoft, TripAdvisor and other Internet companies that the google search engine gives preference to its own services at the top of search result pages, especially when customers want to buy something.

- ▶ Further, tensions between the EU (European Union) and technical giant Google have been rising since April'2015, when EU objected Google's Android Operating System under EU Antitrust Rules.
- ▶ Also, there were cases about aggressive tax avoidance on Google in May'2013 and Google agreed to pay £130 million to UK tax authorities in January'2016.
- ▶ In April'2016, EU filed formal charge sheet against Google in case of Android OS and in July'2016, European commission filed one more charge sheet under EU antitrust legislation in case of comparison shopping and web scrapping.



Fig. 20

What is EU Antitrust Legislation?

EU Antitrust Legislation

Origin: Treaty on the Functioning of the European Union.

Central Rules:

1. Article 101 of the Treaty prohibits agreements between two or more independent market operators which restrict competition.
2. Article 102 of the Treaty prohibits firm that hold a dominant position on a given market to abuse that position, e.g. by charging unfair prices, by limiting production, or by refusing to innovate to the prejudice of consumers.

Enforcement Authority:

National Competition Authorities (NCAs) under the umbrella of European Competition Network (ECN)

Background of EU Google Row

- ▶ Google's flagship product is general internet search. This provides search results to consumers, including online ads which respond to search queries. Google generates a significant proportion of its revenue from search ads. Google therefore has an interest to maximise the number of users that see the ads it places, either on its own websites or those of third parties.
- ▶ The EU Commission considers that Google has a dominant position in providing general internet search services as well as in placing search advertising on third party websites throughout the European Economic Area (EEA), with market shares above 90% and 80%, respectively. Dominance is, as such, not a problem under EU competition law. However, dominant companies have a responsibility not to abuse their powerful market position by restricting competition, either in the market where they are dominant or in neighbouring markets.
- ▶ The Commission had opened proceedings in November 2010 on Google's favourable treatment of its own comparison shopping

service as well as restrictions it placed on the ability of certain third party websites to display search advertisements from Google's competitors. Today's Statements of Objections outline the Commission's preliminary views that the way in which Google has sought to maximise traffic to its own websites and limit the ability of competitors to place search ads on third party websites is in breach of EU antitrust rules.

- ▶ The Commission has at the time also opened proceedings and it will continue to investigate the favourable treatment by Google in its general search results of its other specialised search services, and concerns with regard to copying of rivals' web content (known as 'scraping'), and undue restrictions on advertisers.

What are the charges held against Google by EU Competition Commission?

Currently, Google has following charges under the EU Antitrust Legislation/Rules:

▶ **Comparison Shopping**

- Google's basic product is general internet search. This provides search results to consumers, including online ads which respond to search queries. Google generates a significant proportion of its revenue from search ads. Google therefore has an interest

to maximize the number of users that see the ads it places, either on its own websites or those of third parties.

- European Commission charged Google under EU antitrust rule (Article-102) and stated that Google has abused its dominant position by systematically favoring its own comparison shopping service in its general search results. Google search engine's results is based on its traffic (frequency of hit on any site) but Google favors its own comparison shopping service over those of competitors.
- The Commission is concerned that users do not necessarily see the most relevant results in response to queries - this is to the detriment of consumers, and stifles innovation.

▶ **Dominance of Android OS**

- For many Android users, one of the fascinating things about Google's mobile OS (operating system) is that it is an open software platform—anyone can install or modify it, since it is open source, and users can run any apps they want, something they can't do on Apple's iOS devices. But the European Union doesn't see it that way. To the EU, Android is a just tool that Google uses to expand its mobile and search monopolies by default embedment of Google Search engine and OS through business collaboration with smartphone manufacturers.



Fig. 21

- According to European Commission Dominance of Google's Android mobile-operating system by "strong-arming" smartphone makers and telecom firms into pre-installing its search engine, Chrome internet browser and Maps as the default application on smart phones is violation of Article-101 & 102 of Antitrust Laws.

▶ **Advertising case**

- Restricting third-party websites from displaying search advertisements from Google's competitors through its "AdSense for Search" platform. Google places ads on third party websites such as online retailers, through AdSense. Google signed deals that require third parties not to source ads from Google's competitors, reserve the most prominent space on customers' websites for Google ads, and requiring third parties to obtain Google's approval before making any change to display of competing ads.

▶ **Local search, Travel/maps Case**

- Formal investigation is going on the issue that, whether Google favored its own service in other specialized areas, like travel and local search through its services in field of map and GPS.

- ▶ **Scraping:** Scraping or Web scraping is the process of extracting large amount of information from a website. Formal investigation has been launched by EU over Scraping. Complaints have been made about Google's practice of copying content from websites without payment.

Other Similar Cases

- ▶ EU Antitrust case against Google is similar to the U.S. Antitrust case against Microsoft that was launched in 1998 and resulted in huge fine and other penalties for Microsoft. Much like Google, Microsoft was accused of using what's called "tied selling" to force manufacturers to include specific software such as Internet Explorer with windows operating system. In this case, Google force smartphone manufacturer to embed Google search, maps etc.

Conclusion

- ▶ EU found that Google pursues an overall strategy on mobile devices to protect and expand its dominant position in internet search. EU has accused Google of skewing the market against competitors with its Android mobile operating system. Conclusively, they filed antitrust Cases against Google.
- ▶ One thing should be noted that if Google is found guilty then it has to pay huge fines i.e. 10% of its revenue for each proven case, similar to Microsoft. But one major difference between the Microsoft and Google case is the nature of product. Windows OS was never free of cost whereas Android OS is an open platform. By increasing or decreasing the cost Microsoft could control market but this is not the case with Google Android. In other cases like comparison marketing and scraping, matter is different. For Google, EU is second largest market after US and Google didn't want to lose it but after "Brexit", equations has changed as one of the most powerful economy left EU.

NOBEL PRIZE 2016

Context

Nobel Prize has been awarded recently in different fields such as Peace, Physics, Chemistry, Literature and Physiology.

Between 1901 and 2016, the Nobel Prizes and the Prize in Economic Sciences has been awarded 579 times to 911 people and organizations. With some receiving the Nobel Prize more than once, this makes a total of 881 individuals and 23 organizations.

Biographical Information of Alfred Nobel

Alfred Nobel (1833-1896) was born in Stockholm, Sweden, on October 21, 1833. His family was descended from Olof Rudbeck, the best-known technical genius in Sweden in the 17th century, an era in which Sweden was a great power in northern Europe. Nobel was fluent in several languages, and wrote poetry and drama. Nobel was also very interested in social and peace-related issues, and held views that were considered radical during his time. Alfred Nobel's interests are reflected in the prize he established.

What is the Nobel Prize?

The Nobel Prizes, first awarded in 1901, are decided by members of Swedish learned societies or, in the case of the peace prize, the Norwegian Parliament.

The Nobel Prize is a set of annual international awards bestowed in a number of categories by Swedish and Norwegian institutions in recognition of academic, cultural, and/or scientific advances. Any of six international prizes awarded annually for outstanding work in physics, chemistry, physiology or medicine, literature, economics, and the promotion of peace.

List of the Nobel Prize 2016

► Physics

David J. Thouless, F. Duncan M. Haldane and J. Michael Kosterlitz- “for theoretical discoveries of topological phase transitions and topological phases of matter”

These theoretical discoveries revealed the possibility of a bizarre world where matter can take on different, and strange, states. Using advanced

mathematics, the trio examined weird states of matter, such as superfluids, or substances that behave like liquids but have zero viscosity or resistance to flow. In superfluids, there is no friction impeding the liquid's flow and so its particles act as one super particle. Other exotic states of matter include thin magnetic films and superconductors.

► Chemistry

Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa- “for the design and synthesis of molecular machines”

They have developed the world's smallest machines by linking together molecules into a unit that, when energy is added, could do some kind of work. These machines, a thousand times thinner than a strand of hair, included a tiny lift, mini motors and artificial muscles.

► Physiology or Medicine

Yoshinori Ohsumi- “for his discoveries of mechanisms for autophagy” in which cells take unneeded or damaged material, including entire organelles, and transport them to a recycling compartment of sorts – in yeast cells, this compartment is called the lysosome, while vacuoles serve a similar purpose in human cells.

► The Sveriges Riksbank Prize In Economic Sciences In Memory of Alfred Nobel

Oliver Hart and Bengt Holmström- “for their contributions to contract theory”

The two economists provided “a comprehensive framework for analysing many diverse issues in contractual design, like performance-based pay for top executives, deductibles and co-pays in insurance, and the privatisation of public-sector activities.”

It has become especially relevant in the years after the 2008 financial crisis, which was blamed on the short-term risk encouraged by huge cash bonuses paid to investment bankers. It also touches on themes of moral hazard, which arises where those that take the risks don't share in the costs of failure.

► **Literature**

Bob Dylan- “for having created new poetic expressions within the great American song tradition”

► **Peace Prize**

Juan Manuel Santos- “for his resolute efforts to bring the country's more than 50-year-long civil war to an end”
