

Forum IAS

7 PM COMPILATION

1st to 15th June, 2022

Features of 7 PM compilation

- ❖ **Comprehensive coverage of a given current topic**
- ❖ **Provide you all the information you need to frame a good answer**
- ❖ **Critical analysis, comparative analysis, legal/constitutional provisions, current issues and challenges and best practices around the world**
- ❖ **Written in lucid language and point format**
- ❖ **Wide use of charts, diagrams and info graphics**
- ❖ **Best-in class coverage, critically acclaimed by aspirants**
- ❖ **Out of the box thinking for value edition**
- ❖ **Best cost-benefit ratio according to successful aspirants**

The Indus Water Treaty – Explained, pointwise

Topic:- International Relations

Sub topic:- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests

The Global Semiconductor Shortage – Explained, pointwise

Topic:- Science and Technology

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Topic:- Social Justice

Sub topic:- mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections

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The Indus Water Treaty – Explained, pointwise

Introduction

The 118th meeting of the India-Pakistan Permanent Indus Commission (PIC) took place recently. The Commission has been created under the Indus Water Treaty (IWT). The treaty is an agreement that was signed by former Prime Minister Jawaharlal Nehru and the then President of Pakistan, Ayub Khan in 1960. It marked out control over the 6 rivers running across the Indus basin following the partition of India. The role of India, as a responsible upper riparian abiding by the provisions of the treaty, has been remarkable. However the country, of late, is under pressure to rethink the extent to which it can remain committed to the provisions, as its overall political relations with Pakistan becomes intractable.

What was the background of the Indus Water Treaty?

The **six rivers of the Indus basin originate in the Himalayas/Tibet** (Indus, Sutlej, Beas, Ravi, Jhelum and Chenab) and flow across the Himalayan ranges to end in the Arabian sea. Preceding partition, it was one common network for both India and Pakistan. However, the partition of India raised question about the distribution of water between the two nations. Since the rivers flowed from India, Pakistan felt threatened by the prospect of control of river waters by India. Initially, the issue of water sharing was sorted out by **the Inter-Dominion accord of May 4, 1948** that laid out that India would release enough water to Pakistan in return for annual payments (by Pakistan). The problems of this arrangement were soon realized and it was considered necessary to find an alternative solution.

Eventually, in 1960, the two countries reached a decisive step with the intervention of the **World Bank** wherein precise details were laid out regarding the way in which the waters would be distributed.

What are the main provisions of the Indus Water Treaty?

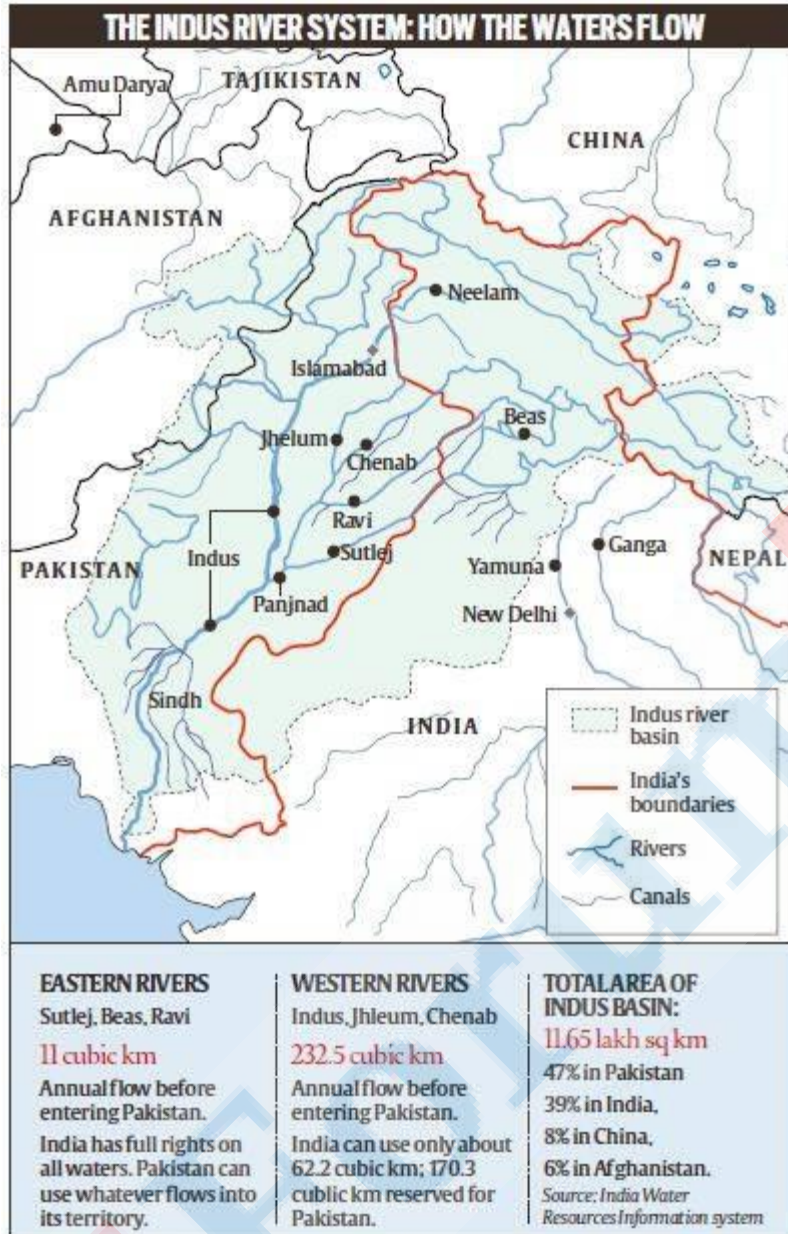
The Treaty gives **India control of 3 Eastern Rivers (Beas, Ravi and Sutlej)** with a mean annual flow of 33 million acre-feet (MAF). **Pakistan gets control of 3 Western Rivers (Chenab, Indus and Jhelum)** with a mean annual flow of 80 MAF. The treaty gives **India 20%** of the water from the Indus River System and the rest **80% to Pakistan**.

The treaty allows India to utilize the waters of Western Rivers for for **limited irrigation use and non-consumptive use** for such applications as **power generation, navigation** etc. Thus, India can generate hydroelectricity through a run-of-the-river projects (without the storage of waters) on the western rivers, subject to specific criteria for design and operation. Further, Pakistan also has the **right to raise concerns** on the design of Indian hydroelectric projects on western rivers.

The treaty allowed India to have a **minimum storage level on the western rivers** – meaning it can store up to 3.75 MAF of water for **conservation and flood storage purposes**.

A **Permanent Indus Commission** was set up by the United Nations for resolving any disputes that may arise in water sharing.

The functions of the commission include serving as a forum for exchange of information on the rivers, for continued cooperation and as a first stop for resolution of conflicts.



Source: Indian Express

How do conflicts get resolved under the Indus Water Treaty?

The IWT provides a **three step dispute resolution mechanism**, under which “questions” on both sides can be resolved at the **Permanent Commission**, or can also be taken up at the inter-government level.

In case of unresolved questions or ‘differences’ between the countries on water-sharing, such as technical differences, either side can approach **the World Bank to appoint a Neutral Expert (NE)** to come to a decision.

And eventually, if either party is not satisfied with the NE’s decision or in case of ‘disputes’ in the interpretation and extent of the treaty, matters can be referred to a **Court of Arbitration**.

Pakistan has raised disputes on almost all of India's projects on Western Rivers. These include Baglihar Dam on Chenab, Kishenganga Dam on Kishenganga River (tributary of Jhelum River), Tulbul Project on Jhelum River. The Baglihar Dam 'Difference' was resolved in 2007 through the World Bank-appointed expert, and Kishenganga Dispute was resolved through Court of Arbitration in 2013.

What are the reasons behind success of the Indus Water Treaty?

The treaty has remained 'uninterrupted' because India **respects its signatory and values trans-boundary rivers** as an important connector in the region in terms of both diplomacy and economic prosperity. There have been several instances of terror attacks – Indian Parliament in 2001, Mumbai in 2008, and the incidents in Uri in 2016 and Pulwama in 2019. This could have prompted India, within the **Vienna Convention on the Law of Treaties**, to withdraw from the IWT. However, on each occasion, India chose not to do so.

What are the reasons behind calls for renegotiating the Indus Water Treaty?

First, the treaty has **unequal sharing of the waters**. Pakistan has been allocated ~80% of the Indus basin waters. Experts have termed this the **most generous water sharing treaty**. It is the only water-sharing pact in the world that compels upper riparian State to defer to the interests of the downstream State.

Second, it **prevents India from building any storage systems** on the western rivers. Even though the treaty lays out that under certain exceptional circumstances storage systems can be built, Pakistan deliberately stops any such effort. The extensively technical nature of the treaty allows **Pakistan to stall legitimate Indian Projects**.

Third, the basin's size and volume is getting altered by **climate change** and this alteration is going to intensify in future. There would be instances of more high-intensity rainfall as well as long stretches of scanty rainfall. There would be a high influx of water due to glacial melt. The contribution of glaciers in the Indus basin is higher than in the Ganges or Brahmaputra basins. A change in the flow conditions may classify as 'change of circumstances' which can justify renegotiation or termination in the future.

Fourth, the recent report of the Standing Committee of Water resources noted that canals in Punjab and Rajasthan (Rajasthan Feeder and the Sirhind Feeder) had become old and were not maintained properly. This had resulted in the lowering of their water carrying capacity. Thus, the water from the Harike Barrage on the confluence of the Beas and Sutlej in Punjab was usually released downstream into Pakistan. Pakistan is getting more waters than its entitlement in the Eastern Rivers.



Source: The Times of India

Can the Indus Water Treaty be rejected by India on a unilateral basis?

Article XII (4) of the Indus Water Treaty notes that, "...provisions of this Treaty...shall continue in force until terminated by a duly ratified treaty concluded for that purpose between the two Governments." Thus the treaty doesn't allow for unilateral termination.

Article 62 of the **Vienna Convention on Law of Treaties (VCLT), 1969** provides that even a 'fundamental change of circumstances' that are 'not foreseen by the parties' at the time of conclusion of treaty is not a valid ground for termination of treaty unless certain conditions are

fulfilled. Legal experts argue that terrorist attacks do not fall under this exception. Although, India is not a party to this convention, the Supreme Court of India has recognised the customary status of the Convention. (*Pakistan is a signatory, but hasn't ratified the Convention*).

Thus, **unilateral termination will impact India's international standing as a responsible power that always supports a Rules based International Order**. This will weaken India's case for permanent representation at the UNSC.

Moreover, there are certain other downsides of unilateral termination e.g., **(a)** India has water sharing agreement with Bangladesh. Termination of treaty will raise anxiety in Bangladesh and impact bilateral relations; **(b)** China, an 'all-weather ally' of Pakistan, will certainly use diversion of Brahmaputra waters to threaten India; **(c)** There is not enough infrastructure to store/divert waters of Western Rivers to starve Pakistan of water.

What should be the approach of India going ahead?

First, India should take steps to completely utilize its entitlement of waters of Western Rivers. The infrastructure to utilize the waters has remained under-developed in J&K.

India grossly under-utilises its entitlement under the 1960-treaty where it can use all the waters of the Jhelum, Chenab and Indus

India can build up in J&K

Treaty allows **1.3 million acres** of irrigation



18,600 MW hydel power can be generated

Only **3,034 MW** developed

Hydel infra for **2,526 MW** under construction. Projects on anvil for another **5,846 MW**. $2,526 + 5,846 = 11,406 \text{ MW}$

Room for further projects to generate **7,194 MW**



Source: Times of India

Second, some experts suggest that in case of escalation of hostilities by Pakistan in future, India can **suspend the meetings of Permanent Commission**. If the first state of dispute redressal is not functional, the subsequent two steps of 3-tier dispute redressal don't kick in. Thus India can use this as a pressure tactic on Pakistan.

Third, India should explore the possibility of using climate change as a 'change in circumstances' to initiate conversation on renegotiation of the IWT. This will also put pressure on Pakistan.

Fourth, experts in India and Pakistan should assess how much of the waters in the Eastern and Western rivers are snow or rain-fed within their respective territories. Such estimates would add to the accuracy of each side's dependence on the other in sharing the waters of these rivers.

Fifth, as per the standing committee of water resources, the canal systems in Punjab and Rajasthan should be repaired to increase their water carrying capacity.

Source: [Indian Express](#), [Indian Express](#), [The Hindu](#), [The Diplomat](#)

The Global Semiconductor Shortage – Explained, pointwise

Introduction

The Semiconductor Industry is facing an acute crisis with a global semiconductor shortage. Multiple industries are dependent on semiconductor chips for their inputs. Hence, the shortage is expected to have a major impact on global manufacturing industry and consequently the economy. The shortage has persisted for almost a year now with no immediate respite in the foreseeable future. What is concerning is that the IMF has already predicted a slowdown in the global economy. The semiconductor crisis may exacerbate the slowdown further.

About Semiconductors

A semiconductor is a material which has electrical conductivity between a conductor and an insulator (less than that of conductors and more than insulators). Conversely, semiconductors have resistivity less than that of insulators and more than conductors. The **resistance of the semiconductor decreases with increase in temperature** and vice versa. Semiconductors are made from pure elements like **silicon or germanium, or compounds such as gallium arsenide**.

The conductivity of semiconductors can be changed through **doping**. It is a process of adding small amounts of impurities to these pure elements, causing large changes in the conductivity of the material.

Conductors and Insulators

Conductors allow electricity to flow through them relatively freely. They conduct electricity because they allow electrons to flow easily inside them from atom to atom. Conducting materials include gold, silver, mercury, sea water etc. An insulator is a material that does not conduct electrical current. Insulating materials include paper, plastic, rubber, glass and air.

What is the significance of semiconductor chips?

Semiconductors are **the building blocks of today's technology**. For instance, semiconductor chips are widely used in **(a)** Computers and laptops; **(b)** Phones, mobile devices and other electronic gadgets; **(c)** Automobiles; **(d)** Aviation; **(e)** Medical devices especially diagnostics; **(f)** Military equipment among others.

Semiconductors **make the devices more compact, less expensive, and more powerful**. For instance, mobile phones weighed about 2 lbs, cost thousands of dollars, and held a charge for only about 30 minutes of talk time during their initial phase in 1980s/90s. However today an individual can buy a smartphone for ~INR 5,000 with batteries lasting a full day.

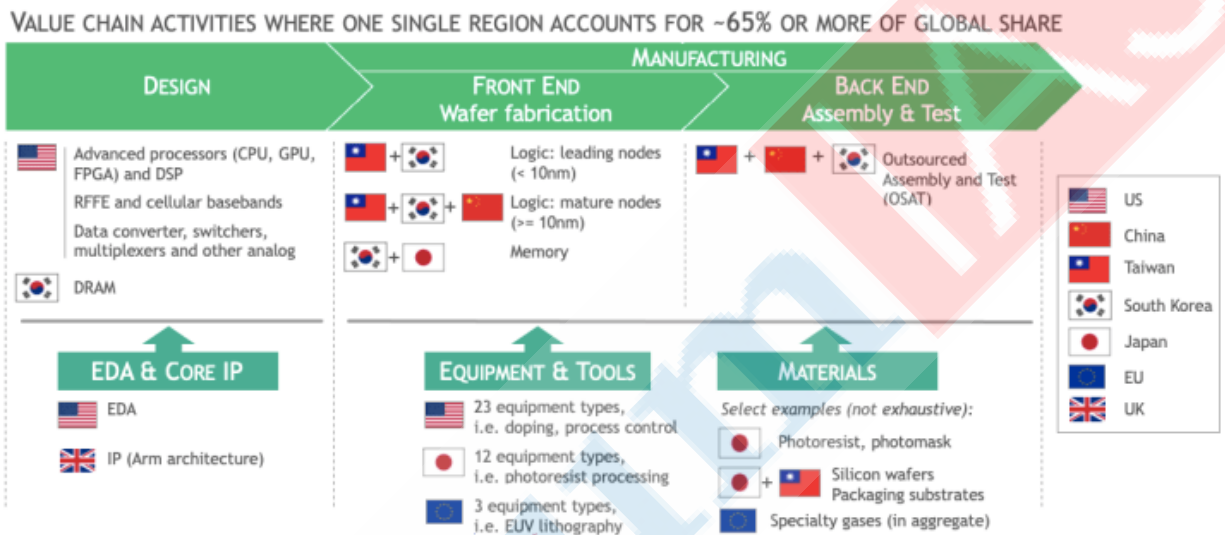
Semiconductors will **continue to enable the world's greatest breakthroughs**. They have already transformed industries ranging from Aerospace and consumer electronics to energy and

medicine. With the evolving Internet of Things, the impact of semiconductors on our daily lives is going to become even more profound

What is the current structure of global semiconductor manufacturing industry?

Semiconductor manufacturing comprises the front-end fab manufacturing and the back-end assembly, including packaging and testing. Globally, this entire value chain is steeped in interdependence between a handful of countries like the USA, Taiwan, Japan, China and some European nations.

Semiconductor manufacturing is now dominated by Taiwan Semiconductor Manufacturing Company (TSMC) in Taiwan and Samsung Electronics in South Korea.



Source: Semiconductors.org

Big brands like Apple and Qualcomm design their own chips using the ARM architecture but outsource them to companies like TSMC, the world's largest contract manufacturer for chips. U.S Companies like Intel are also a key player in chip manufacturing.

What is the magnitude of the current semiconductor shortage?

The global semiconductor shortage has affected many industries for more than a year. The shortage has caused a rise in the prices of chips as well as the waiting time has increased. This has impacted all industries in terms of their outputs. The shortage has affected smartphones, personal computers, game consoles, automobiles, and medical devices.

Recently, the Japanese automaker (Toyota) cut its global production target for the period between April and June by 1,00,000 to 7,50,000 vehicles in May 2022. Similarly, in October 2021, Apple said it lost US\$ 6 billion to chip shortage in the last quarter.

Furthermore, CEOs of AMD, Nvidia and Intel have said at different forums recently that the chip situation will remain tight for the rest of 2022.

What are the reasons behind current global semiconductor shortage?

Impact of Pandemic: The COVID-19 pandemic had a major impact on professional and personal lives. A whole lot of activities shifted from physical world to virtual media. A large workforce switched to work from home while the schools conducted their classes online. Even social

gatherings happened over video calls. This shift led to a surge in demand for laptops and tablets. Further, the stay-at-home rules also made several people pick up **console-based gaming**. Each of these devices were in high demand and were run on thumbnail-sized semiconductors.

Thus, high consumer demand for low-end products, coupled with large orders from tech firms choked chip makers.

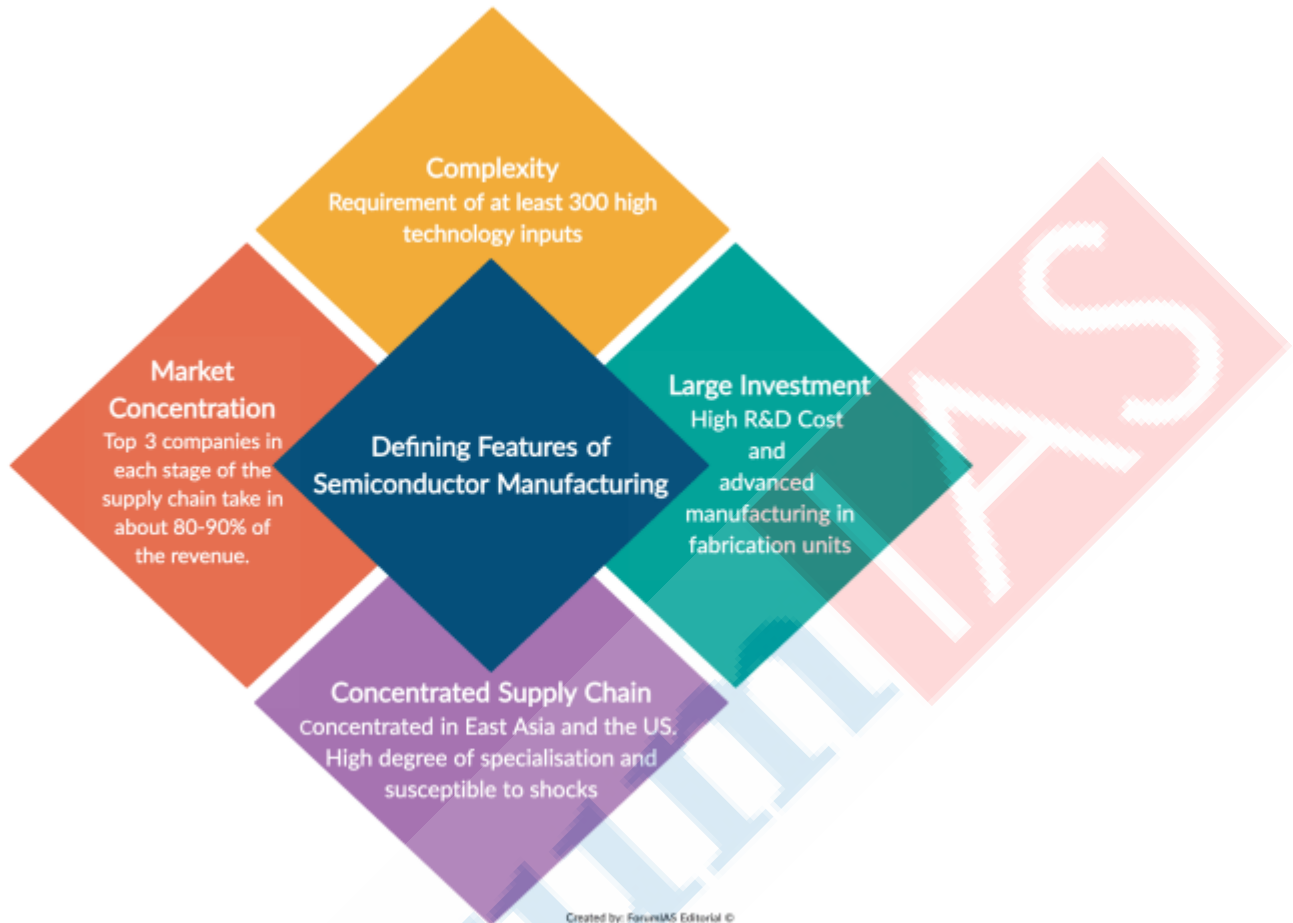
Moreover, the manufacturing facilities were shutdown due to the pandemic and lockdowns.

Similarly, when the pandemic began, **carmakers stopped requesting chips from suppliers** due to low demand for new vehicles. And now, as they ramp up production to meet consumer demand, chip makers are down on supply because they have cut deals with other industries.

Russia- Ukraine Conflict: Russia's invasion of Ukraine has strained exports of essential commodities used to make chip sets. Russia supplies rare materials like palladium, and Ukraine provides rare gases to make semiconductor fab lasers.

Shift to 5G Technology: Semiconductor companies have been gearing up to ramp up capacity for manufacturing advanced chips required by 5G Technology. They were already cutting down on the production of older chip systems. The pandemic and supply chain disruption exacerbated this shortage.

Complex manufacturing systems: Each segment of semiconductor manufacturing involves roughly 25 countries in the direct supply chain, and 23 countries in allied functions, according to a joint study by Global Semiconductor Alliance and Accenture. Due to this, the industry was unable to produce sufficient chips when the pandemic hit the world.



Manufacturing Practices: Many manufacturing firms that use chips (especially in the automotive sector) keep minimum inventory of semiconductor chips. They practice **Just-in-Time (JIT) techniques** of manufacturing in order to cut down inventory (storage) costs. After the pandemic, as car manufacturers ramp-up their production, they don't have any spare chips.

How have the companies responded to the semiconductor shortage?

Companies like Intel which design and manufacture their own chips too have started outsourcing some manufacturing to Taiwan Semiconductor Manufacturing Company (TSMC), the world's largest contract manufacturer for chips. Intel, Samsung, and TSMC have all announced new fabs in recent months but these will take years to build. This means the semiconductor shortage could linger for long, because companies are placing more orders and holding more inventory.

American carmakers Ford and GM are also getting into chip development to become self-reliant. Ford has signed a non-binding agreement with GlobalFoundries, whereas GM is working with a number of semiconductor companies like Qualcomm, STMicroelectronics, TSMC, and NXP Semiconductors.

How has India performed in the Semiconductor sector?

India has done well in design and verification for the semiconductor industry, with most of the global semiconductor companies having an R&D footprint in India. However, **100% of India's**

chips, memory and display are imported. In 2020, India spent US\$ 15bn on electronic imports, with 37% coming from China.

Although India has two fabs — SITAR, a unit of the Defence Research and Development Organisation (DRDO) in Bengaluru and a semiconductor laboratory in Chandigarh. These build silicon chips for strategic purposes like defence and space and not for commercial use.

What lies ahead?

First, the European Chips Act (€ 45 billion) and CHIPS for America Act (US\$ 52 billion) would incentivise fab makers to set up their units in these regions and balance. Together, these two will enable the semiconductor manufacturers to have equal investments in the East and West by 2030, from the current tally at 80% in Asia, and 20% in Europe and the U.S.

Second, in Indian Context, the Government should **support businesses in acquisition of semiconductor manufacturing units in other countries**. This is easier than setting up a domestic facility and can be done swiftly for ensuring a continuous supply of chips.

Third, the Government should provide **adequate funding** to augment the **research and development** potential of technical institutes. For instance, IIT Madras developed a microprocessor named 'Moushik' with funding support from the Ministry of Electronics and Information Technology. Microprocessor is an integrated circuit (IC) that contains a few millions of transistors (semiconductor-based electronic devices) fused on a semiconductor chip.

Read More: [Need of Indigenous Semiconductor Manufacturing Facilities in India – Explained Pointwise](#)

Conclusion

Countries must cooperate and collaborate with each other to boost the manufacturing of semiconductors. They are one of the most critical components to be used in the 21st century and it is almost impossible to imagine modern day living without them.

Source: [The Hindu](#), [Indian Express](#).

India's GDP Growth for FY2021-22 – Explained, pointwise

Introduction

The Ministry of Statistics and Programme Implementation has released the provisional estimates regarding India's GDP growth for the FY2021-22. According to the estimates, **India's economy grew by 8.7%** compared to the previous fiscal. In contrast, the economy had contracted by 6.6% in FY2020-21 when the pandemic had caused massive disruptions and widespread lockdowns. The data released also showed that the **Gross Value Added (or GVA) grew by 8.1%** in FY2021-22, although it had contracted by 4.8% in FY2020-21.

About GDP and its Components

Gross Domestic Product (GDP) measures the value of all 'final' goods and services — those that are bought by the final user— produced in a country in a given period. It has four engines of growth in any economy.

In India's case, the biggest engine is **private consumption demand from individuals** — the money spent by people in their private capacity. This demand typically accounts for **56% of all GDP** and is technically called the '**Private Final Consumption Expenditure**' (PFCE).

The second-biggest engine is the **money spent by companies and government towards making investments** such as building a new office, buying a new computer or building a new road etc. This type of expenditure accounts for **32% of all GDP in India**; and is technically called '**Gross Fixed Capital Formation**' (GFCF).

The third engine is the money spent by the **Government towards its day-to-day expenses** such as paying salaries. This accounts for **11% of India's GDP**, and is called '**Government Final Consumption Expenditure**' (GFCE).

The fourth engine is in demand from '**Net Exports**' (NX). This is the money spent by Indians on foreign goods (that is, imports) subtracted from the money spent by foreigners on Indian goods (exports). Since in most years India imports more than it exports, the **NX is the smallest engine of GDP growth and is often negative**.

So, $GDP = PFCE + GFCF + GFCE + NX$

What is the difference between GDP and GVA?

The GDP calculates national income by adding up all expenditures in the economy. The GVA (Gross Value Added) calculates the national income from the supply side by looking at the value added in each sector of the economy.

The two measures of national income are linked as follows:

$GDP = GVA + \text{ Taxes earned by the Government } - \text{ Subsidies provided by the Government }$

This shows if the government earned more from taxes than it spent on subsidies, GDP will be higher than GVA. If, on the other hand, the government provided subsidies in excess of its tax revenues, the GVA would be higher than the GDP. In simple words, GDP provides the demand side of the economy, and GVA the supply side.

What are the key observations regarding India's GDP Growth?

At the aggregate level, in terms of GDP as well as GVA, the economy has gone past the pre-Covid level (FY2019-20). In other words, it has recovered **all the lost ground due to the contraction in FY2020-21**.

GVA AND GDP



Source: Indian Express

However, the sub-components of GDP and GVA reveal the true extent of this recovery.

GDP Sub components: While the government's expenditures are more than 6% higher than FY19-20 levels, investments (with three times the weight) are up less than 4% and private demand (five times the weight) is just 1.4% above the FY19-20 level.

SUB-COMPONENTS OF GDP

Year	PFCE	GFCF	GFCE
2019-20	82.6	46.1	14.8
2020-21	77.3	41.3	15.3
2021-22 (PE)	83.8	47.8	15.8

In ₹ lakh crore (at constant prices)

Source: Indian Express

GVA sub components: While all sectors have shown an increase over FY20-21, different sectors of the economy tell a different story. Agriculture and allied sectors didn't undergo any contraction

and continued to grow through the last two years. At the end of FY22, it was 6.5% higher than the pre-Covid level.

Manufacturing is up over 9% from pre-Covid levels. But there are other sectors (such as mining and construction) that either show a moderate increase or a deficit. The contact-intensive services such as trade and hotel etc. are still more than 11% below pre-Covid levels.

SUB-COMPONENTS OF GVA

	2019-20	2020-21*	2021-22**
Agriculture, forestry and fishing	19.8	20.5	21.1
Mining and quarrying	3.2	2.9	3.3
Manufacturing	22.6	22.5	24.7
Electricity and other utilities	3	2.9	3.1
Construction	10.4	9.6	10.7
Trade, Hotels etc. (services)	26.9	21.5	23.9
Financial, real estate etc. (services)	29	29.6	30.9
Public Administration and other services	17.3	16.3	18.4
GVA	132.2	125.9	136.1

*(FRE) **(PE)

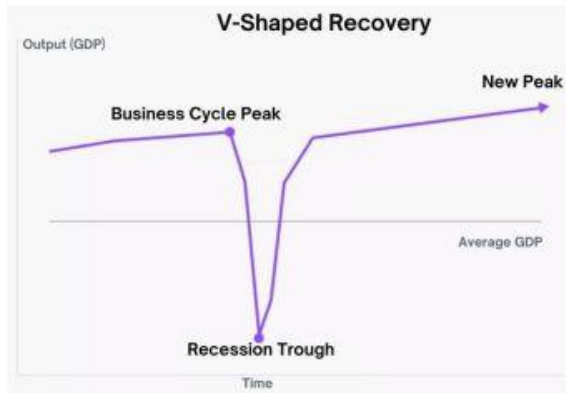
All figures in ₹ lakh cr

Source: Indian Express

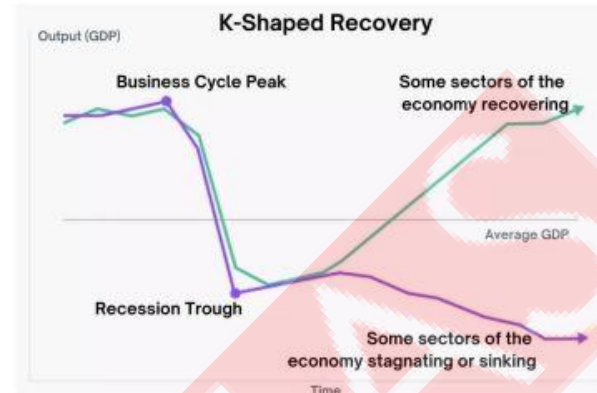
What is the significance of GDP Growth Data?

First, India's GDP growth rate has been impressive. The economy has shown a trend of sharp recovery. At the aggregate level, the economy has recovered to the pre-pandemic level. However, this recovery is **neither uniform nor broad-based**. Some sectors have performed well, but many other sectors continue to suffer from the after-effects of the pandemic. The recovery is being called a **K shaped recovery**.

Shapes of Economic Recovery



The economy experiences a sharp decline but **bounces back sharply** to its pre-recession level. There are minimal inter-sectoral disparities within the economy.



One segment of the economy recovers quickly (likely V-shaped) while the **other segment recovers much slowly** or becomes stagnant. The difference may be due to **systemic factors** or **existing inequalities** in access to resources.

Created by: ForumIAS ©

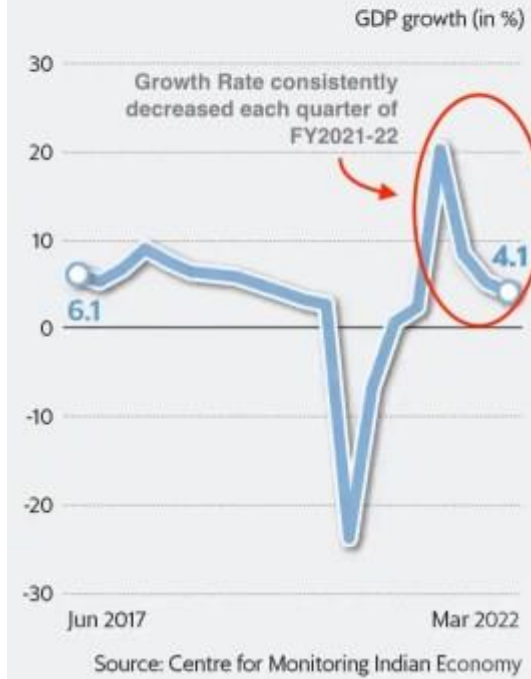
Second, the current growth can be classified as a 'recovery' **only when compared to the pre-Covid level**. The current aggregate level of economy is much below the level of the pre-Covid growth trajectory. According to the RBI, if India's economy grows consistently at 7.5% (annually), the losses suffered due to pandemic can be recovered only by 2034-35.

Third, according to some experts, even the modest recovery (1.4% above pre-pandemic level) in aggregate private consumption is misleading. If the population growth over the 2-years is accounted for, the private consumption has actually fallen by 0.6% (adjusted for population growth).

Fourth, while India's GDP growth has been 8.7% on annual basis, there is considerable volatility at quarterly level. The quarterly growth trend has been 20.1% (April-June 2021), 8.4% (July-September 2021), 5.4% (October-December 2021) and 4.1% (January-Marcy 2022). Thus the recovery rate is actually slowing down.

Taking a hit

India's GDP in Q4FY22 fell sequentially, impacted by unfavourable local and global factors.



Source: Mint

What are the challenges restricting India's GDP growth in future?

Continuation of Pandemic: There are no clear signs that COVID-19 has been controlled across the world. Countries are still forced to impose lockdowns if the situation worsens as happened in China. This may impact sectors like travel, hospitality, airlines etc. industries, consequently impacting the economic recovery.

Russia Ukraine Conflict: It has sent global commodity prices soaring. Russia is a big exporter of commodities like crude oil, natural gas, fertilizers, sunflower oil and coal while India imports a huge amount of these commodities. The shortage could further push inflation and **reduce private consumption expenditure**.

Inflation and Monetary Tightening: The RBI recently hiked the repo rate by 40 basis points to 4.40% in order to control inflation. This has enhanced the cost of raising loans. The rate hike will disincentivize investment and creation of new ventures to propel the growth. Similarly, most central banks have already started aggressively tightening monetary policy. These actions have increased financial market volatility, which has had spillover effects on emerging economies, including India.

High Unemployment Rate: The reduced demand for products and rising input cost is resulting in huge layoffs in the private sector. The unemployment rate in the country grew to 7.83% in April from 7.60% in March, according to the Centre for Monitoring Indian Economy (CMIE) data.

What lies ahead?

First, inflation will continue to negatively impact consumption and is feared to **drive down economic growth** in the current financial year, at least as long as the war in Ukraine continues.

Second, the government should **focus on implementation of schemes like MGNREGA, NFSA 2013, MUDRA, PM Kisan etc.** in order to support the masses in tough times. This will help in reviving private consumption expenditure.

Third, the **tax compliance should be enhanced** by devolving more staff and resources to tax enforcement agencies. This will enhance government revenue thereby allowing them to spend more and raise government consumption expenditure.

Fourth, the RBI should **consider rate relaxation once inflation levels are down**. Similarly, there should be better enforcement of commercial contracts in order to attract private investment and enhance gross fixed capital formation.

Conclusion

While economic activity is recovering at a modest pace, many sectors and segments still seem to be constrained by a weakness in demand and will require continued policy support. A coordinated policy response — fiscal, monetary, trade, industry — will be required for balancing the multiple macroeconomic policy objectives.

Source: [Indian Express](#), [Indian Express](#), [The Hindu](#), [Mint](#)

Right to Compensation (Against Wrongful Prosecution, Incarcerations, and Convictions) – Explained, pointwise**Introduction**

It was noted by the English jurist William Blackstone that *‘It is better that ten guilty persons escape than that one innocent suffer’*. The principle has become a maxim in the modern jurisprudence. It highlights the importance of the protection of innocent people from wrongful legal actions. One of the major issue that troubles India’s legal framework is that of wrongful prosecutions, incarcerations, and convictions and the lack of a statutory Right to Compensation from the State to the victims in such cases. India has one of the highest number of under-trial prisoners in India. In 2020, India was ranked 15 out of 217 countries on the basis of its under-trial population as per the World Pre-trial/Remand Imprisonment List. This indicates the magnitude of the issue.

What are the statistics related to under-trials in prisons?

The data from the National Judicial Data Grid highlights that there are approximately 30.8 million criminal cases that are proceeding in the district courts of the country. Out of these, 8.05 million cases have been pending for more than 5 years. This implies that more than **25% criminal cases stay pending at the session’s court level for more than 5 years**.

According to the latest data released by the NCRB (Prison Statistics India, 2020), out of India’s total of 4,88,511 prisoners (December 2020); 371,848 persons (**76.1%**) **were under-trials** (persons who have been committed to judicial custody pending investigation or trial by a competent authority).

The **Law Commission in its 277th Report (Wrongful Prosecution (*Miscarriage of Justice*): Legal Remedies, 2018)** has dealt with the issue of wrong prosecution in detail. The report observed that **25.1% of the total under-trials spent more than a year in prison** (based on Prison Statistics India, 2015).

The above statistics only give an idea about the people wrongfully incarcerated during the trial stage. In addition, there are some people who are **wrongfully convicted by lower courts but are subsequently acquitted by a higher court** e.g., in February 2022, Allahabad High Court acquitted a murder convict 40 years after his conviction by a lower court. The data from National Judicial Data Grid shows that **26.55% of appeals against convictions** have been pending before the High Courts **for more than ten years**.

Hence people who are wrongfully prosecuted, incarcerated, or convicted are made to suffer by the wrongful actions of the State. The State thus must have a legal obligation to compensate for the multiple social, economic, and legal suffering of the innocent people caused due to wrongful actions.

'Miscarriage of Justice'

The Law Commission in its 277th Report 'Wrongful Prosecution (Miscarriage of Justice): Legal Remedies' observes that the expression 'Miscarriage of Justice' is of wide amplitude:

- Errors in the interpretation, procedure, or execution of the law; typically, **errors that violate due process**, often resulting in the **conviction of innocent people**.

The Supreme Court has interpreted the term in multiple ways:

- '*Departure from the rules that permeates all judicial procedure*'.
- '*Misconception of law, irregularity of procedure, neglect of proper precaution*' leading to **some underserved hardship to individuals**.
- Lack of judicial approach, non-application of mind, non-consideration or improper consideration of material evidence.
- If a judgment is unreasonable, based on an erroneous understanding of the law and of the facts of the case.
- Non-compliance of the principles of Natural Justice.

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What remedies are available to a person against wrongful incarceration/conviction?

The legal framework in India **does not have a law on the grant of compensation** (Right to Compensation) to those maliciously prosecuted. However, Constitutional courts do exercise their powers sometimes to award monetary recompense.

The remedy of a civil suit is available in law, but it is time-consuming.

Section 358 of the CrPC (1973) provides for measly **compensation of INR 100** to a person wrongfully arrested. The compensation is to be recovered from a person on whose complaint the

victim was wrongly arrested. Award of this compensation is subject to the discretion of the Magistrate.

The **Protection of Human Rights Act, 1993**, empowers the National Human Rights Commission to inquire into instances of illegal detentions, wrongful convictions, incarcerations, and other human rights violations. After conducting an inquiry, NHRC can recommend that the State pay compensation and initiate proceedings against erring officials.

The Law Commission in its 277th Report (2018), noted that ***'the currently available remedies only create an ex-gratia obligation, and not a statutory obligation on the State to compensate'***. Thus, at present, the provision of compensation is subject to the discretion of the Judiciary (or NHRC), rather than a legal obligation of the Executive.

What are the global standards regarding Right to Compensation?

The Right to Compensation for wrongful prosecution, incarceration, and convictions has been recognized by various international covenants. It has been enforced by various enactments, statutes, and acts in jurisdictions all over the globe.

The **International Covenant on Civil and Political Rights (1966)** lays down the basic commitments that State parties need to adhere to protect the civil and political liberties of the individual. The **Right to Compensation for Wrongful Convictions** is laid down in **Article 14(6) of the Covenant**.

Article 5(5) of the **European Convention for the Protection of Human Rights and Fundamental Freedoms** also talks about Compensation for wrongful arrest.

Cases Related to Compensatory Jurisprudence

- **Rudal Sah v. State of Bihar (1983)**: The Supreme Court of India interpreted the Article 32, to include a **Right to Compensation for victims of unlawful imprisonment**. In this case, the petitioner was acquitted in June 1968, but was kept incarcerated in jail till October 1982 (14 years). The Court had granted INR 35,000 in compensation.
- **Bhim Singh, MLA vs. State of J&K and Ors. (1986)**: The Supreme Court awarded a sum of INR 50,000 as compensation for the illegal detention of an MLA who was deliberately prevented from attending a session of the Legislative assembly. The Court said illegal detention violated the rights provided under **Article 21 and Article 22(2)**.
- **Nilabati Behera v. State of Orissa (1993)**: The petitioner's son was taken into police custody and killed. The SC utilized Article 32 to grant monetary compensation.
- **S. Nambi Narayanan vs Siby Mathews & Others (2018)**: Former ISRO scientist Nambi Narayanan was awarded compensation of INR 50 lakhs, 24 years after he was unlawfully detained on charges of revealing official secrets to a spy network.

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What is the need for Right to Compensation against wrongful arrest?

First, a person experiences **extreme physical and mental discomfort** while being imprisoned. It **undermines Article 21** of the Constitution i.e Right to a dignified life. This discomfort is

exacerbated by the slow disposal rate of the judicial system. A wrongful arrest also violates Article 22 (protection against arbitrary arrests and illegal detention etc).

Second, wrongful imprisonment can have a **deep psychological impact** on the victim. A study undertaken at the University of Cleveland (US) showed that long incarceration in jail leads to feeling of loss of freedom, loss of identity and dignity and a feeling of rage and anxiety. These effects eventually cause development of Post-traumatic Stress Disorder (PTSD), depression and paranoia. The consequences impact the ability of the victim to lead a normal life even after absolution.

Third, the incarcerated person suffers from damage to health, loss of income or earnings, loss of property due to costs of legal fees, and other consequential expenses resulting from the wrongful prosecution. There is loss of family life and **loss of opportunities** (like education, future earning abilities).

Fourth, a person and his family face **social boycott and harm to reputation** in society owing to the stigma attached with imprisonment. Acquittal at a later stage doesn't completely restore the lost prestige.

Fifth, a Right to Compensation will help in **reducing the quantum of malicious prosecution** by the State authorities. For instance, many people are wrongfully booked under **Section 66A** of the IT Act that has been declared unconstitutional by the Supreme Court.

Although the State cannot return the lost years, family life, opportunities, etc to the victim, it still can **help the victim to reintegrate back into the society** by providing pecuniary and non-pecuniary assistance for the same.

What should be the approach going ahead?

First, the Parliament must **enact a law based on the various recommendations of the Law Commission** (277th Report). The law should create a **uniform compensatory framework**. The report recommends the creation of a statute laying down the conditions, amounts, procedure, etc of awarding compensation to innocents. The main highlights of the recommendations include: **(a) The creation of a special court in each district** for claims. This would ensure speedy and efficient disposal of cases; **(b)** The report also highlighted that the compensation under the statutory framework would include both pecuniary and non-pecuniary compensation; **(c)** A specific provision for removing disqualifications attached to a prosecution or conviction is also imperative to dispel the social stigma that is attached to the victim because of the criminal proceedings.

Second, a proactive role needs to be played by the **non-governmental organizations** to help the victims of such wrongful acts approach the appropriate courts and claim their respective rights.

Third, the statutory framework as enacted by the Parliament must also have provisions for **providing non-pecuniary awards to the immediate families** of victims of wrongful prosecutions, incarcerations and convictions.

Fourth, there should be an enhanced **focus on training of law enforcement officials** to reduce the cases of wrongful arrests. Apart from this, prosecutors and judiciary can also play a positive role in reducing the quantum and duration of wrongful arrests.

Fifth, appropriate steps are required to reform the criminal justice system, reduce the pendency of cases and undertake judicial reforms. Pendency of cases is increasingly consistently every year, and yet there has been little action by the Judiciary, Legislature and Executive.

Conclusion

The Indian legal system is overburdened with an excessive number of criminal cases; and in such a scenario it becomes all-the-more necessary for the State that it protects the rights of innocents. In this regard, a statutory framework for providing compensation to the victim and his/her family is an urgent need of the Indian legal system.

Source: [The Hindu](#), [The Leaflet](#), [IJLMH](#)

[Yojana May Summary] Empowering Divyangjan – Explained, pointwise

Introduction

The Prime Minister coined the term “*Divyangjan*” to address persons with disabilities. The rationale was to change the social attitude towards them and recognise their potential. The renaming has also helped put the issues related to divyangjan at the forefront of Government initiatives. India, being a signatory to the **United Nations Convention on Rights of Persons with Disabilities**, has rolled out numerous initiatives to uplift the position of divyangjan. These have attained a significant degree of progress, however much more needs to be done for creating an equitable and inclusive environment for them.

What is the meaning of disability?

The WHO defines disability as ‘any restriction or lack (resulting from an impairment) of ability to perform in a manner or within the range considered normal for a human being’. Disability is a complex concept and is difficult to define since it varies in type, form and intensity. The WHO notes down the impact of external factors by referring to disability as the **interaction between individuals with a health condition** (e.g., cerebral palsy, Down syndrome and depression) and **personal and environmental factors** (e.g., negative attitudes, inaccessible transportation and public buildings, and limited social supports).

The World Report on Disability, 2011 sums up various definitions of disability by stating ‘Disability is complex, dynamic, multidimensional, and contested’.

According to the WHO, one billion people, or 15% of the world’s population, experience some form of disability. The number of people experiencing disability is increasing due to a rise in chronic health conditions and population ageing. The prevalence of disability is higher in the developing countries; 80% of the persons with disability live in low- and middle-income countries.

As per Census 2011, in India, about 2.68 Cr persons are ‘disabled’ which is 2.21% of the total population. Out of 2.68 crore, 1.5 crore are males and 1.18 crore are females. Majority (69%) of the disabled population resided in rural areas. Among the State/ UTs, Sikkim has the highest prevalence of disability (2.98%). Daman and Diu has the lowest prevalence of disability (0.9%)

What is the institutional framework to support the divyangjan?

Department of Empowerment of Persons with Disabilities (DePwD): It is under the Ministry of Social Justice & Empowerment and facilitates the empowerment of persons with disabilities.

The Department has 9 **National Institutes** and 21 **Composite Regional Centres** which are spread across 28 States/UTs. While each of the National Institutes works with respect to a specific category of disability, the Composite Regional Centres provide rehabilitation services across all categories of PwDs.

The National Institutes are related to Visual disabilities (Dehradun), Hearing disabilities (Mumbai), Intellectual disabilities (Secunderabad), Multiple disabilities (Chennai), Physical disabilities (New Delhi), Rehabilitation Training and Research (Cuttack), Locomotor Disabilities (Kolkata), Indian Sign Language Research & Training Centre (New Delhi) and Mental Health and Rehabilitation (Sehore, MP).

What are the problems faced by divyangjan?

Education: The education system is not inclusive. Inclusion of children with mild to moderate disabilities in regular schools has remained a major challenge.

Health: A large number of disabilities are preventable, including those arising from medical issues during birth, maternal conditions, malnutrition, as well as accidents and injuries. Yet lack of proper medical care fails to check these factors.

Employment: Even though many disabled adults are capable of productive work, disabled adults have far lower employment rates than the general population. The situation is worse in private sectors, where much less disabled persons are employed.

Accessibility: Physical accessibility in buildings, transportation, access to services remains a major challenge.

Discrimination/Social Exclusion: Negative attitudes held by the families of the disabled, and often the disabled themselves, hinder disabled persons from taking an active part in the family, community or workforce. People suffering from mental illness or mental retardation face the worst stigma and are subject to severe social exclusion.

Barriers to Healthcare

According to WHO, people with disability encounter a range of barriers in accessing health care

✓ Attitudinal Barriers

- Prejudice, stigma, discrimination by health service providers.
- Service providers lack knowledge about needs of the disabled.
- Women with disability face barriers to sexual, reproductive health services and information.

✓ Communication Barriers

- Limited availability of written material or sign language interpreters at health services for persons with hearing impairment.
- Lack of information and prescription in accessible formats, like Braille or large print for persons with vision impairment.

Source: WHO

✓ Physical Barriers

- Lack of appropriate infrastructure to access healthcare facilities like ramps to access passages, doorways, toilets on wheelchairs.
- Fixed-height furniture, including examination beds and chairs, can be difficult for people with disability to use.
- Lack of healthcare facilities in remote areas.

✓ Financial Barriers

- Over half of all people with disability in low-income countries cannot afford proper health care.
- Inability to afford the costs associated with travelling to a health service and paying for medicine.

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What steps have been taken by the Government for the upliftment of divangjan?

The Rights of Persons with Disabilities Act, 2016: The act, increased the number of disabilities from 7 to 21. It made provision for reservation in higher education and government jobs. It mandated free education for children between 6 to 18 years. It also mandates the Government to take measures to promote health, education, skill development, and employment opportunities for PwDs.

The Unique Disability Identity (UDID) Project: It aims to create a national database for Persons with Disability (PwD) and to issue a Disability Identity Card to such persons.

Accessible India Campaign: It focuses on accessibility in the built-up environment, transportation system, and ICT ecosystem.

Early Intervention Centres: These centres are equipped with facilities for screening at-risk cases, providing therapeutic services such as speech therapy, occupational therapy, physiotherapy, behavioural therapy, parental/peer counselling. They also provide preparatory schooling for enhancing the cognitive and physical abilities of children with disabilities.

Indian Sign Language Research and Training Centre: It promotes the use of sign language and also to develop human resources in the field.

National Institute of Mental Health Rehabilitation (NIMHR): It aims to work towards capacity building in the field of mental health rehabilitation. It also aims to develop community-based rehabilitation protocols for mainstreaming persons with mental illness who have been successfully cured.

New Education Policy 2020: It is in tune with the provisions of the RPwD Act, 2016 and has the ingredients for inclusive education. The Policy is expected to ensure barrier-free access to education for children with disabilities.

Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) scheme: Under this aids and assistive devices are distributed to divyangjan to improve their mobility so that, apart from carrying out daily living activities independently, they can also go to work and earn a living.

Read More: [Measures taken by the Government for the disabled community](#)

What has been the progress of Government's initiatives?

UDID: So far, **around 70 lakh UDID cards** have been generated in 715 districts across India.

Accessible India Campaign: Under the Campaign, about 577 State Government buildings and more than 1030 Central Government buildings have been made accessible. Further, 603 State Government websites and 95 Central Government websites have already been made accessible. *Sugamya Bharat* App has also been developed which is a mobile application for crowdsourcing problems related to accessibility.

Early Intervention Centres: 14 EICs have been set up at its National Institutes/Composite Regional Centres of DePwD. These are located in Delhi, Dehradun, Lucknow, Sundernagar, Patna, Bhopal, Mumbai, Kolkata, Cuttack, Rajnandgaon, Secunderabad, Nellore, Chennai, and Kozhikode.

Indian Sign Language Research and Training Centre: The institute has so far developed about 10,000 sign language expressions of various words and phrases. It provides a reference point for various users and has become a boon for the deaf community. The institute has also signed an MoU with NCERT for converting the school curriculum of Class I to XII into Indian sign language.

ADIP Scheme: Since 2014-15, under this programme 11,973 camps were organised benefitting 21.90 lakh persons with disabilities across the country. The Government has also initiated a **special recruitment drive for persons** with disabilities in Central Government establishments and more than 14,000 vacancies have been filled, out of about 15,700 reported vacancies.

What further steps can be taken?

First, the government should move towards **digitizing all existing manual certificates** of disability onto the portal at the earliest possible time in consultation with the States and UTs.

Second, the government should work towards **unleashing the talent among divyangjan**. They are full of potential and hard work, evident from the fact that India won 19 medals including 5 Gold medals in the Tokyo 2020 Paralympics. The government should also ensure that platforms like *Divya Kala Shakti* are fully functional and accessible. It is a platform for showcasing the potential of PwDs in performing fine arts.

Third, Preventive health programs need to be strengthened and all children should be screened at a young age. Kerala has already started an early prevention programme. The Comprehensive Newborn Screening (CNS) programme seeks early identification of deficits in infants and reduces the state's burden of disability.

Fourth, there should be more budgetary allocation for welfare of the disabled. There should be **disability budgeting** on the lines of gender budgeting.

Fifth, divyangjan need to be better integrated into society by overcoming stigma .There should be awareness campaigns to educate and aware people about different kinds of disability. Success stories of people with disabilities can be showcased to inculcate positive attitudes among people.

Conclusion

India has been known across the world as having a composite and inclusive culture since ancient times. Indian culture believes in inclusiveness, integration and harmony, and thrives on the principle of *Vasudhaiva Kutumbakam*. This makes it imperative for the government to work relentlessly for the empowerment of divyangjan.

Source: Yojana May 2022, [WHO](#)

Universal Basic Income: Benefits and Challenges – Explained, pointwise

Introduction

The Economic Advisory Council (EAC) to the Prime Minister released a report on inequality prepared by the Institute for Competitiveness. The broad focus of the report was on the nature of inequality and poverty in the country. Two suggestions given by the report have become a matter of discussion among the economists. The Report advocates fallback job options for urban Indians along the lines of the Mahatma Gandhi National Rural Employment Guarantee Scheme for rural Indians. The Report has also supported the provision of Universal Basic Income as an elementary safety net, an idea that is still considered somewhat radical by many policy makers.

What is Universal Basic Income?

It is a guaranteed regular cash transfer by the Government to all citizens irrespective of their income or financial condition. As a universal safety net, UBI will be applied to all individuals, irrespective of income and age. The Economic Survey (2016-17) had noted that the UBI has 3 components namely; **universality**, **unconditionality**, and **agency**. *Universal*: UBI will cover all citizens, *Unconditional*: UBI has no criteria to select the beneficiaries, *Agency*: Providing support in the form of cash transfers to respect, not dictate, recipients' choices.

UBI is supposed to be **easily accessible**, **periodic**, in the form of funds (and not vouchers or coupons) and is paid to individuals not households.

Since governments commit to a legally stipulated and equal financial grant, it is also **considered to be a form of social welfare**, especially for those who are unemployed, sick and at the end of their working life.

Earlier Proposals on UBI in India

Officially, a UBI plan was first suggested in the Economic Survey of 2016-17.

- It proposed to provide INR 7,620 per annum to **75% of the population**, based on the official poverty line from 2011-12.
- Subsequently updated twice, the plan advocated for a fixed sum to each rural household, except those which were '*demonstrably well-off*'.
- However, the Finance Minister back then had said the **plan would face operational and political challenges**.

In 2020, Economics Nobel Laureate Abhijit Banerjee said India should immediately begin cash transfers of INR 1,000 per person per month as an ultra-basic version of UBI.

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What has been the global experience with respect to Universal Basic Income?

In 2020, countries worldwide resorted to cash transfer to help vulnerable citizens cope up with the economic turmoil posed by the pandemic. Among the **developed economies**, where economic growth had stagnated, most cash transfers schemes have **broadly adhered to the principles of UBI**.

Canada, provided \$1,400 per month to those who lost income due to the COVID-19 pandemic.

The United States offered its citizens cheques of US\$ 1,200 for individuals or US\$ 2,400 for those who were married.

South Korea issued cash transfers of US\$ 820 for its citizens and Japan announced cash transfers of US\$ 931 per person.

The **Arab Monetary Fund**, which includes poorer economies like Iraq, Somalia, and Libya, have reached a consensus on the implementation of UBI set at 10% of the per capita income.

The birthplace of the idea of modern nations providing direct cash to stimulate growth and ensure minimum living standards is the **Scandinavian region of Europe** – Denmark, Norway, Finland and Sweden. These nations implemented their own variety of Nordic welfare systems back in the 1970s at a time when none of them were considered rich.

What are the major social safety measures in India at present?

India spends about 2% of its GDP on core social protection and welfare schemes. This translates into an expense of INR 9 lakh crore in more than 10,000 schemes. This amount does not cover the high set-up costs and expenditure in maintaining the systems (including manpower) to administer them.

Annual budgets for some of India's key flagship welfare schemes amount to INR 379,100 crore per year. These include MGNREGS, PM Kisan Samman Nidhi Yojana (PM Kisan), and National Social Assistance Programme, among others.

What are the perceived benefits of implementing Universal Basic Income?

Tackling Extreme Events: A basic income support to everyone will help the masses in developing strong resilience against extreme events like COVID-19 Pandemic, or other shocks like natural disasters (floods, tsunami, earthquakes etc.). Multiple reports have shown that most

of the rural poor have become financially vulnerable while the poorest of the poor are virtually going hungry because of pandemic impact.

Similarly, UBI will help the **masses face price shocks** arising due to global conflicts. The Russia Ukraine conflict has pushed up the oil prices which has increased inflation levels in India.

Economic Revival: The recent pandemic has forced shut many enterprises and resulted in huge layoffs. This has diminished the consumption demand in the economy, UBI can be helpful in reigniting the demand and revive the economy.

Ensuring Dignity: An assured periodic cash transfer would allow every individual to live a more dignified life thereby upholding the Right to Life under Article 21.

Social Justice: A society that fails to guarantee a decent minimum income to all citizens will fail the test of justice. Hence UBI, by guaranteeing a minimum unconditional income, promotes social justice.

Promotes efficiency: UBI seeks to replace the existing myriad subsidies given by the government under its social welfare schemes that are riddled with **misallocation, leakages and inclusion/exclusion errors**. The Economic Survey (2016-17) noted that 7 of the top government schemes suffer from acute misallocation of funds while ignoring the poorest districts in many states. Further, there is **ineffective programme communication** that means beneficiaries are not well aware of their entitlements, eligibility criteria, and delivery mechanisms. **UBI will ease the implementation**. There will be no exclusion errors. Implementation costs will come down due to direct transfer of cash through existing systems and infrastructure.

Issues with India's Welfare Programmes

Coverage of schemes varies widely in enrolment and delivery. A survey undertaken in April 2020, covering Below Poverty Line (BPL) families across 10 states revealed:

- **Coverage is not universal.** The gaps in coverage varied according to the scheme: PDS (15%), *Jan Dhan* (43%), Social Pension (56%), and *PM Kisan* (66%).
- **Delivery of benefits is low.** The percentage of eligible households that received their entitlements: PDS (55%), Social Pension (34%), *PM Kisan* (30%), and *Jan Dhan* (28%).
- These gaps are largely on account of:
 - Eligibility challenges.
 - Lack of awareness. 52% of the surveyed beneficiaries were unaware about their entitlements.
 - Onerous administrative procedures. In addition, there are huge costs in implementing the schemes.

Communication is the **most overlooked components** of welfare programmes. Effective programme communication ensures that beneficiaries are well aware of their entitlements, eligibility criteria, and delivery mechanisms.

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More Choices: UBI is not tied to the recipients' behavior, and they are free to spend the money as they wish. This is in contrast to the conditional in-kind transfers that limit the options for beneficiaries. UBI will entrust them with the responsibility to devise their own spending proportions for utilities and other goods

What are the challenges in implementing Universal Basic Income?

Fiscal Stress: Implementation of UBI would require a huge amount of money which is difficult to arrange considering the widening fiscal deficit of the Government. Covering about a billion beneficiaries would cost INR 12 trillion (annual) just for each adult to get a monthly INR 1,000 (or INR 12,000 annual). According to different estimate, a transfer of INR 10,000 per annum will cost around 10% of GDP to the exchequer whereas all current welfare schemes putting together costs ~ 5.2% of GDP.

Subsidy Withdrawal: Post UBI the government may **phase out critical subsidies** like power, water, fertilizer etc. which may cripple many enterprises in the agriculture and industrial sector.

Universal Nature: Further, a UBI would require providing benefits to also about 78% of the population who do not fall in the poverty bracket. This means the amount paid to each individual may be too small to have any significant impact on people's lives. Moreover, the universality of the transfer does not address the aspect of equity.

Improper Human behavior: Recipients might misuse the money they receive and undermine social security objectives. Further UBI will induce people to work less or create a disincentive to work. Although, the opinion of economists is divided here. A 2018 study on the behavioural effects of cash transfers found just a 1% drop in labour supply induced by a 10% income boost.

What should be the approach going forward?

First, The government **can rethink true universality**, as the well-off can be omitted from the cash transfer schemes. There can be automatic exclusion of certain class of citizens (like possession of certain assets).

Second, after deciding the quasi basic income criteria, the Government should leverage the potential of JAM trinity (biometric identification, financial inclusion, and mobile penetration) for directly transferring cash to household bank accounts.

Third, it must be embraced in **a deliberate and phased manner**. Gradualism can be adopted in following ways: **(a)** Giving choice to individuals between UBI and existing schemes; **(b)** UBI for women only; **(c)** Universalize UBI across some specific vulnerable groups only like for widows, pregnant mothers, the old and the infirm; **(d)** UBI in urban areas only which have good banking infrastructure and financial inclusion; **(e)** UBI for a class of sections like implementing for the poor at the bottom 25%.

Fourth, focus should be placed on **equitable access to education** and **creation of more jobs** along with a vision to attain a long term growth rate. This would be more beneficial in poverty and inequality reduction rather than merely giving guaranteed incomes.

Conclusion

It may not be feasible to have a basic income that is universal or to substitute existing welfare subsidies. A UBI in India could be implemented as a supplemental, unconditional, recurring cash transfer to the target population while keeping the existing welfare infrastructure intact. UBI can be a potent complement to broader poverty eradication programmes

Source: [Mint](#), [The Times of India](#), [The Leaflet](#), [Money Control](#)

Judicial Accountability in India – Explained, pointwise

Introduction

The High Court of Odisha has published a one-of-a-kind annual report of its performance in 2021. By the standards of the Indian judiciary, this is a rare exhibition of transparency. The report outlines the performance of the High Court and the lower judiciary in the State. The Chapter 'Introspection and Challenges' in the Report observes, "*For any institution, introspection is necessary to overcome the drawbacks and to enhance efficiency.*" With this report, the High Court has brought some transparency in its functioning and has subjected itself to the scrutiny of the common citizen. This has brought the issue of judicial accountability into the limelight and might induce other courts to follow higher standards of transparency and accountability.

What are the salient observations in the Report?

The Report provides **detailed view of breakup of cases** (cases pending at the start of the year, new cases, disposed cases, cases pending at the end of the year) for each District Court. It also provides the break-up of sanctioned strength and available Judges for each Court.

It contains a section **explaining the reasons for delays and backlog** at the district level. The tendency of higher courts to "stay" proceedings, the uneven distribution of cases amongst judges in trial courts and the non-availability of witnesses due to transfers are among the major reasons cited by it for delays. It also sheds light on the administrative functioning of the Court.

The Report also lists the **initiatives undertaken by the Court**, e.g., the initiatives to address the digital divide in the judiciary. Order Communication Portal (OCP) enables digital sending of High Court orders to subordinate courts thus reducing time for subsequent action.

What is the meaning of Judicial Accountability?

The term Accountability means being responsible for decisions or actions. Generally, it means being responsible to any external body. Transparency in the functioning and decision-making process is one of the crucial aspect that ensures accountability.

The term judicial accountability thus means that the judges are responsible for the decisions they deliver. It also means that Judges be held accountable for their conduct.

The Judiciary is not subjected to the same level of accountability as the Executive or the Legislative wings of the Government. The reason is that the **principles of Judicial Independence and Accountability are sometimes regarded as fundamentally opposed to one another**. Judicial independence is considered 'an essential pillar of liberty and the rule of law'. So if Judiciary is made accountable to the Legislature or the Executive it will impact its Independence. So special provisions have been provided to ensure judicial accountability.

What is the current framework of Judicial Accountability in India?

The **Constitution of India** provides for the removal of the judges of the Supreme Court of India and the High Courts for **misbehaviour and incapacity** by means of impeachment. The provisions of impeachment have been provided in the **Article 124(4)** (SC Judge) and **Article 217(1)(b)** (HC Judge) of the Constitution. To date, only one impeachment proceeding was initiated against a Supreme Court judge but the procedure failed. Similarly, no High Court Judge has been impeached so far.

Judges (Inquiry) Act, 1968 was passed to regulate the investigation procedure and to find proof showing incapacity and misbehavior on the part of the judges of the Supreme Court and the High Courts.

Article 235 of the Constitution provides for the ‘**control**’ of the **High Court over the subordinate judiciary**. It provides an effective mechanism to enforce accountability of the lower judiciary.

The Supreme Court of India adopted a Charter called the **Restatement of Values of Judicial Life** in 1997. It is the restatement of the pre-existing and universally accepted norms, guidelines and conventions observed by Judges. All the High Courts of the country have also adopted the same. The Charter contains guidelines for general behaviour of the Judges. However, it is not an instrument of judicial accountability in strictest terms.

A resolution of the Supreme Court in December 1999 declared that an ‘**in-house procedure**’ would be adopted to take action against judges who act against accepted values of judicial life. In case of a complaint against a judge, the procedure allows the Chief Justice of that Court to set up an inquiry with a 3-judge committee. If the allegations are serious, the committee may recommend initiating proceedings for removal.

Restatement of Values of Judicial Life, 1997

The Supreme Court had adopted the Charter in 1997. It has 16 points, the salient points include:

- The behaviour and conduct of members of the higher judiciary must **reaffirm the people’s faith in the impartiality of the judiciary**. Justice must not merely be done but it must also be seen to be done.
- A Judge should not contest the election to any office of a club, society or other association.
- **Close association with individual members of the Bar**, particularly those who practice in the same court, shall be eschewed.
- A Judge should **not permit any member of his immediate family**, if a member of the Bar, to appear before him or even be associated in any manner **with a cause to be dealt with by him**.
- No member of his family, who is a member of the Bar, shall be permitted to use the residence in which the Judge actually resides or other facilities for professional work. A **Judge shall not hear and decide a matter in which a member of his family**, a close relation or a friend is concerned.
- A Judge shall not enter into public debate or express his views in public on political matters.
- A Judge shall not accept gifts or hospitality except from his family, close relations and friends.
- A Judge **shall not speculate in shares, stocks** or the like. A Judge **shall not hear and decide a matter in which a company in which he holds shares** is concerned unless he has disclosed his interest and no objection to his hearing and deciding the matter is raised.

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What is the need to enhance Judicial Accountability?

First, it will induce the judges to **improve efficiency** and **deliver quality judgements** thereby **ensuring justice** in the society. There have been several ‘*shocking*’ judgments in recent times e.g., a Bombay High Court Judge ruled that groping a child without ‘skin-to-skin contact with sexual intent’ does not amount to the offence under the POCSO Act.

Second, It will help in ensuring **an impartial functioning** that would **augment public trust** in the institution of judiciary. For instance, a major controversy erupted when a sitting Chief Justice of India was accused of sexual harassment. The CJI, instead of ordering external enquiry, set up an internal Committee to look into the matter. The CJI himself appointed the Judges, raising

concerns of conflict of interest. The Committee absolved him, while the complainant was not allowed to be represented by a lawyer.

Third, the **scope of information** which the courts are willing to share **under RTI is not too wide**. For instance, the Bombay High Court recently ruled that its 'file notings' on administrative matters are not required to be disclosed under the RTI Act. The reluctance of Judiciary to subject itself to greater transparency became evident when a former CJI remarked that the "*institution of Judiciary can't be destroyed in the name of transparency*".

Fourth, Unlike the executive, the judiciary is **not under any legal obligation to prepare annual reports** or table them before Parliament or the State Legislature. Only the High Courts of Madras, Himachal Pradesh and Tripura had published an annual report in the last two years.

Fifth, there exists **no provision in the Indian Constitution which directs in reviewing the Supreme Court's decision**. Except for the Supreme Court itself, there exists no other body or council to have a check on the decisions passed by the Apex Court.

Sixth, in the **absence of any accountability**, the **pendency of cases has reached unprecedented levels** (> 4 Crore cases in lower courts). Since, Judges are not accountable to the people or to any other organs of the State, no concrete action has been undertaken to address this pendency. Judicial Accountability might have provided an element of external pressure on the Judiciary to reduce pendency.

Seventh, the **process of appointment of judges to higher judiciary lacks transparency**. There is no visibility about what importance is given to credentials of judges in their ideological adherence to the constitutional ideals of a secular, socialist democratic republic etc.

Eighth, there are several **shortcomings in the in-house procedure**. There is no statutory basis for the procedure. No judge (who faced such committee) has agreed to resign because there was an adverse report by the committee. In some cases, allegations requiring further investigation were dismissed by such committees.

Ninth, a prominent news portal reported that in 2019, only 7 Judges of the Supreme Court voluntarily declared their assets. So self-regulation appears to have some limitations.

Judgements Related to Judicial Accountability

- **S.P. Gupta v. Union of India:** The Supreme Court agreed that **Judiciary is accountable to the public** to answer queries related to the decisions they take for the interest of the public. This has been granted to the public by Article 19(1) (a) of the Constitution.
- **C. Ravichandran Iyer vs Justice A.M. Bhattacharjee:** The Supreme Court held that an **in-house “peer review” procedure** could be laid down for **correcting deviant behaviour**. Where the allegations do not warrant removal, the in-house mechanism could impose “minor measures”.
- **K. Veeraswami v. Union of India:** The SC held that no Judge of superior court could be subjected to a criminal investigation **without the written permission of the Chief Justice of India**. Justice Veeraswami had assets vastly disproportionate to his income. Due to this judgment, it has been very rare that a judge has been subjected to investigation.

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What are the challenges in enhancing Judicial Accountability?

The most important challenge for the regulation of judicial accountability is that the judiciary is an independent organ and the **independence of the judges** cannot be done away with. Any attempt to make the Judiciary accountable to the Legislature or Executive will make it susceptible to external pressure. It is very difficult to balance the Judicial Accountability vis-a-vis Judicial Independence.

There exists no other way in which a judge can be removed except through **impeachment** and the process is long and complex. Due to this, it is difficult to augment judicial accountability. Again, the process can't be diluted as it will impinge on judicial independence.

Moreover, the SC and HC have the **power of contempt** that prevent imposition of anything on the judiciary without their consent. The judiciary is the **final interpreter of laws, policies, rules etc.** and can easily strike down anything as per its will.

What steps can be taken to enhance Judicial Accountability?

First, Parliament **can enact a law that mandates Judiciary to publish an annual report**. This law should clearly outline the expected content of the report and establish a clear timeline for its publication.

Second, In India, the **Judicial Standards and Accountability Bill** was floated in 2010, but eventually lapsed. A new Bill on setting judicial standards is necessary. As suggested by a former Chairperson of the Law Commission, the new Bill must address the concerns with the old Bill and should avoid giving excessive control to the Legislature or the Executive.

A **permanent disciplinary committee** should be set up at the central level to deal with complaints against judges. This committee should recommend further course of action based on the seriousness of misconduct (e.g., setting up a judicial inquiry committee under the Judges Inquiry Act for major misconduct).

Third, the SC should **clarify the extent and scope of RTI applicability** to the judiciary. This will help in avoiding divergence in RTI response across the states.

Fourth, the judiciary **can also be brought under the scope of Lokpal** to enhance accountability as seen in countries like Sweden where judiciary comes under the scope of the ombudsman.

Fifth, a **regular performance evaluation system** for judges should be established. There is a mechanism of evaluation at lower judicial level. There is no performance evaluation for higher judiciary. It is difficult to create such a system. Best practices from global experience can be suitably adapted as a first step.

Conclusion

The actual challenge is to grant as much judicial independence as is necessary to have cases adjudicated impartially and neutrally. Maintaining this equilibrium between accountability and independence is the real task at hand. The Odisha High Court's step is the first step in this regard, however much more needs to be done.

Source: [Indian Express](#), [Indian Express](#), [Indian Institute of Legal Studies](#)

Open Network For Digital Commerce (ONDC) – Explained, pointwise

Introduction

The fast-expanding digital economy has been one of the major supporting pillars of India's growth in recent times. India has the world's highest fintech adoption rate of 87%, as compared with the global average of 64%. **3 of the largest public digital platforms in the world are from India: Aadhaar** is the largest unique digital identity platform, **Unified Payments Interface (UPI)** is the largest digital payments ecosystem, and **Co-Win** is the largest vaccination platform. Realizing the potential of digital space, the Government of India has launched Open Network For Digital Commerce (ONDC) as a prospective alternative to dominant global giants [Amazon.com](#) and Walmart in its fast-growing e-commerce market.

What is the background of ONDC?

The idea of ONDC was conceived and has been widely discussed since April 2020, soon after the first wave of COVID. During this time, ensuring essential supplies across containment zones was found to be a challenge. Therefore a need was felt to alter the current digital commerce approach of 'scaling what works' to a new approach of 'what works at scale'.

On December 31, 2021, ONDC was incorporated as a **private sector, non-profit (Section-8) company** to **democratize e-commerce in India** and offer alternatives to proprietary e-commerce sites.

ONDC was incubated by the Department for Promotion of Industry and Internal Trade (DPIIT) at the Quality Council of India. A nine-member advisory council, including Nandan Nilekani from Infosys and National Health Authority CEO RS Sharma, counseled the government on the measures required to design and accelerate the adoption of ONDC.

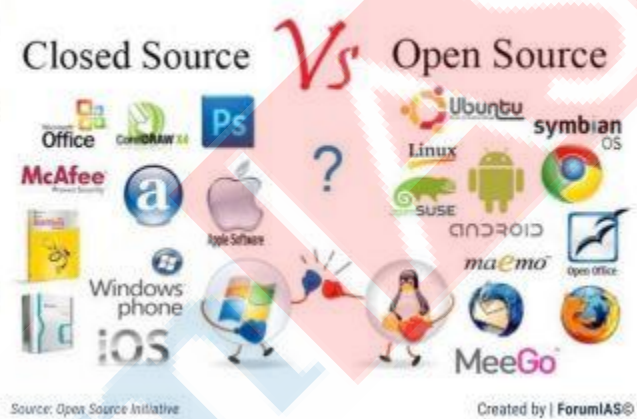
What is the meaning of Open Source Software?

To make a process or a software 'open source' implies that the technology or code deployed for the process is freely made available for everyone to use, redistribute, and modify. For instance, the operating system of iOS is closed source (it cannot be legally modified or used). However, the android operating system is open source, making it possible for smartphone manufacturers, such as Samsung, Nokia, Xiaomi, etc., to modify it for their respective hardware.

Open Source Software

The **Open Source Initiative (OSI)** provides a commonly accepted definition of what constitutes Open Source:

- A work has to **allow free redistribution**.
- The source code needs to be **made available to all**.
- It must be **possible to create further works** based on it.
- There must be **no limitations** of who may use the work or for what purpose (so conditions like 'no commercial use' won't classify as Open Source).
- The work must **not require an additional license** on top of the one it comes with.
- The license must not depend on a specific distribution format, technology or presence of other works.



What is Open Network for Digital Commerce (ONDC)?

ONDC is a non-profit company whose network will enable the display of products and services from all participating e-commerce platforms in search results across all apps on the network. For example, if both Amazon and Walmart's Flipkart integrate their platforms with ONDC, a user searching for a Bluetooth headset on Amazon would also see results from Flipkart on the Amazon app.

ONDC is a globally first-of-its-kind initiative that aims to **democratize digital commerce**. The ONDC will provide equal opportunities to all marketplace players, including consumers. It moves from a platform-centric model (where the buyer and seller must use the same platform or application to be digitally visible and do a business transaction) to an open network.

It is based on open-sourced methodology, using open specifications and open network protocols, and is independent of any specific platform. It is a neutral platform that will set protocols for cataloging, vendor match, and price discovery on an open source-basis, like the Unified Payments Interface (UPI).

What is the current status of ONDC?

ONDC has been rolled out in 5 cities – Delhi NCR, Bengaluru, Bhopal, Shillong, and Coimbatore. The operations are presently focused on retail and restaurants and facilitating real-time transactions. The open network will later-on extend to other categories like travel and mobility.

Based on the pilot exercise and after the network stabilizes, ONDC will be expanded to 100 cities and towns across India by October 2022. The goal is to accommodate 30 million sellers and 10 million merchants online.

Who are the key stakeholders in ONDC?

20 government and private organizations have confirmed investments worth INR 2.55 billion (US\$ 33.34 million). Several public and private sector banks, such as HDFC, Kotak Mahindra, Axis Bank, State Bank of India (SBI), and Punjab National Bank (PNB), have picked up stakes in ONDC.

Around 80 firms are working to integrate market players with the ONDC platform. Start-ups like Flipkart's logistics arm eKart Logistics, hyperlocal delivery startup Dunzo, and payment service provider PhonePe, are in the process of integrating with ONDC.

What is the significance of ONDC?

Boost E-Commerce transactions: It will help in enhancing the volume as well the value of e-commerce transactions. The Government estimates that India's e-commerce market was worth more than US\$ 55 billion in gross merchandise value in 2021 and will grow to US\$ 350 billion by the end of this decade. This target seems much more achievable with ONDC.

Promotes Competition: According to the Government, **existing platforms work in silos** and are tightly controlled, keeping out many small players. At present, Amazon and Walmart's Flipkart control more than 60% of the market. However, ONDC will increase competition and foster innovation by start-ups through the display of products and services from all participating e-commerce platforms. Further, it will **limit opportunities for selected sellers to receive preferential** treatment. This preferential treatment is a common accusation against major e-commerce companies. It will also help to **end predatory pricing**, especially in high-margin, high-value products.

Freedom of Choice: It is expected to **make e-commerce more inclusive and accessible** for consumers. They can potentially discover any seller, product or service by using any compatible application/platform, thus increasing their freedom of choice.

Cost Reduction for Sellers: ONDC would enable small businesses to use any ONDC-compatible applications instead of being governed by specific platform-centric policies. This will provide multiple options to small businesses to acquire what's needed to be discoverable over the network and conduct business, **without having to pay deep cuts to aggregator platforms.**

Attracts Investment: Businesses are expected to benefit from **transparent rules**, lightweight investment, and lower cost of business acquisition. It is also expected that the time-to-market as well as time-to-scale shall also be substantially reduced. All this will help in attracting greater investment in the e-commerce space.

Aid in Diplomacy: The digital platforms are becoming an avenue for a new type of global diplomacy. India's identity and payments platforms are being looked at with interest across the world. Recently, the Co-Win platform was offered by India to interested countries.

What lies ahead?

First, the **ONDC aims to raise e-commerce penetration** in the next two years to 25% of India's consumer purchases, from nearly 8% now, in a country of 1.35 billion people.

Second, It also **hopes to sign up 900 million buyers and 1.2 million sellers** on the shared network within the next five years, while achieving gross merchandise value of \$48 billion.

Third, It also hopes to **bring in logistics firms and others** who can collaborate with sellers to deliver products to customers. The focus should be on small merchants and rural consumers, with **apps in Indian languages**.

Fourth, ONDC aims mainly to tap millions of small businesses that often lack technological expertise, so the government will have to run a **massive awareness campaign** to get them on board.

Fifth, the role of **Competition Commission of India would be crucial** in the success of ONDC as smaller businesses with low volumes lack the resources to match the discounts offered by heavyweights like Amazon and Flipkart. Their integration and sustenance could be done only when big players are effectively stopped from indulging in anti competitive practices.

Sixth, the government also needs to make sure that **ONDC complies with the Information Technology Act, 2000**, and the emerging Personal Data Protection Bill.

Conclusion

ONDC provides a technological platform to fulfil India's aspirations to become a middle-income economy that is digitally savvy and wired. It offers a vital global template for the harnessing of technology for and as a public good at population scale in an inclusive and equitable way.

Source: [Mint](#), [Mint](#), [Business Standard](#)

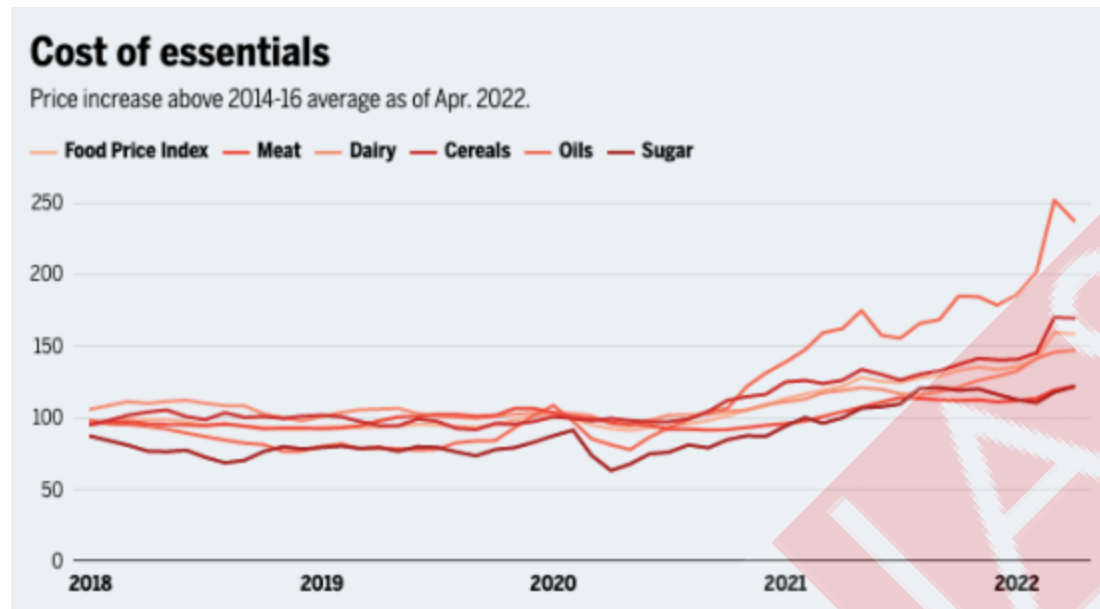
Ukraine War and the Global Food Crisis – Explained, pointwise

Introduction

Russia's invasion of Ukraine and the subsequent sanctions on its economy have sent global food prices soaring. This has threatened to push millions of people, especially those in low-income countries, into starvation. Ukraine and its allies in the West have accused Russia of weaponizing food, saying that its blockade of Ukraine's Black Sea ports is the primary reason for the rising prices. Russia has blamed Western sanctions for the global food crisis. The war has raged on for the 4th month now and no political solution seems to be imminent. The United Nations and Turkey have initiated talks with the Russian leadership to facilitate the exports of grains and fertilizers from Russia and Ukraine.

What is the severity of the current Global Food Crisis?

As of June 1, 2022, **the Agricultural Price Index** was 40% higher compared to January 2021, according to the World Bank. Maize and wheat prices rose 42% and 60%, respectively, from the levels of January 2021. The Food Price Index of FAO has reached its highest level since it was started in 1990.



Source: *The Times of India*. Food Price Index has risen from 95.2 in 2018 to 158 in 2022.

Almost all economies in the world have been hit by higher food prices. Across the western world, there's a **cost-of-living crisis with food and energy prices at record high**. In the U.K., inflation numbers have already hit a 40-year high.

Almost **90% of emerging markets and developing economies** experienced food price inflation greater than 5% this year. In India, the **Consumer Price Index has risen by 10.5% since January 2020**, leaving consumers facing much higher prices for essential food staples.

Many Low-income countries have been hit the hardest because they are reliant on imports for basic food consumption. According to the UN World Food Programme (WFP), Ethiopia, Nigeria, South Sudan and Yemen remain at 'highest alert' as hotspots with 'catastrophic conditions'.

The World Food Programme estimates that the number of severely food insecure people was 276 million at the start of 2022. The number is feared to increase to 323 million by the end of 2022.

The war has set in a **vicious cycle**: Higher inflation has led to higher cost of living. This has wiped out people's real income and they are unable to adjust to rising costs. The Russia Ukraine conflict threatens to tip tens of millions of people over the edge into **food insecurity, followed by malnutrition, mass hunger and famine**.

How important are Russia and Ukraine for global food security?

Wheat

Russia and Ukraine together account for **more than 25% of the world's wheat supplies**. According to the U.S. Food and Drug Administration's Foreign Agricultural Service (FAS), Russia's share in the global exports of wheat is ~20%. Ukraine accounts for another 8%.

According to the FAO, about 50 countries depend on Russia and Ukraine for more than 30% of their wheat imports. Azerbaijan and Georgia source more than 80% of their imported wheat from Russia and Ukraine. Turkey, Egypt, Bangladesh and Lebanon meet over 60% of their imports from these two countries.

Corn and Sunflower

Besides wheat, **Ukraine is the world's eighth largest producer and fourth largest exporter of corn**, accounting for 16% of global exports.

Furthermore, Ukraine produces up to **46% of sunflower-seed and safflower oil**. It is the world's largest exporter of sunflower oil. India has been particularly hit by **shortage in sunflower seed oil**. It imported nearly \$8 billion worth of the oil from Ukraine between 2016 and 2020.

Fertilizers

Russia is also a leading exporter of fertilizer, **an essential commodity for food production**. Russia and its ally Belarus together account for some 38% of potassic fertilizers, 17% of compound fertilizers, and 15% of nitrogenous fertilizers.



Source: *The Times of India*

What are the reasons behind the Global Food Crisis?

Pre-Russia Ukraine Conflict Factors

First, climate change has impacted the production of various food crops especially due to the changes in **the regular rainfall pattern** and **rising temperatures**.

Second, Covid 19 pandemic induced the countries to announce lockdown measures in their regions that disrupted the supply chain and raised the prices of food items.

Post-Russia Ukraine Conflict Factors

First, Ukraine is unable to export because of the **Russian invasion of key port cities**. In the eight months before the war, some 51 million tonnes of grain were exported through Ukraine's Black Sea ports, according to the WFP. But exports have collapsed since the invasion as the Russian war effort is entirely focused on Ukraine's eastern and southern parts along the Black Sea/Sea of Azov coast.

Even in cities which are under control of Ukraine (like Odessa), commercial ships are unable to dock there because of two reasons: **(a)** Ukraine has mined the waters around these ports as a deterrent against potential Russian attacks; **(b)** Russia has enforced a naval blockade in the waters of the Black Sea.

Second, besides the blockade, the **western sanctions on Russia** are also contributing to the crisis. Russia's food and fertilizer sectors were not directly targeted by western sanctions. However, the sanctions on financial sector made payments difficult for Russia, and it has complicated its exports, including food grains. Also, the targeted sanctions on Russian oligarchs have choked finances for the agricultural industry.

What options are available with Ukraine to resume its exports?

The current Global Food Crisis can be dampened to an extent if exports can be resumed on an immediate basis.

One option is to transfer the grains overland to the Baltic states, either through Poland or Belarus, and then ship them out from the Baltic Sea ports. However, according to UN officials, Ukraine has dismissed the proposal to seek help from Belarus. Belarus is a Russian ally that is also facing western sanctions.

Further, moving them overland via Poland is challenging because the rail track gauge in Poland is smaller than that of former Soviet countries such as Ukraine and the Baltic states. This means cargoes will have to be moved to different trains at the Polish-Ukraine border and then again at the Polish-Lithuania border to start exporting them from the Baltic ports.

Second option is to broker a deal with Russia and remove the blockade on Ukrainian ports. This seems a more practical solution.

What lies ahead?

First, the month of June marks the beginning of a harvesting season in Ukraine. This season, Ukraine is expected to produce ~30 million tonnes of corn, wheat and sunflower oil, half of which are meant to be exported. But unless the blockade is lifted and Ukraine starts exports, the country would **not even find enough warehousing capacity to store this year's harvest**. This would make the global food crisis worse.

Second, rising prices for basic food items have **already fueled protests in several countries**, including Argentina, Indonesia and Greece. In Iran, protestors took to the streets after prices for flour-based staples rose as much as 300%. This makes it imperative to curb export restrictions or be prepared for more chaos and discontent that in extreme situations may take the form of **a civil war**.

Third, the only practical solution to take Ukrainian grains to the global markets is to open the Black Sea routes. Further, to ease the pressure on global food items, Russia will also have to step up exports of both grains and fertilizers. For this, it is **imperative to stop with war as early as possible**.

Fourth, the **countries must try to import from alternative suppliers** until a peace agreement is reached between Russia and Western nations. For instance, Egypt recently made a deal with India to help replace some of the 80% of its wheat imports which come from Russia and Ukraine.

Fifth, there is high possibility of rise in ban on exports of key food items by producing/exporting countries to stabilize food prices in their own domestic jurisdiction. For instance, in May, **India's ban on wheat exports** delivered a blow to world markets. Such actions will further exacerbate the global food crisis.

Conclusion

According to the estimates of the World Bank, Global food, fuel and fertilizer prices are projected to be sharply higher this year and will remain elevated till 2024. The current global food crisis would result in widespread hunger and starvation which can become a humanitarian crisis. Therefore in the interest of humanity and world prosperity, the West and Russia must find a diplomatic solution to the ongoing war.

Source: [The Hindu](#), [Times of India](#), [Down to Earth](#)

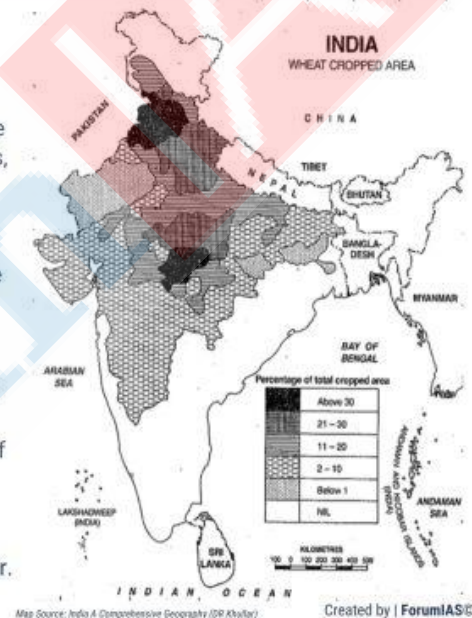
Ban on Wheat Exports – Explained, pointwise

Introduction

The Government of India recently banned the export of wheat and imposed quantitative restrictions on the export of sugar. The ban on wheat export came within days of a push to enhance India's wheat supplies to the rest of the world after Russia's invasion of Ukraine. The decision has come at a time of persistently high inflation, spurred by rising prices of food and fuel. There are concerns about a lower yield this year due to intensive heat waves. The move has attracted mixed responses and there has been a strong demand by experts to reconsider the decision. The agriculture policy of the Government is also under criticism.

Some Facts About Wheat

- Wheat is the **2nd most important staple food** in India, after rice. It is consumed by ~65% of the population. It is the main food crop in the North/North-western India.
- **Types:** (a) **Bread Wheat** - Suitable for 'chapati'; cultivated in ~95% of the cropped area; (b) **Durum wheat:** Suitable for making macaroni, noodles, semolina and pasta products, cultivated in ~5% of the cropped area, predominantly grown in Central and Peninsular India.
- **Climate:** **Rabi crop**, requires a cool growing season and bright sunshine at the time of ripening. It requires 50-75 cm of annual rainfall evenly distributed over the growing season.
- **Wheat Growing Regions:** (a) The Ganga-Satluj plains in the North-west; (b) The black soil region of the Deccan. The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh
- **Global Status:** India is the **second-largest producer of wheat** in the world. China is the top producer and Russia is the third-largest producer. Ukraine is the world's eighth-largest producer of wheat.



About the Ban on Export of Wheat by the Government

The Government banned the export of wheat on May 13, two days after the decision to send delegates to nine countries to explore the option of enhancing exports was taken.

However, there are certain conditions, under which exports have been allowed:

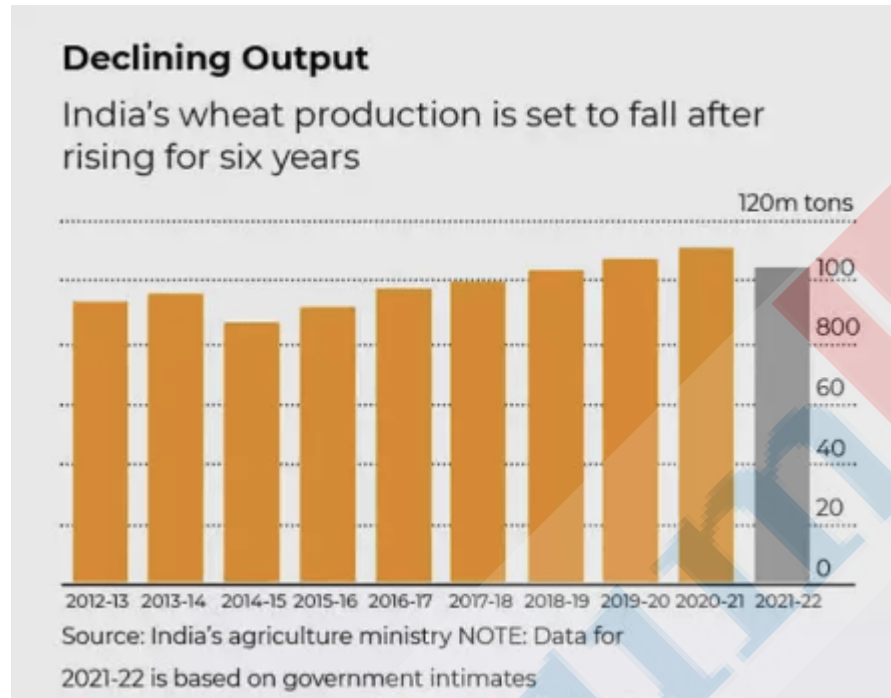
First, where an irrevocable letter of credit has already been issued.

Second, export will be allowed to other countries “based on the request of their governments”. It will be helpful in ensuring supplies to Sri Lanka, Bangladesh, and Nepal.

What are the reasons behind the ban on wheat exports?

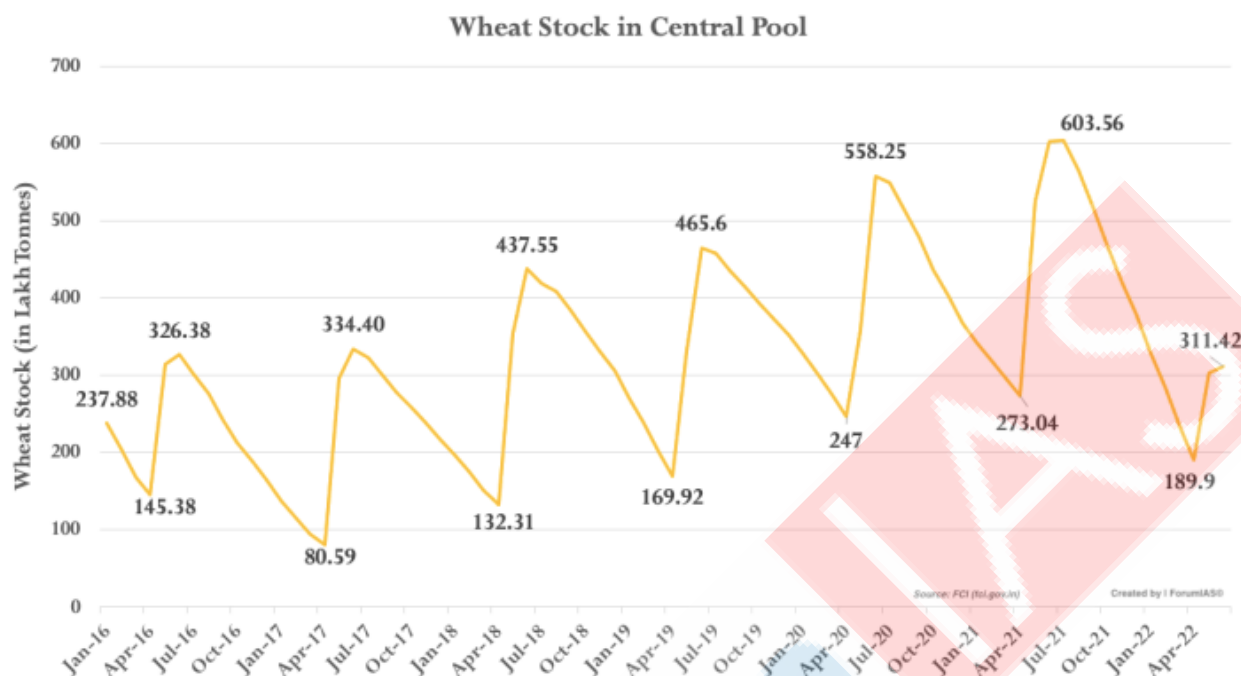
High Inflation: The retail inflation touched 7.8% in April 2022. The food inflation was 8.4% while wheat inflation touched 9.6%. This forced the Government to place a ban on wheat export. The prices of wheat have been rising since November 2021 and gained pace after the Russia-Ukraine war. Further, The Food and Agriculture Organization food index has been at its highest since the series began in 1990. The rise has been driven by inflation in edible oil and cereals.

Domestic Food Security: Heatwaves at the end of March, have impacted the production of food grains, especially in northwest India. The Government has revised the wheat production estimates. The Government had estimated a record production of 111 million tonnes. However, the actual production may be limited to 100 million tonnes. The Government has already lowered the estimate by 6 million tonnes. Hence a restriction has been placed on exports to meet domestic wheat demand.



Source: *The Times of India*

Lower Procurement: Food Corporation of India (FCI), also slashed its procurement target to less than half of the last year's target of 43 million tonnes. This was based on the premise that farmers were selling more to private traders than selling at MSP. Open market prices were higher at INR 2,400 a quintal compared to the MSP [Minimum Support Price] of around INR 2,100.



The above trend shows the cyclicity of wheat stocks with the FCI (Opening stock of each month). The stocks are generally lowest in the month of April, and recover once procurement begins after the harvest in April-May. The opening stocks are highest in the month of June, after the completion of procurement. As evident from the chart, the June stocks are lowest since 2016. In 2017, the stocks had plummeted to 80 lakh tonnes in April, but recovered to 334 lakh tonnes by June 2017. This year, the April stocks stood at 189 lakh tonnes, yet June stocks have recovered only to 311 lakh tonnes (much below last year's level of 603 lakh tonnes), showing considerably lower procurement in the Central Pool by FCI.

What is the criticism of Government's decision?

Policy Uncertainty: In May 2022, the Government had announced the decision to send trade delegations to nine countries (like Morocco, Tunisia, Indonesia and Thailand etc.) to explore opportunities for export of wheat. However, as soon as the inflation data were available, the decision was reversed and the Government announced a ban on wheat export.

Critics argue that this is a knee-jerk reaction, that reflects a **lack of understanding** of the domestic food and agricultural economy. Such sudden turns may also result in loss of faith in public policy.

Loss of Income: Indian wheat traders have lost the opportunity to gain from the global grain shortage. Building export markets and establishing supportive infrastructure, like warehousing, takes time. It will be a loss for farmers as well because the market price of wheat had become higher than MSP. Many farmers were preferring to sell in the market. It led to the highest purchase of wheat by private traders in Punjab in the last 8 years.

Less Availability of Wheat for schemes: There's been a cut-back in the NFSA allocation of wheat in several states, many of them mainly wheat-consuming states. A **reduced government procurement** is witnessed as private traders and speculators mop up supplies from the market. These were mostly bought for exports, but are now trapped by the ban.

High inflation has reduced the real purchasing power of the people, especially in rural areas. At this time, the withdrawal of NFSA and PMGKAY wheat allocations will worsen lives.

Global Response: India is the world's second-largest wheat producer and many countries were expecting India to fill the gap created due to the Ukraine-Russia war. Agriculture ministers from the G7 condemned India's decision to withhold wheat exports amid a global grain shortage. Similarly, at a high-level ministerial meeting in New York on '**Global Food Security: Call to Action**', India was reminded of its global responsibilities, especially in the context of its upcoming role as chair of the G-20.

What can be the approach of Government going ahead?

Agriculture experts and economists suggest:

First, a bonus over the **minimum support price** could be given. This would allow the Government to meet its procurement target on time and also provided better prices to farmers.

Second, under PMGKAY and NFSA allocations, the Government can give the option of cash to beneficiaries. It will give beneficiaries an option to buy more nutritious food, be it pulses, milk, eggs, meat or fish.

Third, the Government can **impose stock limits** to force traders to release their hoards. Further it could also **offload more rice than wheat** into the subsidized public distribution system. This could free up about 10 million tonnes of wheat for Government-to-Government supply deals such as with Egypt, as most of the Indians use both rice and wheat.

Fourth, according to the IPCC report, every 1°C rise in temperature will reduce the yield of wheat by 5 million tonnes. This calls for **massive investments in agri-R&D** to find heat-resistant varieties of wheat and also create models for 'climate-smart' agriculture.

Fifth, there is a need to focus on **diversification of staple crops**. The Government should enhance the procurement of millets which are cheaper and nutritious than wheat. This would reduce dependence on wheat and avoid panic export bans on the crop in future. Thereby **ensuring long term credibility of export policy**.

Conclusion

Ban on wheat exports is a temporary solution that can only provide a short term relief. In long term, focus should be on making wheat production more climate resilient and diversifying the consumption patterns in the country.

Source: [The Hindu](#), [Indian Express](#), [The Times of India](#), [Mint](#).

Water Crisis in India – Explained, pointwise

Introduction

India has 17% of the world's population, but possesses only 4% of the world's freshwater resources. Further, the country is facing a water crisis due to climate change, rising water pollution levels, and other critical factors responsible for depleting water resources.

This created numerous problems for the Indian masses, which are going to rise in the future if water wastage is not stopped. But the good news is that people have woken up to the reality of

this crisis, and there are now several projects aimed at rejuvenating rivers and recharging aquifers.

What is the current status of the water crisis?

In the 75 years since Independence, the **annual per capita availability of water** has declined by 75% – from 6,042 cubic meters in 1947 to 1,486 cubic meters in 2021.

India is facing multidimensional challenges like depletion of groundwater together with pollution of surface water, and also vanishing water bodies – ponds, lakes, tanks, wetlands.

For instance, provisional data from the **country's first census of water bodies** show 2% of water bodies i.e. 18,691 of 9.45 lakh water bodies, have been encroached. The number is likely to be much higher because figures from states like UP, Maharashtra, Karnataka, MP, and Rajasthan are still not in.

According to the most recent Central Ground Water Board data, as many as 256 of 700 districts in India have reported **'critical' or 'over-exploited' groundwater levels**.

No one had seen water tankers in Punjab before, but now they are a common sight. Things have come to such a pass that people are being **forced to buy water, sometimes even unpurified water**.

What are the reasons behind water crisis?

Discharge of Pollutants: There is the discharge of industrial chemicals and sewage into the rivers. It is happening due to a lack of compliance with environmental rules by the industry and a dearth of sewage treatment plants in cities.

Further, improper mining activities also pollute the nearby aquifers and deplete water quality.

Encroachment: There is an encroachment of water bodies to meet the **infrastructure needs of burgeoning populations**. Lakes and small ponds often get destroyed while making townships and industrial complexes.

Climate Change: The rising temperatures have reduced water levels in many rivers. It has further made the monsoon more erratic in nature, which is making rain-fed agriculture a difficult task.

Wastage of Water: Water is being wasted and overused due to the excessive subsidies coupled with a lack of awareness among the masses. This is seen in the states of Punjab and Haryana where a high degree of water usage in agriculture has dramatically pushed down the groundwater levels.

Indiscriminate use of water for irrigation and the absence of conservation efforts have left, over 10% of water bodies in rural areas, redundant.

Cropping patterns: The Green Revolution helped India become self-reliant in food grain production, but it also triggered the water crisis. For instance, farmers in Punjab switched to water-intensive paddy cultivation, and things have gone downhill ever since.

Policy-related issues: The national water policy is very irrigation-centric. Ever since independence, water governance has suffered from **hydro-schizophrenia**. The issue of water (Surface water, groundwater) has been governed by different departments independently, without

any coordination. For example; the Central Water Commission (CWC and Central Ground Water Board (CGWB).

What would be the adverse consequences of water crisis?

Health Problems: Heavy chemicals like fluoride, chloride, and nitrate are found in water, and in some districts, there were even traces of uranium. Kids have developed deformities due to water contamination. The hair of children has started greying prematurely, and many have teeth and skin-related problems.

Economic Loss: Water is a critical component that is used in almost every economic activity, either directly or indirectly. Water scarcity, aggravated by climate change, could cost some regions **up to 6% of their GDP**, according to a World Bank report.

Greater Hardships of women: The household work is mainly managed by women in our country. A shortage of water means they have to stand in long queues of water tankers or travel long distances to get clean water for their families. A rural woman in Rajasthan walks over 2.5 kilometers to reach a water source, according to a report by the National Commission for Women.

Since men in rural India have completely made women responsible for water management, this has led to **polygamy in one drought-prone village in Maharashtra**. This involves having more than one spouse to collect water. The arrangement is termed as **'water wives'**.

Biodiversity Loss: A reduction in the number of lakes or excessive discharge of pollutants in them is causing the loss of pristine flora and fauna. Many plants and animals are now on the verge of extinction due to the rising Biological Oxygen demand of water bodies.

Food Security: Polluted groundwater and erratic monsoon are leading to greater hardships for carrying out agricultural activities. The lower the Agri output, the greater would be the threat to India's food security.

Inter-State Conflicts: Inter-State river conflicts are going on Kaveri, Krishna, Godavari, etc. Rivers. This would get amplified, and new conflicts may emerge in the future.

Must Read: [What India is doing to tackle its water crisis?](#)

What steps have already been taken?

Jal Shakti Abhiyan (JSA): It was started in 2019 as a movement for water conservation, recharge, and rainwater harvesting in 256 water-stressed districts. The JSA now covers all 740 districts in the country. States are implementing it, while the Centre provides the nudge.

Amrit Sarovars: The Centre has decided to build 50,000 water bodies (Amrit Sarovar), with an approximate area of one acre, across the country by August 15 next year to conserve water.

Atal Bhujal Yojana: The programme is expected to lay emphasis on the **recharge of groundwater resources and better exploitation of the groundwater resources**.

The scheme also seeks to strengthen the institutional framework and bring about **behavioral changes** at the community level for sustainable groundwater resource management.

Paani Bachao, Paisa Kamao (Save Water, Earn Money): It is a scheme of the Punjab Government that incentivizes farmers to reduce groundwater and electricity usage. Around 300 enrolled farmers were given cash incentives to save electricity used for irrigation. This has resulted in water savings of between 6 and 25 percent without any adverse effect on the yield.

Ganga Rejuvenation: The World Bank has been supporting the Government of India's efforts to rejuvenate the Ganga River since 2011. Two World Bank projects, worth \$1 billion, are helping set up the institutions needed to manage the river and build the infrastructure to keep it clean.

Jal Shakti ministry: The formation of the Jal Shakti ministry is an important first step in the direction of overcoming hydro-schizophrenia. It will bring the irrigation and drinking water departments, together, within one ministry.

What more should be done?

First, the focus should be on **enumerating, geo-tagging, and making an inventory** of all existing water bodies on priority under the JSA so that encroachment can be prevented.

Second, the states must forward and cooperate based on **Hydrological boundaries** rather than merely on administrative boundaries to tackle the water crisis. This will help in better management of water and reduce inter-state water conflicts.

Third, the masses **need to be sensitized** by taking support of public-spirited individuals like Rajendra Singh (Waterman of India). He built thousands of "Johad" (percolation ponds) for the revival of rivers in the Rajasthan Desert. He won the Stockholm water prize for water, river, and forest conservation.

Fourth, the government should also **renegotiate international treaties** like the Indus Water Treaty 1960 which were made decades ago and don't reflect the changing needs and realities of contemporary times.

Lastly, improving the water governance in India. The CWC and CGWB should be merged, and their capacities greatly expanded to form a brand new National Water Commission (NWC). It will improve the coordination and different sources of water would get the required expertise.

Conclusion

The government needs to augment its efforts toward water conservation and sensitize the masses about the depleting nature of water across the world. Efforts in this regard must be made on a war footing keeping in mind that '**Jal hi Jeevan hai**' i.e Water is Life.

Sources: Times of India ([Articles 1](#), [Articles 2](#)), Down To Earth, World Bank

The Controversy Regarding Environment Performance Index – Explained, pointwise

Introduction

The newly released Environmental Performance Index (EPI) 2022 is in news due to India's dismal rank. The Index has ranked India at the bottom position among 180 countries. The poor rank is indicative of a serious degree of environmental degradation along with a vacuum of credible steps to preserve the environment and ecology. However, some environmental experts have noted some flaws in the methodology of the Index. Even the Ministry of Environment has issued a rebuttal saying the indicators used in the assessment are based on 'unfounded assumptions' and India's rank should have been much higher.

What is the Environmental Performance Index?

The EPI is an international ranking system of countries based on their environmental health. It is a **biennial index**, first started in 2002 as the Environment Sustainability Index by **the World Economic Forum**.

It is prepared by the Yale Center for Environmental Law in collaboration with Policy and Columbia University Center for International Earth Information Network.

EPI 2022 uses **40 performance indicators** to assess and rank 180 countries. The indicators “measure how close countries are in meeting internationally established sustainability targets for specific environmental issues”.

The 40 indicators are under the broad categories of climate change performance, environmental health, and ecosystem vitality. The 2022 EPI has included **new parameters to its earlier assessments**, with projections of progress towards net-zero emissions in 2050, as well as new air quality indicators, and sustainable pesticide use.

performers. In fact, India has been ranked the lowest. **Denmark tops the list with a score of 77.9.**

India ranks close to the bottom on a number of indicators including ecosystem vitality (178th), biodiversity (179th), biodiversity habitat index (170th), species protection index (175th).

Apart from this, there is a dismal performance with respect to wetland loss, air quality (179th), PM 2.5 (174th), heavy metals such as lead in water (174th), waste management (151st) etc.

It suggests that China, India, the U.S., and Russia **will account for over 50 percent** of residual global greenhouse gas emissions in 2050. Greenhouse gasses (GHG) include carbon dioxide, methane, fluorinated gasses, and nitrous oxide.

INDIA: KEY INDICATORS

Country	Rank	Score	10-yr change
Ecosystem vitality	178	19.30	-2.10
Biodiversity	179	5.80	-0.50
Species protection	175	0.30	NA
Tree cover loss	75	17.20	-7.80
Wetland loss	60	62.00	-38.00
Pesticide management	47	45.30	NA
Health	178	12.50	2.90
Air Quality	179	7.80	NA
PM2.5	174	NA	-5.10
Household solid fuels	129	18.60	7.10
Sanitation & drinking water	139	19.50	9.6
Lead	174	20.6	4.3
Waste management	151	12.90	0.60
Climate policy	165	21.70	-0.90
Carbon dioxide growth rate	136	17.60	-5.70
Black carbon growth rate	1	100.0	44.7
Projected GHG emissions, 2050	171	0.00	NA
GHG per capita	53	66.80	-6.20

Source: Indian Express

What reasons have been attributed to India's poor rank?

The Environmental Performance Index report noted that most countries that scored low have prioritized economic growth over sustainability.

Air pollution: India is **home to 21 of the 30 most polluted cities in the world** and has an air quality rated one of the poorest in the world. Over 16 lakh people in India die from air pollution every year, according to the report. It also identifies household fuel combustion as the largest contributor to the country's particulate matter emissions.

Seven indicators are used to determine the air quality in the listed countries. These include PM 2.5 exposure, household solid fuels, ozone exposure, nitrogen oxides exposure, sulphur dioxide exposure, carbon monoxide exposure, and volatile organic compound exposure.

Plastic waste generation: India and Indonesia have been identified as the top two generators of marine plastic waste in the world, while China has managed to decrease its ocean plastic pollution. Ocean plastic pollution is measured as an absolute quantity of the amount of plastic released by a country into the ocean annually. Indonesia, India, the U.S, Brazil and Thailand are the top five producers of ocean plastic pollution and are responsible for 43% of the global total.

Protection of biomes: In an analysis of countries protecting the world's biomes, India emerged at the bottom in five out of 14 sub-categories – the most for a single nation.

What objections have been raised by India regarding the Environmental Performance Index, 2022?

As per the Environment Ministry, some of the indicators used for assessing performance are extrapolated and based on unscientific methods.

Shifting of weightage on many indicators has resulted in India's low ranking. For example, for black carbon growth, India's score actually improved from 32 in 2020 to 100 (the top score) in 2022. However, the weightage of this indicator has been reduced to 0.0038 in 2022 from 0.018 in 2020. Climate Change has been given very high weightage (38% or 0.38) and tends to neglect the development needs of poorer countries.

Similarly, the low weightage given to **per-capita GHG emissions** automatically reduces the ranks of countries like India and China.

Projection for GHG emissions has been **computed based on the average rate of change in emission of the last 10 years**. It is not based on modeling that takes into account a longer period, extent of renewable energy capacity and use, additional carbon sinks etc.

Crucial carbon sinks that mitigate GHG, such as forests and wetlands, have not been taken into account.

Further, India's low emissions trajectory, unlike high historical trajectories of developed countries, has been ignored. The US and the EU should have the highest burden considering their historic emissions.

The EPI assumes every country is in the same position economically, developmentally and environmentally, therefore all had to achieve net zero emissions by 2050.

Other Objections: The index emphasizes **the extent of protected areas rather than the quality of protection** that they afford. The computation of biodiversity indices does not factor in management effectiveness evaluation of protected areas.

Indicators such as **agro biodiversity, soil health, food loss and waste** are not included even though they are important for developing countries with large agrarian populations.

Dr Navroz Dubash, one of the authors of the latest report of the International Report on Climate Change (IPCC), has criticized the Index, “*The EPI 2022 is neither ethically correct nor reflects the political reality.*”

What can be done going ahead?

First, the **parameters of the report should be modified** in order to enhance its credibility. The accurate method would be to calculate GHG emissions per capita. Further, a model should be created with coefficients taking into account the effect of policies to reduce emissions. This will help in better projection of the values for future years.

Such policies include increased use of renewable energy and electric vehicles or the creation of a carbon sink.

Second, India must make sure that its **current environment policies and commitments** are duly honored. For instance, India has announced a ban on single-use plastic, scheduled to be in effect from July 1. This should be properly implemented.

Third, India must strengthen **environmental litigation** framework by establishing more benches of National Green Tribunals across the country. This will promote environmental consciousness and encourage people to file complaints against the violators.

Fourth, **masses should be sensitized towards climate change** by taking support of NGOs like GreenPeace India. This would also help in creation of **Climate Change based Political Parties**.

Fifth, Developed countries **must accept historical responsibility and provide financial resources** to the developing countries based on equity and justice principle. This is imperative for preserving the environment across the globe rather than myopically seeing one's own domestic jurisdiction.

Conclusion

Despite the inconsistencies in the Environmental Performance Index, the Government should not ignore the fact that India was at 168th rank in 2020 and has never been in the top 150 countries since the index was started. This shows that there are severe environmental issues in India (especially air pollution) that need to be addressed urgently for attaining sustainable development.

Source: [Indian Express](#), [Indian Express](#), [Indian Express](#), [The Hindu](#)

[Yojana June Summary] Deep-Tech Start-up Ecosystem – Explained, pointwise

Introduction

India has a vibrant start-up ecosystem with supporting infrastructure (incubators, development grants, angel venture investors, mentors) and a conducive policy environment. The Economic

Survey of India 2021-22 says that there are 61,400 registered startups in India, making it the 3-largest start-up ecosystem in the world behind China and the US. However, India lacks deep-tech start-ups as they constitute less than 1% of the number of start-ups. This is far below what a fast-growing, complex, and large economy like India should have.

What is the current status regarding Start-ups in India?

Around 14,000 new start-ups were registered in India during Calendar Year (CY) 2021. Over the past decade, Indian start-ups have created 6.6 lakh direct jobs and 34 lakh indirect jobs.

Indian start-ups raised US\$ 24 billion in CY21, compared to US\$ 10 billion in CY20. There has been a significant localisation and diversification in the investor pool for startups in India over the past decade. There were more than 750 institutional investors in India in CY21, 80% more than in CY20. The number of angel investors grew in CY21 by 20% to about 2,400. More than half the investment deals in CY21 had an India-based investor.

Over 250 corporates have engaged with Indian start-ups in some way, including by running 80+ open innovation programmes for startups in CY21.

Read More: [Indian Tech Start-up Ecosystem: Start-ups raised a record \\$24.1 billion in 2021: Study](#)

What is a deep-tech start-up?

The phrase 'deep-tech start-up' does not have a precise definition, but there is a broad consensus on what constitutes deep-tech. Deep-tech startups arise from research-based, disruptive innovations from STEM labs of academic, research institutions and solve hard problems and challenges. Some examples are: **(a)** Recycling sewage to get clean water at an affordable cost; **(b)** A low-cost solution at scale for curing blindness; **(c)** Affordable solutions for treating diseases such as diabetes, dementia, cancer, etc.; **(d)** Creating an alternative to Lithium-ion batteries; **(e)** Low-cost satellite launching systems.

According to NASSCOM, Active tech start-ups that create, deploy or use advanced technology in their product or service are considered as deep-tech start-ups. Such start-ups work in the domains of (not limited to) Artificial Intelligence/Machine Learning, Internet of Things (IoT), Blockchain, Big-data, Augmented/Virtual Reality (AR/VR), Robotics etc.

The payoffs of successful deep-tech startups are tremendous as seen in the case of Microsoft, Google, Apple, Intel, Tesla, Moderna, SpaceX, etc. They are large corporations today, but they started as mere technology bets not very long ago.

What is the need to have deep-tech start-ups in India?

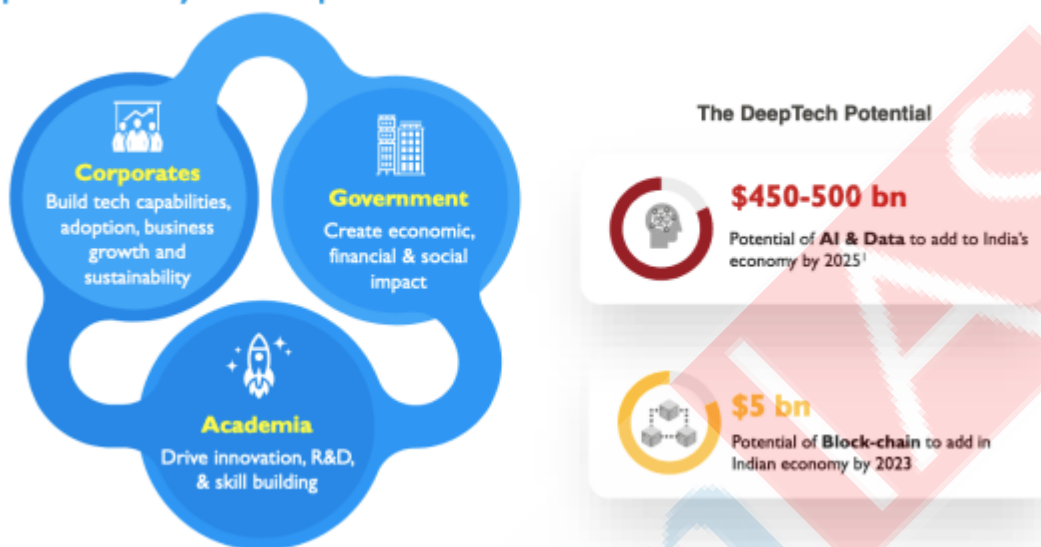
First, the absence of deep-tech start-ups harms India considerably by weakening her capability to meaningfully **address complex socio-economic challenges** that afflict the society in multiple sectors. This includes agriculture, healthcare, transportation, education, energy, etc. India's development challenges are so unique that innovators from developed countries, not familiar with local context or cost structures, will not be able to provide solutions.

Second, the solutions that address the **UN's Sustainable Development Goals** would necessarily have to be radically new and disrupt existing industries and business processes. Thus, requiring deep-tech start-ups.

Third, in India's population of 130 crores, only the top 25% (affluent and middle-class) benefit from the fruits of technological progress. In contrast, the remaining **100 crore people do not**

get enough or are substantially bypassed. This is because most of the hi-tech goods and services are designed in the developed world for rich people and can't be bought by the poor.

DeepTech: Why Is It Important?



Source: NASSCOM

What are the challenges faced by Deep-Tech Start-ups?

First, they need a **longer gestation** for development than other start-ups. The latter might need from 1-3 years to reach revenue, while deep-tech start-ups need 5-8 years.

Second, they require **more capital, specialized talent, and expert knowledge** in more than one domain to develop and validate a science-based innovation.

Third, the **risk of failure is high at every stage** for a deep-tech start-up, usually higher than in the case of other types of startups. It is because the start-up has to work backwards and find a real-life problem that is worth solving using its technology. After this, it has to validate the adequacy and nature of the market demand for the innovation.

Fourth, there are several **venture funds** in India, but most pursue relatively **'lower risk' investment opportunities**. They are mainly interested in start-ups that exploit India's **growing consumption economy** or those making cloned products.

Fifth, academic researchers in India **lag in their potential to convert research into deep-tech start-ups**. They lag because: **(a)** They aspire to convert their inventions into enterprises but **do not have the mental make-up (the entrepreneur's mindset)**. They lack the knowledge of how to organize what they have and collaborate with others to get what they do not have/know; **(b)** With their **limited budgets**, incubators face a tough challenge to nurture start-ups to scale their revenues and attract investments; **(c)** There is **inadequate appreciation** amongst policymakers and university administrators for the need to build capacity on what entrepreneurship entails and what commercialisation of research means.

What steps have been taken by the Government to support start-ups?

The Central and State governments in India have actively supported the startup sector over the past decade.

Start-up India platform: It started in 2016 and has been instrumental in encouraging startups and integrating them with the corporate and investment community.

State Specific Policies: Over 26 States in India have a startup policy. Recently, Delhi Cabinet has passed an ambitious Delhi Startup Policy which it hopes would turn the capital into an international startup hub.

What more can be done going ahead?

First, India should introduce Customer Discovery and Customer Development programmes to develop deep-tech start-ups from academic/ research institutions in India.

In 2013, the US Government through the National Science Foundation' introduced the I-Corps programme' to commercialize academic research in US universities. The I-Corps program uses experiential education to help researchers gain valuable insight into entrepreneurship, starting a business or industry requirements and challenges. Similarly, The Gopalakrishnan-Deshpande Centre for Innovation & Entrepreneurship (GDC) at IIT Madras has successfully run its I-NCUBATE programme which is inspired from the I-Corps program.

Second, the Government should inculcate a **culture of entrepreneurship in students** by adding the subject in the school curriculum of schools. For instance, the Delhi Government introduced entrepreneurship classes and a Business Blasters Program for students.

Third, the Government should also provide **monetary and non monetary incentives** to start-ups. Monetary includes reimbursement on lease rentals, reimbursement grants for filing patents, reimbursement for exhibition stall/rental cost etc. Non-monetary includes facilitating participation of companies for subsidized subscriptions of technology offerings, organizing fundraising events, relaxing government procurements process for start-ups etc.

Conclusion

Data would be the driving force of the 21st century world which shows the immense relevance of establishing deep-tech start-ups. Keeping this in mind, India should work relentlessly to become *Atmanirbhar* in commercializing domestic science and technology for solving our complex problems.

Source: Yojana June 2022, [Mint](#), [NASSCOM](#)