



Conquer Mains Challenge - Day 11

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GS 3

Topic: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

Blockchain technology:

Why in News?

Kerala Police is looking to usher in a dream project that could ensure data authentication and transparency. Named as '**Police 2020**', sounding the radical change the organisation envisions, **the project proposes introduction of blockchain technology which will help information from various stakeholders to be collected and secured, but in a decentralised manner.**

What are Blockchains?

A blockchain is a decentralized, distributed and public digital ledger that is used to record transactions across many computers so that the record cannot be altered without the alteration of all subsequent blocks and the consensus of the network.

The technology **supports cryptocurrencies** such as Bitcoin, and the transfer of any data or digital asset.

How it works?

A block is the "current" part of a blockchain which records some or all of the recent

transactions, and once completed, goes into the blockchain as permanent database. Each time a block gets completed, a new block is generated. Blocks are linked to each other (like a chain) in proper linear, chronological order with every block containing a hash of the previous block.

Features of the technology:

- Spearheaded by Bitcoin, blockchains achieve consensus among distributed nodes, allowing the *transfer of digital goods without the need for centralized authorisation of transactions*.
- The technology *allows transactions to be simultaneously anonymous and secure, peer-to-peer, instant and frictionless*.
- It operates by *distributing trust from powerful intermediaries* to a large global network, which through mass collaboration, clever code and cryptography, enables a tamper-proof public ledger of every transaction that's ever happened on the network.

Benefits of blockchain technology:

- As a public ledger system, blockchain *records and validate each and every transaction made*, which makes it secure and reliable.
- All the transactions made are authorized by miners, which makes the *transactions immutable and prevent it from the threat of hacking*.
- Blockchain technology discards the *need of any third-party or central authority* for peer-to-peer transactions.
- It *allows decentralization of the technology*.

Issues associated with the technology:

1. Complexity

It has made cryptography more mainstream, but the highly specialized industry is very difficult to understand

2. Network size

This requires a large network of users, however. If a blockchain is not a robust network with a widely distributed grid of nodes, it becomes more difficult to reap the full benefit.

3. Transaction costs, network speed

Bitcoin currently has notable transaction costs after being touted as 'near free' for the

first few years of its existence.

4. *Human error*

If a blockchain is used as a database, the information going into the database needs to be of high quality. The data stored on a blockchain is not inherently trustworthy, so events need to be recorded accurately in the first place.

5. *Unavoidable security flaw*

There is one notable security flaw in bitcoin and other blockchains: if more than half of the computers working as nodes to service the network tell a lie, the lie will become the truth. This is called a '51% attack' and was highlighted by Satoshi Nakamoto when he launched bitcoin.

How blockchain can be used in public administration?

- Blockchain has *the potential to optimize the delivery of public services*, further India's fight against corruption, and create considerable value for its citizens.
- **Database:** By maintaining an immutable and chronologically ordered record of all actions and files ("blocks") linked together ("chain") in a distributed and decentralized database, Blockchain creates an efficient and cost-effective database that is virtually tamper-proof. By doing so, blockchain promises to create more transparent, accountable, and efficient governments.
- **Increases accountability and transparency:** A public blockchain, like the one Bitcoin uses, records all information and transactions on the decentralized database permanently, publicly, and most importantly, securely. By allowing governments to track the movement of government funds, blockchain can hold state and local actors accountable for any misappropriations.
- **A digital economy:** With Aadhaar cards becoming nearly ubiquitous in India, adopting blockchain could be the next logical step in India's pursuit of becoming a digital economy. Blockchain can play an important role in storing individuals' data, helping conduct secure transactions, maintaining a permanent and private identity record, and turning India into a digital society.

Use of blockchain in voting:

- Even though blockchain was conceived for financial transactions, its characteristics make it an apt solution that can support voting systems.
- In blockchain voting, each transaction is similar to a vote and through the use of multiple blockchains along with public key encryption, the voting process is secured while protecting the anonymity of voters.

- The votes can then be randomized more than three times in the digital ballot box so that voters' identities are not revealed.
- After the polls are closed, a separate blockchain application is created for the counting of votes in the digital ballot box.
- That blockchain should match the public bulletin board's blockchain, proving that the online voting system has operated correctly.

Advantages of blockchain voting:

- Blockchains are transparent and designed to have a decentralized authority which ensures that control is not in one hand and the process is visible to the public always.
- Further, the audit trail of the transactions combined with public key encryption solves the issue of auditability.

Way ahead:

- It is not a panacea, however. It enhances the delivery of government services, but cannot replace an inefficient system.
- It can deter corruption by making governments more accountable and transparent, but cannot prevent the entering of false information into the network.
- In conclusion, ***it presents the government with a powerful opportunity.*** By embracing blockchain, it can create a bureaucracy that focuses on innovation and experimentation, a government that seeks to maximize efficiency and governance, and an economy sustained on the promise of technology. The technology is not only promising, but has even begun to be utilized by governments globally.

How the technology like blockchain can prevent frauds like PNB?

- The adoption of blockchain by India's banks could help avert frauds such as the one at Punjab National Bank.
- The disaggregated and transparent nature of the technology, which updates information across all users simultaneously, would have ensured that various officials would have instantly been alerted to the creation of the letters of undertaking (LoUs).
- Transaction reconciliation systems at present do not result in immediate notification. Using blockchain, all parties on the chain will be immediately notified about a transaction.

Flow of Thoughts:

- What are blockchains?
- How are they used and how they operate?
- Potential applications and challenges posed.
- How can they be used in public administration?
- Uses in voting.

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Minimum support prices.

MINIMUM SUPPORT PRICE:

Why in News?

India is faced with a complicated situation as on one hand there is record production of cereals and on the other hand there have been trends of stagnant high inflation even when FCI go-downs are overstocked.

*Many blame India's **minimum selling price** policy for this situation. It has two unintended negative impacts; one is growth in agriculture is not dictated by demand of economy, other is persistent inflation.*

What is MSP?

- Minimum Support Price (MSP) is a **form of market intervention** by the Government of India **to insure agricultural producers against any sharp fall in farm prices.**
- The minimum support prices are **announced by the Government of India at the beginning of the sowing season for certain crops on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP).**

Significance of MSP:

- MSP is price fixed by Government of India **to protect the producer - farmers - against excessive fall in price during bumper production years.**
- The minimum support prices are a **guarantee price for their produce** from the Government.
- The major objectives are to support the farmers from distress sales and to procure food grains for public distribution.
- In case the market price for the commodity falls below the announced minimum price due to bumper production and glut in the market, government agencies purchase the entire quantity offered by the farmers at the announced minimum price.

Background- evolution of MSP:

- MSP initially was started as a **safety net for farmers** through a guarantee that if their produce is left unsold in the market will be bought by the government. Another purpose was to incentivize farmer to produce more crops so as to ensure food security in India.
- This policy took off in 1960's and at that time Procurement prices were announced at beginning of sowing season, along with MSP.
- **Procurement price** was one under which government will buy the crop which it needs to maintain buffer stock or for PDS. Once quantity required has been purchased, farmers could only sell at MSP, which were kept lower than Procurement Prices. Procurement prices were always kept lower than Market Prices.
- In 1990's government started announcing only MSP which was also procurement price. This was so because by this time MSP was a big political plank and majority of farmer community was comfortable with Rice and Wheat due to their comparative high yields.
- If MSP was greater or equal to procurement prices or market prices, there is obviously no need of procurement prices. Since then MSPs has seen constant upswings.

Ideal situation for the announcement of MSP:

- An ideal environment for this is one in which market prices are higher than support prices. When new crop comes to the market it will be sold at market prices and a situation was possible where on fulfillment of needs of consumers and industry, surplus is left with farmers.
- This will happen when production is more than demand. Such situation will result

in crash of prices of agriculture products. It is this time when government should ideally intervene and purchase unsold stocks.

Determination of MSP:

In formulating the recommendations in respect of the level of minimum support prices and other non-price measures, CACP takes into account, apart from a comprehensive view of the entire structure of the economy of a particular commodity or group of commodities, the following factors:

- Cost of production.
- Changes in input prices.
- Input-output price parity.
- Trends in market prices and supply.
- Inter-crop price parity.

- Effect on industrial cost structure.
- Effect on cost of living.
- Effect on general price level.
- International price situation.
- Parity between prices paid and prices received by the farmers.
- Effect on issue prices and implications for subsidy.

The Commission makes use of both micro-level data and aggregates at the level of district, state and the country. The information/data used by the Commission, inter-alia include the following:

- Cost of cultivation per hectare and structure of costs in various regions of the country and changes there in;
- Cost of production per quintal in various regions of the country and changes therein;
- Prices of various inputs and changes therein;
- Market prices of products and changes therein;
- Prices of commodities sold by the farmers and of those purchased by them and changes therein;
- Supply related information - area, yield and production, imports, exports and domestic availability and stocks with the Government/public agencies or industry;
- Demand related information - total and per capita consumption, trends and capacity of the processing industry;
- Prices in the international market and changes therein, demand and supply situation in the world market;
- Prices of the derivatives of the farm products such as sugar, jaggery, jute goods, edible/non-edible oils and cotton yarn and changes therein;

- Cost of processing of agricultural products and changes therein;
- Cost of marketing - storage, transportation, processing, marketing services, taxes/fees and margins retained by market functionaries; and
- Macro-economic variables such as general level of prices, consumer price indices and those reflecting monetary and fiscal factors.

Add- ONs for Mains:

Government has announced its historic decision to fix MSP at a level of at least 150% of the cost of production for kharif crops 2018-19.

Crops covered under MSP:

Government announces minimum support prices (MSPs) for **25 mandated crops and fair and remunerative price (FRP) for sugarcane**. The mandated crops are 14 crops of the kharif season, 6 rabi crops and two other commercial crops. In addition, the MSPs of toria and de-husked coconut are fixed on the basis of the MSPs of rapeseed/mustard and copra, respectively. The list of crops are as follows:

- Cereals (7) - paddy, wheat, barley, jowar, bajra, maize and ragi.
- Pulses (5) - gram, arhar/tur, moong, urad and lentil.
- Oilseeds (8) - groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesamum, safflower seed and nigerseed.
- Raw cotton.
- Raw jute.
- Copra.
- De-husked coconut.
- Sugarcane (Fair and remunerative price).
- Virginia flu cured (VFC) tobacco.

Pricing policy for sugarcane:

- The pricing of sugarcane is governed by the statutory provisions of the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955.
- Prior to 2009-10 sugar season, the Central Government was fixing the Statutory Minimum Price (SMP) of sugarcane and farmers were entitled to share profits of a sugar mill on 50:50 basis.
- As this sharing of profits remained virtually unimplemented, the Sugarcane (Control) Order, 1966 was amended in October, 2009 and the concept of SMP was replaced by the **Fair and Remunerative Price (FRP)** of sugarcane.
- A new clause '**reasonable margins for growers of sugarcane on account of risk and profits**' was inserted as an additional factor for working out FRP and

this was made effective from the 2009-10 sugar season.

States also announce a price called the State Advisory Price (SAP), which is usually higher than the SMP.

The Current situation of MSP:

The most important goal of any long-term agriculture development policy in India should be to promote agriculture growth along with regional equity and natural resource sustainability. The regional equity and resource sustainability is a precondition for achieving nutritional security and balanced production. However, the system of the MSP has failed to achieve this objective of sustainability.

MSP regime is often criticized on ground of:

Distorted Production:

Recent trends by NSSO indicates shift in pattern of food consumption from cereals to protein rich foods, but no such remarkable shift is seen in sowing or production patterns. For e.g. India is largest producer and consumer of pulses in the world, but still 25 % of the pulses consumed are imported.

Huge Stocks:

This resulted in 'Open ended procurement' which means government can't decide quantity it wants to buy. How much ever grains are offered by farmers to gov. has to purchase. So now government has huge stocks which are almost double the requirements for Buffer stock, PDS and Other government schemes such as Midday Meal Scheme.

Out of control Inflation:

As we have seen initially MSP and procurement prices were kept lower in relation to Market Prices. So lower the market prices, even lower were MSP and procurement prices. Situation now is that Market prices are dictated by MSP which remains most of the time higher. This brings market prices atleast on par with MSP. Data suggests an obvious directly proportional link between hike in MSPs and Food Inflation.

Only 1/3rd of the total cereal production is left for open market after government procurement and captive consumption by the farmers. This creates shortage in open market and abundance in government godowns.

Also, inflation in crops not covered under MSP is because of other reasons. As we have seen there is shift in consumption pattern toward non cereal foods, but no corresponding growth in production. As a result there is demand supply mismatch. So growth in non-cereal production is compromised in favour of crops that fetch higher yields, which is out of sync with market demand.

Backwardness in Agriculture:

Any industry grows when it adapts to a competitive environment. If farmers get market signals from the market about upcoming trends of demands of consumers, total supply in economy, new technologies, export opportunities or import vulnerabilities, they will find out more profitable crops, technologies and will keenly adapt. Present system creates glut in market of particular crops. It leads to intensive farming year after year, which degrades soil. Farmers rely on political pressure to remedy their problems, instead of adapting to market. This all keeps private investment away for the sector.

In order to make MSP relevant and efficient, the government has to revamp the policy:

MSP is announced for 25 commodities after which starts the operational part of procurement of the commodities. ***The procurements are made at the MSP price and government has to ensure that farmers do not get the price below MSP.*** However, it has been found that there exists no mechanism on the ground that ensures that farmers are paid the MSP. It has been noticed that many times farmers are forced to make distress sale at a price below the MSP.

To make MSPs relevant to the country's present situation requires ***changes in the criterion used by the CACP to arrive at MSPs and ensuring that MSPs are effectively implemented*** where they are meant to be implemented.

The CACP must ***consider both Demand and Supply factors*** while deciding the MSP. For instance, CACP main criteria in deciding the MSP is to take into account cost of production. The CACP completely ignores the demand side factors. When the demand for commodities are falling, and if at that time MSP is kept high, then it will lead to excess supplies and increase in government buffers stock which will be kept idle and will get wasted. In all such situation, it is important that MSP should be derived based on demand and supply factors.

An Alternative to MSP: Price Deficiency Payment System:

The alternative is to go for 'deficiency price payment' without requiring the government to purchase undesirable quantities and undesirable commodities.

Deficiency price payment must be part of the difference between the actual price received by farmers and the MSP. In order to ensure that resale of produce does not take place the size of deficiency payment should be kept less than the charges involved in the first sale of produce like mandi fee, auction, labour charges, etc.

Flow of thoughts:

- What is MSP?
- How is it determined?
- Issues associated.
- Reforms needed.
- Alternatives available.

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Topic: Challenges to internal security.

Naxalism in India:

What is Naxalism?

The Naxalite movement first came to the forefront in the late 1960s, when Naxalbari became famous for the left-wing revolt that took place in West Bengal. Since then, it is perceived as the greatest threat to law and order within India. Naxal, Naxalite and Naksalvadi are **generic terms used to refer to various militant Communist groups** operating in different parts of India under different organizational envelopes.

In the eastern states of the mainland India (Chhattisgarh, Jharkhand, West Bengal and Odisha), they are usually known as, or refer to themselves as **Maoists** while in southern states like Andhra Pradesh they are known under other titles. They have been declared as **a terrorist organization under the Unlawful Activities (Prevention) Act of India (1967)**.

Causes for the growth of Naxalism:

1. The **lack of human development** causes anger and resentments amongst the people. They feel alienated and excluded. In addition, often local elites are engaged in exploiting, harassing and even torturing the tribal population.
2. **Support from locals:** The Naxalites receive most support from Dalits and Adivasis. Together they amount for one fourth of India's population; most of them live in rural India. Their causes for supporting the violent movement are manifold.
3. **Youth of the region** join and aid naxal movement due to these reasons
 - New forest policies with restriction for their livelihoods.
 - Cultural humiliation.
 - Weak access to health care.
 - Lack of education and access to basic human rights.
 - Restricted and limited access to natural resources.
 - Multifaceted forms of exploitation.
 - Social atrocities.
 - Displacement and deficient rehabilitation programs.
 - Political marginalization and suppression of protests.

Among these groups persists low degree of employment and qualification.

4. **The failure of the government to reach out to these areas** is another major factor that aids the growth of Naxalism in these areas. The governance is poor or worse, in certain places it is nonexistent. Popular schemes take long to devise but longer to implement. Even while implementing, the benefit did not reach those who are in need.

Challenges in dealing with Naxalites:

1. Expansion in adjoining areas due to hard combat:

Hard combat against the Naxals pushes them out temporarily but they use other states to regroup and rearm. This can be associated with the Andhra Pradesh model, where the intensive use of Greyhounds had led to a lot of spillover to other states.

2. Expansion due to increasing association with Anti-state forces:

New territory in new states may result in a corridor for Naxals to collaborate with other insurgent groups who are essentially ideologically different but are anti-state. There has been increasing collaboration between the naxals and the pro-Azadi leaders in J&K and ULFA training the naxal cadres.

3. Expansion of Naxal activities due to international collaboration:

The likely collaboration with international maoist movements, may give it a much more dangerous dimension, to tackle which India seems to be unprepared. There is also an increasing threat of rising terror outfits support to the naxal operations in India.

4. Administrative hurdles in dealing with LWE:

- Poor infrastructure, lack of communication and shortage of manpower.
- A virtual parallel government run by Maoists in Dandakaranya region.
- Poor coordination among various state police forces.
- Lack of proper understanding between the central and state forces.

5. Intellectual support to naxalism:

Top intellectuals like Arundhati Roy and Binayak Sen regularly support naxalism, advocating an egalitarian society, human rights and tribal rights. But use of violent means cannot be supported to achieve a noble cause in a democratic setup. Rather than a blind support, the intellectuals should also encourage Naxals to eschew violence, fight elections, join mainstream society and learn the art of give and take of democratic bargaining without aggression.

Why there is a Need for reforms?

Policy Reforms

- The astronomical economic segregation between rural and urban areas, social inequity, and weakness of administration mechanisms were the primary reasons of the rise and spread of Naxalism.
- Although the government attempted to tackle rural poverty by enacting sweeping land reform and tenant reform policies immediately after independence, poor implementation of laws and numerous loopholes made such reforms unsuccessful.
- Similarly, continued access to forest produce became a bone of contention between the government and tribal people.
- The latter have used the forest for their sustenance for centuries and sudden restriction to its access due to mining and developmental projects led to discontent.
- Naxal rebels have used this discontent as a recruiting tool; thus comprehensive rural reforms would be a positive step toward addressing the socioeconomic issues behind Naxalism.

- Comprehensive rural reform for India would include land access and use reform such as proper implementation of Schedule 5 and 9, a special rural land legal system to resolve land conflicts between government officials and tribals, and improving laws for equitable access to forest produce.

Internal Security Reforms

Successive governments have not cared to codify the country's internal security doctrine. There is no long-term policy, nor is there any strategic vision to development of affected regions and objective of tackle the Maoist insurgency.

- ***The absence of an institutional response*** with whatever mechanisms are or were in place. The National Security Advisory Board (NSAB) was liquidated.
- ***The police continues to be in a shambles***. The Supreme Court gave historic directions in 2006 for police reforms, but the states have been dragging their feet and now the apex court is also taking it slow. The prime minister's concept of a SMART police could never take off because of the indifference of the states.
- ***A new formula of SAMADHAN*** has been evolved to tackle the Naxalites problem with S standing for smart leadership, A for aggressive strategy, M for motivation and training, A for actionable intelligence, D for dashboard-based key performance indicators and key result areas, H for harnessing technology, A for action plan for each theatre and N for no access to financing. However, it is unlikely that this approach would lead to a resolution of the problem. The Naxal problem is much too complex and requires a very comprehensive strategy which cannot be capsuled in an acronym.

The Government's strategy to address Left Wing Extremism (LWE):

1. In order to holistically address the LWE problem in an effective manner, Government has formulated National Policy and Action Plan adopting multi pronged strategy in the areas of security, development, ensuring rights & entitlement of local communities etc.
2. Special Central Assistance (SCA) for 35 most LWE affected districts: This Scheme has been approved by the Government to fill the critical gaps in Public Infrastructure and Services, which are of emergent nature
3. Civic Action Programme (CAP): This Scheme has been approved by the Government to bridge the gaps between Security Forces and local people through personal interaction and bring the human face of SFs before the local population. The Scheme has been very successful in achieving its goal. Under the Scheme, funds are released to the CAPFs, deployed in LWE affected areas, for conducting

various civic activities in welfare of the local people.

4. Ban on CPI Maoist, along with all its formations and front organizations under the Unlawful Activities (Prevention) Act, 1967.
5. Assistance to LWE States: 'Police' and 'Public order' being State subjects, action with respect to maintenance of law and order lies primarily in the domain of the concerned State Governments. However, the Central Government closely monitors the situation and coordinates and supplements their efforts in several ways to deal with the LWE problem. These include:
 - Providing Central Armed Police Forces (CAPFs) and Commando Battalions for Resolute Action (CoBRA),
 - Setting up of Counter Insurgency and Anti Terrorism (CIAT) schools;
 - Modernization of the State Police and their Intelligence apparatus etc.
6. Action Plan: The Government has formulated National Policy and Action Plan adopting four pronged strategy in the areas of security, development, ensuring rights & entitlement of local communities and management of public perception.
7. Strengthening the intelligence mechanism: This includes intelligence sharing through Multi-Agency Centre (MAC) at the central level and State Multi Agency Centre (SMAC) at the subsidiary level on 24×7 basis.
8. Better inter-state coordination by way of frequent meetings and interaction between the bordering districts of LWE affected states.
9. Media plan: The media has proved to be a potent instrument in creating awareness among the target population about the socio-economic developmental schemes of the Government and their rights & entitlements. The media has also helped to highlight LWE activities to make people aware as to how LWE violence is preventing implementation of the welfare and development schemes, policies and initiatives of the Government.

10. A Surrender and Rehabilitation Policy for LWE cadre surrendered youths.

11. Roshani Scheme (Ministry of Rural Development): It is a placement linked skill development scheme for rural and tribal population, in worst affected districts. It emphasizes on special efforts to proactively cover the particularly vulnerable tribal groups (PVTGs) on a priority basis.

Way ahead:

The complexity of the causes of the Naxalite problem as well as its implications both for internal and external security reflect a solution that is multi-dimensional and calls for a synergy between the central governments and the states. In order to comprehensively dissolve the Naxalite threat, the government has to address its root causes. Socio-economic alienation and the dissatisfaction with the widening economic and political inequality will not be solved by military force alone, which seems to be the main instrument employed by the government. The problem calls for a three-pronged solution: social and economic development, multi-lateral dialogue and military force.

Flow of Thoughts:

- What is Naxalism?
- Causes for Naxalism.
- Government efforts.
- Other reforms needed.

