

7 PM COMPILATION

25th - 31st May, 2020

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

Cooperative federalism during COVID

Topic: Indian Polity

Subtopic: Centre-State relations

How India can become self-reliant

Topic: Economic Development

Subtopic: Indian Economy

For a reset in Indian – Nepal relations

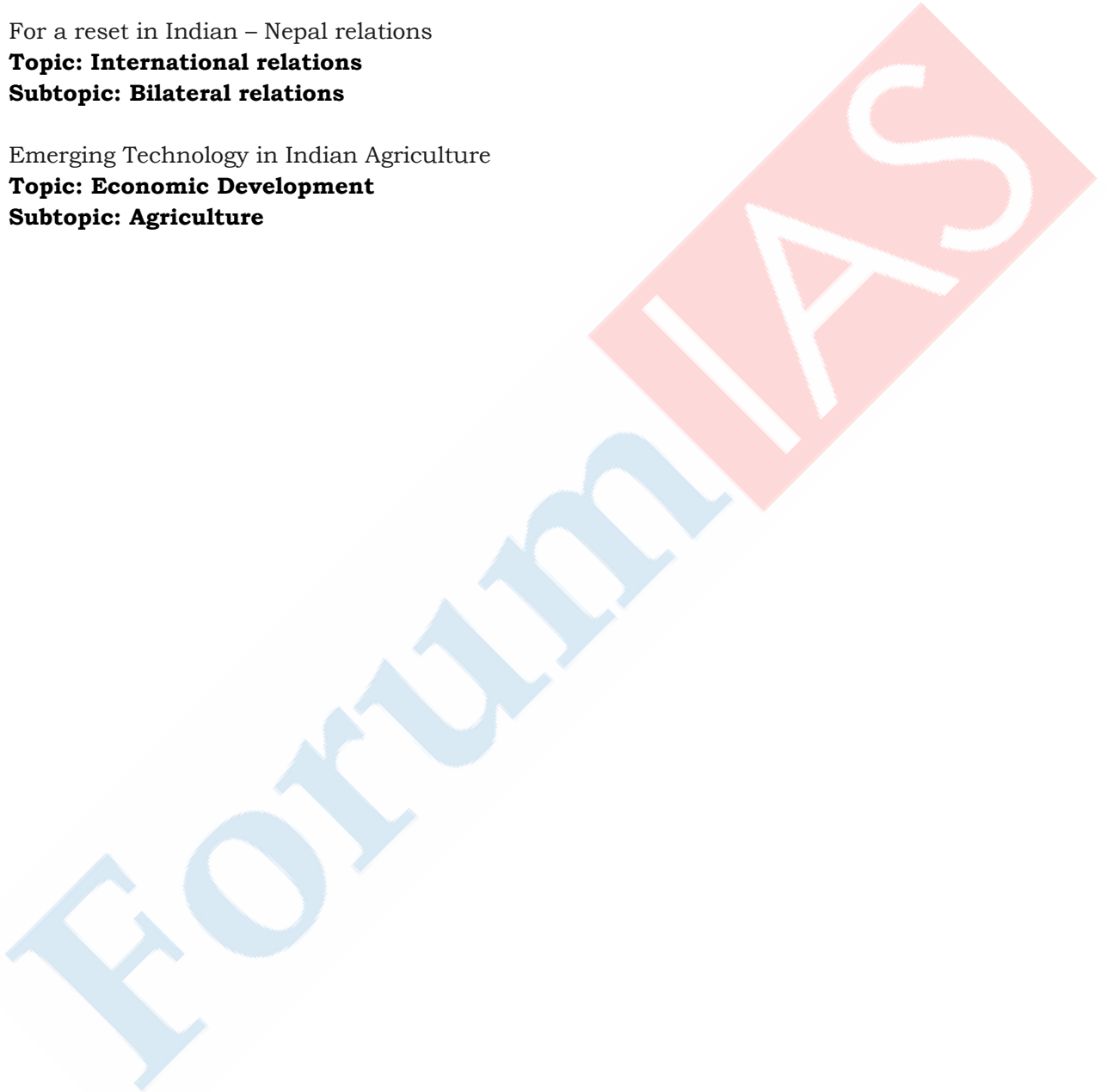
Topic: International relations

Subtopic: Bilateral relations

Emerging Technology in Indian Agriculture

Topic: Economic Development

Subtopic: Agriculture



Cooperative federalism during COVID

Link for the article – <https://www.thehindu.com/opinion/op-ed/reaffirm-cooperative-federalism/article31567966.ece>

What has happened:

Recent developments due to COVID 19 have put strain on cooperative federalism. Cooperative federalism is crucial in combating COVID 19 as states are first responders and public health is a state subject under constitution. This article discusses federalism, cooperative federalism and recent developments resulting in strain on cooperative federalism. It also discusses the importance of Cooperative federalism during disasters.

Federalism and cooperative federalism:

1. Federalism is independence of centre and states in their respective domains. Its features are dual polity with separation of powers, Bicameral legislature with representation of states, written constitution with rigidity in amendments to federal provisions, Independent judiciary to uphold federal principles
2. Experts say India is quasi federal polity with unitary features such as All India Services, Governor, Article 3 – centre can create new states or change existing ones, Emergency provisions, Integrated judiciary, Residuary powers with centre as per schedule VII
3. Cooperative federalism: It is administrative cooperation between centre and states, and a partial dependence of states upon centre. Though there is dependence on the centre, it does not result in weaker states but ensures progress.
4. Major provisions of cooperative federalism in Indian constitution and other institutions:
 - a. All India Services(article 312)
 - b. Concurrent list of 7th schedule
 - c. GST council, Inter State council (article 263)
 - d. NITI aayog governing council
 - e. Articles 258 and 258A-Mutual delegation of functions i.e. centre and parliament can confer powers and duties on state executive and vice-versa
 - f. Article 252 – Parliament can legislate on state subjects if 2 or more states request.

Avenues of cooperation between centre and states during disasters:**Laws, policies, institutions which provide for cooperation are:**

1. NDMA-National disaster management act, 2005 provides for:
 - a. Preparation of 'National plan' after consultation with states
 - b. Binding regulations to implement National plan by centre to states
2. NDMP – National Disaster Management Plan has a regional approach with clear demarcation of roles and responsibilities of all levels of center, state and district.
3. State Disaster response funds receive contributions from the centre. Finance commission provides for these
4. Cooperation between the National Disaster Response Force(NDRF) and State response forces. Pre disaster Cooperation includes training, operational readiness. Post disaster cooperation includes rescue and rehabilitation.

Importance of cooperative federalism during disasters:

1. States are first responders for disasters like COVID. They provide food, healthcare, shelter, post disaster compensation. In the case of COVID, public health is a state subject. Hence states need adequate funds. Devolution of funds by centre must be timely.

2. Cooperation ensures no duplication of efforts occur and resources are used efficiently.
3. States deal directly with ground situation and hence have greater understanding. Hence clear picture of disaster can emerge only with cooperation between centre and states
4. Basic services like Health care, Food and nutritional security, shelter are primarily under states domain. Hence state autonomy is crucial in ensuring these services are provided for effectively
5. Difference in state capabilities – economic, governance, service delivery- require respective different strategies. This needs autonomy with some central assistance. State like Kerala where high level of governance capabilities with good public infrastructure need to have different strategy than states like UP, Bihar

Actions which have put strain on centre state Cooperation:

1. Centre has classified areas into red, orange and green zones through notification. It has also prohibited states in changing such zone classification. States have demanded consultations and more autonomy in such classification. NDMA, 2005 mandates such consultations before such notifications.
2. Corporate Social Responsibility-CSR exemption is provided only for donations to PM-CARES funds and not for CM relief funds. This reduces donations to CM relief funds. This is leading to salary, pension and welfare schemes cuts by states to account for shortfall in funds. States have demanded exemptions for donations to CM relief funds
3. Delays in release of funds relating to GST, suspension of MPLADS scheme reduced available funds with states. Devolution of funds is an important part of cooperative federalism and is needed for funding disaster relief. States have demanded the centre for timely release of funds.

Going ahead:

Cooperative federalism through consultations, adequate autonomy, adequate funds and strengthening of state capabilities is the best way to combat COVID and future disasters

Related Revision topics:

1. Federal distribution of powers – Legislative, administrative, financial
2. NDMA, 2005

How India can become self-reliant

Source: [TheHindu](#)

Atmanirbhar Bharat Abhiyan has been announced by the government of India to achieve self-reliance. Industrial policy changes in sectors such as defence, agriculture, space, power, mining have been included in this initiative. Achieving self reliance requires India to reform its R&D capabilities, education, skilling and public health.

Let us see how self reliance evolved in India, what lessons can be learnt from other nations and path ahead.

Evolution of self reliance in India:

1947-1991:Pre liberalisation era

1. Steps taken:
 - a. Planning commission was established with objectives of growth, self sufficiency, modernization, equity
 - b. Green revolution was undertaken which provided self sufficiency in agriculture
 - c. Import substitution through tariffs and restrictions reduced competition to Indian industry and developed indigenous capabilities
2. Failures in achieving self reliance:
 - a. Industrial policy, 1956 provided for license permits for establishment and expansion of industries. This was exploited by industrial houses to obstruct entry of innovative new products. This resulted in India losing out on Industrial revolution 3.0 in electronic goods, micro processors, mobile phones, global value chains. Hence Indian industry was characterized by low quality, poor technology and globally uncompetitive.
 - b. Reduced competition from foreign imports due to import substitution resulted in stagnation of quality of products.

Post 1991: Liberalization, Privatization, Globalisation

1. Steps taken:
 - a. PSU's were deemed inefficient and uncompetitive globally. Hence disinvestment and their confinement to core sectors was done.
 - b. Industrial licensing confined to select industries such as alcohol, explosives, cigarettes etc. This was to enhance innovation by easing entry of new players
 - c. Globalization through offshoring in areas such as IT, BPO. This was done with a view that global companies will bring new technologies to India and there is no need to research them again.
 - d. Import substitution was removed by reducing tariffs, removing quantitative restrictions, import licensing. This is to enhance competition and hence innovation and quality
2. Failure in achieving self reliance:
 - a. PSU's were major contributors to R&D in India. Due to reduced capital investment in these, research and modernization was effected. At the same time, private sector have not invested in R&D. R&D investment is about 1% which is low. This resulted in India becoming importer of technology
 - b. FDI has brought technologies but they were guarded by foreign companies through intellectual property. Minimal transfer of technology occurred undermining self reliance.
 - c. Cheaper imports negatively impacted Indian industry. API in manufacturing of medicines is an example where Chinese imports displaced Indian industry and hence self sufficiency

Lessons from other countries:

China, South Korea, Taiwan, Hongkong, Singapore have invested in education and skill development, planned state investment in R&D, technology, infrastructure and policy support to private companies. This has resulted in development of indigenous capabilities in advanced technologies and manufacturing such as electronic goods, microprocessors, robotics.

China is pursuing super power status through technology by investing in transition from low end manufacturing to advanced manufacturing. Industrial revolution 4.0 technologies such as 5G, quantum computing, robotics and automation, Artificial intelligence are some areas of focus by China.

Steps to achieve the goal of self reliance:

1. Investment in education and skilling to be raised to 6% of GDP. Sciences need to be strengthened from school level. This will enhance research capabilities in higher education
2. State funded R&D investment through PSU's, universities and research institutions like DRDO, ICAR. This has to include basic research. About 3-5% of GDP is state funding for R&D in South Korea, Taiwan, Singapore. This can be a benchmark.
3. Focus on areas of electric vehicles, photovoltaics, artificial intelligence, robotics, UAVs, biotechnology
4. Policy framework to promote private sector investment in R&D needs to be taken up. R&D activities can be included as part of Corporate Social Responsibility (CSR) activities.
5. Promoting industry-academia-research institutions linkages.
6. Stronger public health system which aids in improving efficiency of the economy and boosts expenditure on education and thus self reliance.

Mains Question:

1. Atmanirbhar Bharat Abhiyan has announced by the government of India to achieve self-reliance. What steps did India take for self reliance since independence and what are their shortcomings? [15 Marks, 250 Words]

For a reset in Indian – Nepal relationsSource- [TheHindu](#)**What has happened**

India – Nepal ties have come under strain due to recent developments along Uttarakhand – Nepal border. Inauguration of road for Kailash Manasarovar yatra by India has led to Nepal's protests. Unresolved border issue at Kalapani is the cause of this diplomatic escalation. Complexity of issue originating from historical and political factors is the main cause of the dispute. Political maturity and quiet diplomacy is needed to find solutions to this issue.

Let us understand the genesis and underlying reasons for the issue as well as future course of ties to ensure 'special relationship' is maintained.

History of the dispute:

- Treaty of Sugauli, 1816 between British India and Nepal provided Kali river as boundary between India and Nepal.
- Dispute is regarding the origin of the river. Streams originate near Kalapani and Limpiyadhura. They join in Pithoragarh district of Uttarakhand.
- Till 1857, Limpiyadhura was shown as origin. But in 1879 it was changed to Pankha Ghad which is in the North East of Kalapani. This change was accepted by the then Nepal.
- Post independence, India continued the same map where the Kali river originated in Pankha Ghad.
- Lipu Lekh pass has been used for border trade and pilgrimage between India and China since 1953. India maintains a base camp for lipu lekh at Kalapani. 1961 China Nepal Boundary Treaty too identified Tinker pass which is in east of Kalapani as western boundary of Nepal. This provides authenticity to Indian version of border
- After 1996 treaty of Mahakali for Pancheshwar multipurpose hydel project, Nepal has raised the issue of origin of Kali river in 1997
- Joint technical level boundary committee which oversees replacing of boundary pillars, took up the issue. It had declared 98% boundary is defined and only Kalapani and susta (terai region of southern Nepal and northern India) remain as unresolved.

Immediate recent triggers for escalation:

- India has published a new political map in November, 2019 after Jammu and Kashmir reorganization. This map hasn't changed any earlier boundaries. Yet this was protested by Nepal who proposed foreign secretary level talks to resolve the Kalapani issue.
- India started building road for the Kailash Mansarovar yatra in 2009 which was not objected to. Inauguration of the road recently drew sharp responses from the government of Nepal. In response, a new map showing Limpiyadhura as origin was notified by the Nepal government and is awaiting constitutional amendment.



Map Showing Route to Kailash Mansarovar Via Lipulekh Pass

Underlying reasons for recent escalation of dispute:

- Anti India sentiment becoming resonating with Nepali nationalism. India is being portrayed as insensitive to Nepal's concerns. 1950 treaty of Peace and Friendship is seen as unequal partnership and Indian imposition. Such anti Indian stance is being reflected in current escalation.
- 2015 blockade of Nepal was blamed on India and it led to increasing anti India rhetoric in Nepalese politics for domestic gains. This has continued since and is one of the major reasons for the current crisis.
- Nepal intends to use China card to remain non aligned. But Chinese influence has risen among political parties and institutions like army and armed police force. Chinese foreign policy of assertiveness has Nepal as an important partner in influencing South Asia. This is creating mistrust between India and Nepal.

Resetting ties:

- Extreme rhetoric needs to be stopped and both sides have to engage in quiet diplomacy to solve issues. Trust needs to be generated to find mutually acceptable solutions.

- India must address rising anti Indian rhetoric in Nepalese politics more proactively. Consensus among its political parties regarding historical, cultural and language ties need to be reemphasized
- In accordance with “Neighborhood first” policy of India, deeper and meaningful engagement across economic, cultural, political, administrative domains must be initiated. India should build good will in a manner similar to ties with Afghanistan. Academic and training exchanges, infrastructure projects, telemedicine, disaster assistance especially during COVID need to be enhanced

Related Revision topics:

- India -Nepal border management
- India – Nepal ties

Mains question:

1. Recent Kalapani Border row has shown the complexity of border management between India and Nepal. In this context, discuss issues of India-Nepal border management and steps needed for effective management of the border? [15 marks, 250 words]

Emerging Technology in Indian Agriculture

Source: [Financial Express](#)

Context:

Indian agriculture is characterized by Inefficiency of input use(fertilizers, water), low yields, disguised employment, over or under production, inefficient supply chain and marketing. Internet of Things(IoT), Artificial Intelligence, Block chain which are emerging technologies can aid in addressing these age old problems.

The Internet of things uses a network of sensors, electrical systems, wireless communication to track various parameters in real time of systems under observation. Data relating to these parameters is used in decision making.

Artificial Intelligence is a machine with traits of human intelligence like self learning, Image processing, language processing, problem solving and decision making.

Blockchain refers to an encrypted, tamper proof, decentralized digital ledger system used for data storage which promotes transparency and data security.

These technologies can monitor, predict and advise on efficient agricultural management(production, supply chain and marketing). They improve farm productivity and yields, reduce risks of crop failure, reduce input and labour costs. This can be used to achieve the vision of doubling farmers incomes by 2022

Let us understand how emerging technologies aid agricultural management, challenges in their adoption and steps to promote them.

Use of emerging technologies in agriculture:

<u>Technology and what it does in agriculture</u>	<u>Use in agriculture</u>
<p><u>Internet of Things – IoT</u>: Use of wireless sensors, drones, satellite imagery to measure parameters like humidity, temperature, light, soil moisture etc. This data is used in decision making regarding interventions in real time.</p> <p><u>IBM watson</u>, is an example which is used in drones to analyse images and build crop metrics across large areas</p>	<ol style="list-style-type: none"> 1. Monitoring of crops and soil conditions where Health of crops, soil nutrients changes can be tracked in real time and appropriate interventions done time 2. Water management can be done by automation of irrigation through sensors. This saves water as well as irrigation costs. Improves productivity by maintaining soil moisture in real time 3. Pest management: Identification of pests in real time which checks the spread 4. Livestock management: Livestock health conditions and location can be tracked and diseased animals can be separated promptly. It also reduces labour costs of monitoring livestock 5. Supply chain management through sensors which can track movement of agricultural goods and their quality in real time. 6. Hydroponics and Aeroponics which use completely controlled conditions to grow crops rely wholly on IoT 7. Real time advisory and e-learning can be provided to farmers. <u>Kerala in partnership with CISCO has developed an agriculture digital infrastructure platform</u> which does the same for fishing

	communities and farmers in Kannur district. This platform uses UAV's, sensors, satellite images.
<p><u>Artificial Intelligence(AI) and Machine learning:</u> Machines use data collected through sensors to predict outcomes and devise strategies for optimal yields</p> <p>Microsoft has built an AI app for projects in Andhra Pradesh which recommends farmers on sowing date, land preparation, seed treatment, manure use, pest management etc. This led to 30% increase in crop yield per hectare</p>	<ol style="list-style-type: none"> 1. Predictive agricultural analytics can be developed which aid in decisions such as when to sow crops, which crops to sow, which fertilizers to be used, when and for how much time should irrigation be done 2. Climate monitoring and weather forecasting helps in reducing global warming related risks to farmers 3. Identification of pests through image processing of crops
<p><u>Block chain:</u> Tamper proof ledger based data storage</p>	<ol style="list-style-type: none"> 1. Land records digitization and management: States like Andhra Pradesh, Telangana have started using blockchain for this. Such tamper proof land records aid in contract farming 2. Use in supply chain management where authentic records can be established for warehouse management and transactions across supply chain 3. Data generated by sensors which monitor environment, soil and crop conditions can be stored securely using blockchain

Challenges in scaling up emerging technologies:

1. Lack of digital infrastructure: Internet, electricity are must for exploiting these technologies. In Indian rural areas, such infrastructure is not reliable
2. Low technological understanding among farmers means less adoption of such technologies.
3. Skilled manpower to provide extension services in these technologies is lacking
4. High costs of equipment: Sensors, precision irrigation, data storage systems are all costly for individual farmers
5. Land fragmentation prevents use of these emerging technologies due to cost benefit considerations
6. Data security: Without enabling data security legal framework, enormous data collected by emerging technologies can be misused by monopolies and transfer out of country

Steps needed to promote these technologies:

1. Promoting innovation and skill development:
 - a. Agricultural Universities should modify curriculum to impart training in these technologies to generate skilled manpower

- b. Skill development programmes in rural areas to promote skilling in these technologies
 - c. Establishing agriculture innovation fund at central and state levels to fund R&D in 4.0 technologies
2. Legal and Policy support:
 - a. Existing schemes in irrigation, extension services, mechanization should be remodeled to include these emerging technologies.
 - b. Data security and cyber security legal framework and institutions to enforce them need to be established
 - c. Cloud based data centres, digital stack of technologies which can be used by entrepreneurs, farmers directly can be created
 3. Promoting FPO's – Farmer Producer organizations to overcome land fragmentation issues
 4. Use of Public Private Partnerships (PPP). Examples – Andhra Pradesh tie up with Microsoft to use Artificial Intelligence sowing app

Conclusion:

Sustained efforts towards these emerging technologies by the government, universities and research institutions can achieve twin demand of food security (due to higher yields) as well as doubling farmers incomes (due to reduced costs, increased quality and market access).

Related revision topics:

1. e-Technologies in aid of farmers
2. Blockchain, AI and IoT use in other sectors

Mains Question:

1. Agriculture and allied activities can benefit from adoption of technologies of Artificial Intelligence, Blockchain and Internet of things. Discuss? [15 marks, 250 words]