

Ans-1 Fiscal deficit of India went as high as above 9% during COVID period however it has been decreasing continuously with prediction of 4.9% in the Budget 2024-25

Factors contributing to Fiscal deficit

- ① Fiscal deficit represents the borrowings by the government to balance its spending and revenue. It is high in India because
 - ① Interest payments are occupying a large chunk of government spending which is not generating any asset
 - ② subsidies in agriculture, energy sector contribute to this (e.g.) > 1.1 lakh crore fertilizer subsidy in Budget 2024-25
 - ③ External factors like Russia-Ukraine war, Israel-Palestine conflict increase subsidy burden on government
 - ④ Populist policies and improper targeting lead to leakages increasing deficit

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Consequences of High Fiscal Deficit

- ① It causes crowding out of private sector from formal credit market
- ② The borrowing by private are then ~~force~~ at higher cost which is transferred to citizens
- ③ Credibility of government comes down at international level and borrowings might be at higher interest rate.

Measures to ensure fiscal consolidation

- ① Reducing subsidy burden by adopting measures that work long term (eg) schemes like PM PRANAM incentive reducing use of chemical fertilizers
- ② Refraining from populist measures and policies and ensure that inclusion and exclusion errors do not happen.
- ③ Reducing Revenue Deficit burden and increasing capital expenditure for structural growth.

Fiscal deficit reflects the health of economy and controlling it is important for stricken economy.

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Ans 2 Capital expenditure of government has increased from ₹ 2.5 lakh crore in 2017 to ₹ 10 lakh crore (2023-24) highlighting the importance of capital investment in growth of the country.

Potential of capital investment

- ① Transportation facilities like roads, railways etc increase connectivity of rural areas providing new opportunities and sources of income.
- ② Capital investment is necessary to reduce logistical cost of current 13% of GDP to ideal 8-9% of GDP
- ③ Electrification is necessary for development of facilities like cold storage chain, facilitating e-governance, and spread of digital education.
- ④ Communication infrastructure development would result in increased job opportunities, educational opportunities etc.

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Thus capital investment ensures holistic regional, social & economic development which is necessary for vision 2047

Challenges Faced

- ① Improper channelling of funds result in sub par infrastructure adding burden on economy.
- ② Delays in clearances leads to overall increase in cost of these projects
- ③ Land acquisition process, labour codes in India are not business friendly thus leading to problems
- ④ Local people's needs might not be given priority thus leading to protests

Initiatives like PM Gram Sadak Yojana, PMSAUBH AGYA, PM KUSUM, Digital Saksharta Abhiyan and others are important for overall development of the country but input market reforms and other structural reforms must follow them.

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Ans-3 The demand structure of agricultural commodities is fast changing with rapid urbanisation with ~~high~~ demand for horticultural products, dairy products and others rising. These commodities are perishable and need to be replaced regularly thus peri urban agriculture is emerging.

Opportunities

- ① It acts as source of additional income raising living standards further fueling demand
- ② Modern agricultural practices like drip irrigation ~~can~~ ^{are} being used which have potential to be established as standard practices in Indian agriculture
- ③ Organic products are creating a new niche market in urban areas thus reducing fertilizer burden of government
- ④ These products usually are rich

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in microentrepreneurs thus reducing health burden of the country

- ③ New storage facilities including cold chain and improved transportation facilities may come up as demand rises.

Challenges

- ① Lack of adequate storage facilities.
- ② Delay in transportation can lead to perishing of these.
- ③ This is highly capital intensive thus equal opportunities for all might not be there.
- ④ The huge price fluctuations in Indian food market might hamper its growth.
- ⑤ It might increase disparities between regions.

Periurban agriculture is a positive direction however reforms like capital & credit access reforms, insurance facilities must be extended for equitable growth.

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Ans 4 The import bill for oil seeds for the year 2023-24 was around \$26 billion while for pulses too despite being largest producer we remain import dependent from countries like Malawi, Mozambique.

Challenges in achieving self sufficiency

- ① India has over production of wheat (106 MT) and rice (130MT) occupying ~~significant~~ majority net sown areas
- ② open procurement policy of wheat and Rice discourage other crops
- ③ Poor irrigation facilities leave pulses and oil seeds to monsoon's mercy
- ④ Demand for staple crops like wheat and rice are higher
- ⑤ Lack of insurance coverage discourage farmers from taking risks of growing pulses & oilseeds

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- ⑥ Poor extension services like soil health, report, weather report, seed quality report and low research and development in agriculture restrict their growth.

Addressing these challenges

- ① Initiatives like e-NAM can create national market for these fostering demand
- ② New technologies like drip and sprinkler irrigation can be used
- ③ Growth of agritechs should be promoted so that demand for these are created
- ④ Credit reforms to ensure easy credit availability to farmers (e-funding) should be undertaken.

Initiatives like PM KISAN, PM Kisan SAMPA, PM Fasal Bima Yojana, PM Krishi Sinchayee Yojana, MSP increase on pulses and oil seeds are way to go.

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Ans 6 RLVs are being considered the future of space launches and ISRO is working tirelessly to make it a complete success as seen by recent landing missions being tested for Gaganyaan mission.

Principles behind RLV

RLV is also known as 2 stage 2 orbit because:

- ① It's first stage is semi-cryogenic which takes the vehicle to the designated ^{altitude} ~~place~~ and then glides back to a particular place.
- ② 2nd stage is cryogenic, it will place the satellite into orbit and then de-orbit itself to have soft landing with the help of a balloon.

Significance and Potential Benefits

- ① It will bring down launch cost by 40%. significantly enabling ISRO to commercialize
- ② It will be the vehicle for manned space flights
- ③ It can be used for space mining and sample return missions.
- ④ It will facilitate the process of building of an Indian space station
- ⑤ It will establish India as a power in space which is an emerging theatre.

Thus RLVs are the future and key in achieving ~~the~~ increased share in the global space economy expected to more than \$600 billion by 2030.

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Ans7 Carbon Credit Trading scheme 2023 is a market based mechanism for voluntary environmental activities across sectors.

Major Features

- ① It is part of the broader LIFE (Lifestyle for Environment)
- ② It will be under Ministry of Environment, Forest and Climate change
- ③ It has 8 key types of activities which are tree plantation, effective waste management, reducing air pollution, sustainable buildings etc.
- ④ The green credit generated will be traded on a domestic market platform

Note: 1 carbon credit = Removal of 1MT of CO₂ from atmosphere.

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Potential for mitigating GHGs

- ① It will incentivize reduction of carbon production by private entities
- ② Vibrant carbon market would attract international investments to reduce carbon footprint in India.
- ③ It will spread awareness about climate change and importance of reducing GHG emission.
- ④ Directed intervention in the fields outlined would have a multiplier effect on CO₂ & other GHG reduction
- ⑤ It will help in setting standards of products and activities done by corporation by mapping them to ~~cor~~ corresponding emissions.

Carbon credit Trading scheme is a much required step to involve every stakeholder to tackle climate change.

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Ans 8 Indian Meteorological Department reported 536 heatwave days in 2023 across 36 stations, these are highest in decades. Heatwaves are causing significant damage to life, property thus demand has emerged for it to be included in disaster list.

Should be included

- ① Directed funds and efforts are required to tackle heat waves
- ② with climate change and urbanisation this problem will only increase.
- ③ Adequate attention would be given to heat waves which will help in addressal of root cause.
- ④ Lives of people would be saved due to development in tackling infrastructure.

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Challenges in inclusion

- ① Heatwave may not be responsible directly for deaths rather cause organ failures thus compensation ~~is~~ targeting would be difficult
- ② It will increase the burden on state exchequer.
- ③ Heatwave in different parts presents itself at different temperatures thus developing set criteria is difficult
- ④ states might misappropriate the funds given by centre.

Thus although heat wave is emerging as a deadly threat its inclusion in the disaster list should be after much deliberation and current formula of 10% allocation by states should continue.

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Ans 9 Officers of Indian Army at Raisina Dialogue highlighted the rising use of Gray zone warfare of which cyber warfare is an integral part. In lieu of this "Joint doctrine on cyber space operations" is a way forward.

Impact

- ① As per NCRB report cyber incidents increased by 24.4% in 2021. This will help tackle this
- ② Cyber terrorism and cyber radicalisation is a new threat thus new approach is required for tackling these
- ③ States are using cyber attacks to target infra (eg) Kudankulam

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- Nuclear Power Plant was attacked. This must be tackled by joint co-operation.
- ④ Recently Train infrastructure of France and optical fibre network was targeted highlighting the need for international nature of the problem.
 - ⑤ Airspace, Land and naval domain, all are connected thus they should work under one set of guidelines to handle these threats
 - ⑥ Cyber warfare has emerged as new threat (eg) 2020 attack on India's electricity installation

Cyber security must be ensured to ensure that developmental process of India is not affected.



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Ans 10 Recently Ministry of Home Affairs extended the jurisdiction of BSF in states of Punjab and West Bengal citing the need to tackle diversified threats.

Necessity of expansion

- ① New technologies like drones are being used to smuggle arms and drugs into the country which is creating threat for internal security.
- ② BSF needs to avoid clashes with local police to ensure smooth functioning.
- ③ BSF as a CAPF force is dealing with multiple responsibilities of different nature thus

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a adequate power must be given.

- ④ Asymmetrical threats due to rising narcotics trafficking, arms smuggling etc. require larger jurisdiction.

Challenges

Punjab govt has moved to courts regarding this highlighting the fault lines in this decision which are

- ① Threatens federal division of subject as law & order is a state subject.
- ② Clashes might occur between local police & BSF over jurisdiction if state is not convinced

BSF's expansion of jurisdiction has its reasons but spirit of federalism should be kept in mind.

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Ans 11 India's growth in the past 10 years (except COVID-19 period) has been $> 6\%$ but the job growth has been around 2% thus creating a scenario of jobless growth. This has become an issue in light of large working age dividend being unemployed in the economy.

Concept of structural unemployment

Structural unemployment is a situation where due to the structural limitations of economy jobs are not being created. It's relevance in context of India is

- ① Presence of huge demographic dividend but lack of avenues to absorb it.

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- ② As per Economic survey 49% of Indian graduates lack employability.
- ③ Growth is primarily being driven by services sector which is capital and not labour intensive.
- ④ Industrial sector in the country is under developed and although Make in India has shown results they are not adequate.
- ⑤ ~~90%~~ 90% of the workforce is employed in informal sector thus having no job security.
- ⑥ International factors like Russia-Ukraine war, Israel-Palestine conflict are also creating problems.
- ⑦ Lack of reforms in labour laws lead to less interest by corporates to formalise employment.

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Policy Measures to promote Inclusive Job growth

- ① Budget 2024-25 has announced that government would pay the salary of first time employees (upto ₹15000)
 - ② government has also decided to contribute into the EPFO of first time employees to incentivise employers
 - ③ schemes like PLI, Atmanirbhar Bharat, labour codes 2019 are targeted to improve manufacturing sectors share in growth.
 - ④ Promotion of allied agricultural activities like fisheries through schemes like Matsya Sampada Yojana are ways to generate employment.
 - ⑤ Internship program with top 500 companies announced in Budget 2024-25 is welcome.
- Job growth is necessary to realise "Vision 2047"

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Ans 12 MSMEs are responsible for more than 40% contribution to manufacturing exports and employ more than 11 crore workers. The presence of MSMEs in hinterlands and semi-urban areas thus promote regional growth.

Role in Promoting regional growth

- ① It increases the income of people by providing new opportunities
- ② It acts as link between agriculture and industry
- ③ They contribute to supply chain by supplying components to large scale industries
- ④ MSMEs create multiplier effect in the regions thus fostering growth in all directions.



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Achieving Industrial Diversification

- ① MSMEs are usually involved in manufacturing of small equipments thus creating specialised and localised units.
- ② They represent a shift from large factory models with several MSMEs coming together to produce components for one commodity.
- ③ They can address local demands creating new products or old products at local level.
- ④ They reduce dependence on exports and promote indigenization of several commodities thus causing industrial diversification.

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Achieving Technological Advancements

- ① Indigenization of technologies occurs due to indigenous production of products
- ② New and emerging technologies are used to cater to new demands

Challenges of MSME

- ① Lack of growth in investment due to government policy of reserving commodities for MSMEs
 - ② Lack of marketing facilities due to lack of funds for advertisement and promotion.
 - ③ Lack of timely payments by buyers.
- Government initiatives like TReDS, Udyam portal, policy of zero defect and zero defect are welcome steps to promote MSMEs.



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Ans 14 Food corporation of India is responsible for procurement, storage and distribution of food grains to states under the Public Distribution system. Public Distribution is important as it provides food grains to 67% of population under NFSA, 2013.

Ensuring Food security in India

- ① FCI ensures adequate storage of grains in the godown
- ② FCI monitors the PDS shops and whether the benefits given by government are reaching the people or not.
- ③ FCI is responsible for procuring crops which come under MSP

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from the farmers and monitor
disbursement of payment.

- ④ It checks leakages that occur
in transportation of food grains.
- ⑤ It works on measures to
reduce exclusion error and improve
the reach of PDS shops.

Necessary reforms

- ① Technology should be adopted to
ensure better targeting
- ② FCI should ensure that benefits
of MSP reach small farmers
who are not aware of it
- ③ FCI should facilitate establishment
of cold chain storage facilities so
that loss of horticultural and
other perishable commodities can be
minimised



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- ④ Monitoring of proper functioning of point of sale machines in PDS shops should be effective.
- ⑤ Leverages should be reduced by adopting measures like GPS, RFID tags
- ⑥ Establishment of new warehouses under BHARAT MALA should be there
- ⑦ FCI should ensure that the stored grains do not suffer from pest infestations.

~~The~~

- ⑧ Nutrition security should also become the focus along with food security

FCI is a key component in the PDS machinery of India and is pivotal in addressing the issue of food security in the country.

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have been made and distributed in India which are gaining prominence

- Benefits :
- ① They have higher surface mass ratio which help in releasing nutrients to the plant in a controlled manner
 - ② It will reduce the imports of fertilizers specially phosphorus into India.
 - ③ less use of fertilizers would help in ensuring sustainability by maintaining soil quality.
 - ④ ~~It~~ It will increase farmer's income as it increases productivity
 - ⑤ It will result in less logistical and subsidy burden on the government exchequer
 - ⑥ It will also improve food quality due to less use of chemicals

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Risks of Nano fertilizers & pesticides

- ① Productivity has been seen to decline as farmers lack training in their use
- ② It can have environmental impact as nanoparticles in soil can affect ecosystem and biodiversity
- ③ Impact on health is not fully understood as nanoparticles remains a niche field
- ④ Nano urea can only be used in the 3rd phase of plant growth hence solid urea would still be required at earlier stage

Adoption of new technologies is the path of progress however it should be accompanied by capacity building and adequate research.



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Ans 16 ϕ quantum dots are semiconductors made of cadmium which when heated at same temperature emitted different color light due to different sizes. The immense significance and application of this ~~was~~ earned Ekimov, Brus, Brusendi the Nobel Prize.

Applications

- ① They can be used in LED displays to improve the efficiency and quality.
- ② They can be used in cancer research. This was shown by an experiment which directed ϕ dots to accumulate on a tumor. Laser was then used which was absorbed by ϕ dots

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and tumor started glowing which made medical procedure easy

- ③ It can also be used for targeted drug delivery to regions which cannot be operated on
- ④ Q dots can improve the efficiency of solar cells as energy from them can be passed to multiple electrons
- ⑤ They help further the research into quantum sciences.

Thus quantum dots are one of the most significant advancements of current technology.



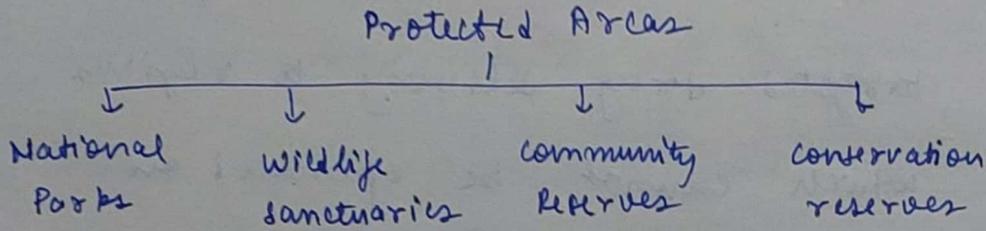
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Ans 17 India has several layers of protected areas which provide various degrees of protection.



Other than ~~these~~ these Biosphere reserves are also there.

Role in conserving biodiversity

- ① They minimize human intervention in the core areas helping biodiversity to prosper
- ② They check poaching and other illegal activities
- ③ Surveillance using ~~to~~ microchips, cameras is done to accurately predict the population of animals.

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- ④ They collaborate with indigenous populations of the region to facilitate holistic development and conservation.
- ⑤ Research into biodiversity conservation also happens within specialised zones.
- ⑥ They create employment for local communities by engaging them in conservation activities.
- ⑦ Awareness increasing about importance of biodiversity is also their role.

Effectiveness

- ① Population of tigers in India has increased significantly due to concerted efforts.
- ② Several core areas have ~~been~~ become human settlement free.



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- ③ Habitat conservation has resulted in resurfacing of several species
- ④ Namdapha Flying squirrel in Namdapha National Park.
- ④ They have through Project Tiger, Project Elephant curbed the poaching to a major extent.
- ⑤ Induction of ^{considered} previously extinct species into India has been facilitated by them (eg) cheetah
- ⑥ Targeted conservation drives in several localized regions have led to preservation of species under threat.

National Parks, wildlife sanctuaries, Biosphere Reserves are important for biodiversity conservation however they should keep in mind the rights of indigenous populations.

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Ans 18 PM 2.5 and PM 10 are the
pollutant measured under the Air
Quality Index. As per recent reports
their ~~lower~~ concentration is more
than 3 times than WHO recommended
levels in India. Ozone is another
short lived pollutant causing problems

Factors for PM 2.5 and PM 10 pollution

- ① Vehicular exhaust due to increasing
vehicle density in India
- ② Industries do not comply to
standard practices of reducing
particulate emissions
- ③ stubble burning in winter season
leads to emission of particulate
matter.
- ④ They are also released from
other anthropogenic activities that
involve combustion.

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Ozone Pollution : Ozone is a secondary pollutant which is formed after reaction of Nitrogen oxides with sunlight.

The Ozone at ~~above~~ surface level thus is formed due to emissions of Nitrogen oxides which are similar to those that emit particulate matter.

Impact of O_3 & $PM_{2.5}$ & PM_{10}

- ① They cause several respiratory diseases
- ② Excessive exposure can cause accumulation in lungs
- ③ Ozone can cause ozone poisoning
- ④ They ~~are~~ are cause of several lifestyle diseases.

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Steps taken by government

- ① ~~Attempts~~ National Air Quality Monitoring plan.
- ② CACP formed in 2012 is the only targeted group for these short lived pollutants of which India is a part.
- ③ Several measures have been taken to reduce vehicle density

Thus it is important for SDG 3 i.e. Good health and well being that these pollutants are brought under check.

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Ans-19 India is sandwiched between the Golden Crescent and the Golden Triad which represent the major drug producing and exporting hubs. Thus drug trafficking is becoming a major issue in South Asia.

Challenges

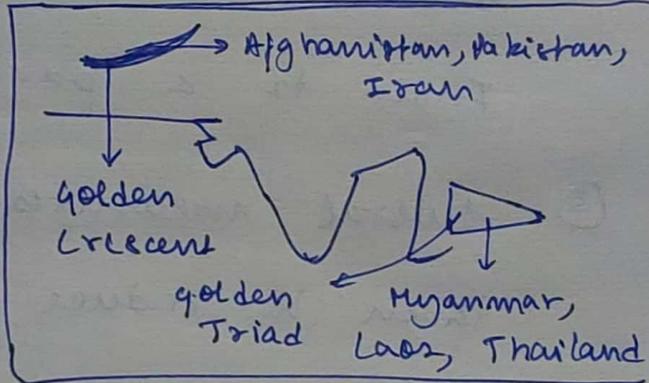
① Narcotrafficking is being used

to fund insurgent activities in

India. (eg) Narcotics Control Bureau

confiscated huge amount of drugs from Khalistan Liberation Force.

② Use of advanced technologies like drones are exacerbating the problem of border management.



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- ③ India has porous borders with countries like Myanmar through which drugs are being ~~trafficked~~ trafficked in used to create instability in regions like Manipur.
- ④ Parliamentary standing committee has found that over a million Kashmiris are drug users raising concerns in the valley.
- ⑤ Naxal terrorism is becoming a major threat for which conventional approaches cannot be used
- ⑥ International relations are also getting affected ⑦ India abolished Free Movement Regime with Myanmar causing tensions in ethnic committees of both sides.
- ⑧ Nexus between organised crime and other unlawful activities is increasing.

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Multi pronged Approach

- ① Engagement with all relevant stakeholders is required ② Talks with Taliban regarding Narcotics in UAE by SP Singh delegation (2024)
- ② BOLD - QZT technology to ensure secured borders
- ③ Use of drones and AI to track movement of routes of trafficked drugs
- ④ Employment to youth so that they do not engage in unlawful activities
- ⑤ Inclusive regional development to reduce disparities and address aspirations of a region.

Narco trafficking must be addressed to ensure that internal security and road to development is not disturbed.

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Ans 20 Left wing extremism in India has both ~~devel~~ developmental and security dimensions. These need to be addressed in an integrated fashion so as to deal with the problem effectively.

Socio Economic Policies

- ① Left wing Extremism (LWE) finds its roots in the displacement, improper rehabilitation of forest dwellers due to industrial development.

This must be addressed by ensuring that their livelihood does not get affected by developmental process of nation

- ② National Policy and Action Plan (2015) addresses several issues for development like:

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- (i) Integrated Action Plan spear headed by District magistrate
- (ii) Mobile tower project to improve connectivity
- (iii) Financial inclusion by agents based in these regions
- (iv) Eklaya Model Residential schools for spreading education
- (v) Roshini Initiative for skill development and placement of youth.
- (vi) Civic Action Plan for winning hearts and minds of people

However along with these security related measures are required to deal with the immediate threat.

These include:

- ① Modernisation of Police forces (a) mine resistant vehicles + bullet proof vest

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- ② Special Infrastructure scheme for development of critical infrastructure
- ④ Fortified police stations
- ③ Assistance to Central Agencies for left wing extremism management scheme.
- ④ Grievance redressal mechanisms for security personnel.
- ⑤ specialised units like Greyhounds of Andhra Pradesh, COBRA of CRPF

Thus, To comprehensively address both long term and short term threats soft and hard approaches should be mixed following the SAMADHAN doctrine and sensitization towards tribal problems.

S → Smart leadership	H → Harnessing technology
A → Aggressive strategy	A → Action Plan for all theatres
M → Motivation & Training	N → No funding
A → Actionable Intelligence	
D → Dashboard for KPIs	