

Q1. Assess the potential of the horticulture sector in doubling farmers' income. What steps has the Government taken in this regard? (10 Marks, 150 words)

96.5

India is primarily an agriculture centred economy. Horticulture sector forms almost 30% of agri GDP & contributes to employment of 18% of agri GDP. Horticulture

Your conceptual understanding is good.
Structuring of the answers is also good.
Use some diagrams, facts, examples in your answers.
Improve content in some of the 10 marker questions.
You have potential to score good marks.
Keep writing answers.
All the best.

Potential of Horticulture in Doubling Farmers Income:-

- (i) Huge export potential = 38% jump over past 7 years.
- (ii) Helps crop diversification = prevents monoculture & soil erosion.
- (iii) critical for Nutrition security
- (iv) utilisation of fallow & wastelands.

(v) potential in boosting food processing
thus generating jobs.

Steps taken by Government

- (i) export incentives under RoDTEP
- (ii) One district one product.
- (iii) Mission for Integrated Development of
Horticulture (MIDH)
- (iv) Agri extension via FPI/FPOs.
- (v) Creating post harvest & infra.

Horticulture sector is critical to doubling
farmer income (Dalwai Committee) due
to its linkages & untapped potentials.

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Q2. 'Integrated development and management of fisheries' would not only ensure food and nutritional security but also would help transform the rural socio-economic landscape.' Discuss. (10 Marks, 150 Words)

Fisheries sector contribute to 11% of GDP & almost 5.51% of agri GDP.

Mission for Integrated development & management of Fisheries - would help ensure holistic development of sector.

ensuring food & nutrition security :-

- (i) Rural household contribution via small scale industries.
- (ii) Provision of protein & nutrients at cheap rates.
- (iii) SDG-2 = Zero hunger.
- (iv) Price stabilisation of fish in market.
- (v) 741% of India = non veg → fish as source of nutrients.

transforming Rural socio-economic landscape

(i) developing rural cottage based industries

(ii) generation of off ~~field~~ ^{farm} employment

(iii) empowerment of disadvantaged socio-economic groups.

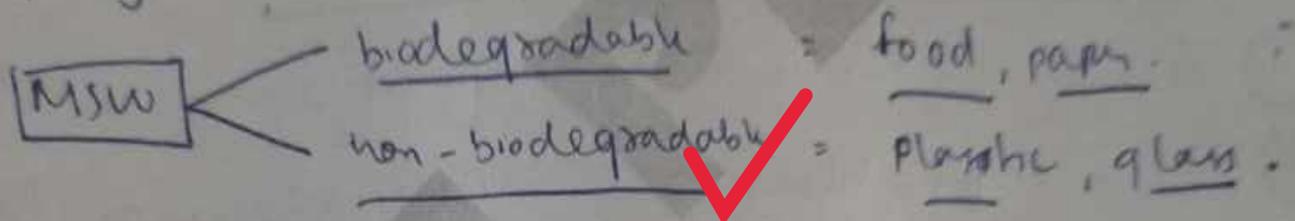
(iv) creating self sustaining rural economies.

(v) creating export potential in fisheries.

by tapping fisheries potential in fisheries sector, India can ensure food & nutrition security for lacks of rural Indians.

Q3. Municipal Solid waste management is one of the major challenges faced today in India. Elaborate upon the reasons that have created such mounting challenges in India. Explain how the conceptualization of waste to energy can bring a ground-breaking change in the scenario? (150 words, 10 Marks)

Municipal Solid Waste ^(MSW) is waste consisting of everyday items discarded by public.



India generates around 30. MMT of garbage every year of MSW.

challenges of mounting MSW :-

- (i) Absence of infra - collection, disposal
- (ii) Poor landscape management - garbage mounds in Azadpur etc.
- (iii) lack of technology - sorting, collection, treatment

(iv) low level of recycling & reclamation
($< 18\%$)

(v) Absence of culture of cleanliness.

Waste to Energy (WTE) as solution :-

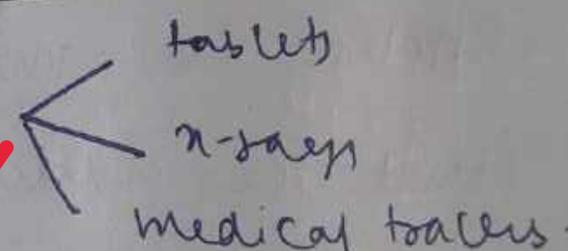
- (i) generates electricity by utilising waste
- (ii) solves problems of overflowing landfills
- (iii) monetisation & investment of SW sector
- (iv) development & adoption of SWM technology

India will come to urbanise with 50% of India to hold urban population by 2035. Thus, SWM strategies integrating WTE is a necessity for future.

Q4. "Nuclear technology is not only important for energy security and defense but also plays an important role in Medicine, Agriculture and Industrial application in India". Explain with suitable examples. (150 words, 10 Marks)

Nuclear technology involves the usage of nuclear reactions of atomic nuclei. It is considered as a diversigent & emerging technology with cross sectional application.

Alternative applications to weapons & energy :-

(i) Nuclear medicine 
tablets
x-rays
medical tracers.

→ eg:- I-127 = goitre || Cobalt-60 = cancer etc.

(ii) Agriculture = irradiation of seeds, preserved foods, radiofertilizers etc.

(iii) Industrial application : radio-spectroscopy, radio-spectrography, radiography, tracking etc.

(iv) Other applications - • usage in spaceships due to high fuel efficiency (η) & high Calorific Value (kcal).

• desalination is an emerging domain using heat from nuclear plant.

Nuclear technology has multiple non-conventional applications that can revolutionize economy, but needs careful handling to avoid a repeat of Fukushima or Chernobyl.

3/10

Q5. The two major challenges before Indian agriculture today are ecological and economical. Highlight these challenges and suggest remedial measures with special reference to the M.S Swami Nathan report. (150 words, 10 Marks)

Agriculture is a key driver of Indian economy, but today stands riddled with multiple challenges, which can be classified under 2 heads - ecological & economical.

(1) Ecological Challenges :-

- (a) rising population - overtake China in 2027.
↳ challenge to feed almost 150 crore people
- (b) falling water table & rising soil salinity
↳ especially Punjab.
- (c) overusage of fertilizers → NPK ratio imbalance
→ nutrient mismanagement
- (d) destruction & diversion of croplands for

Commercial obligation.

(1) climate change

(2) Economic challenges

(a) Increased cost of input - 577. T ruu 2012

(b) Poor marketing & price discovery - middlemen taking lion's share while farmers get only <10%.

(c) Price volatility :- rise & fall = unpredictable w.r.t. sowing decisions

(d) low capital formation & credit availability

3.5/10

The need of the hour is land reforms, preventing diversion, adequate water supply & streamlining supply chains, to improve agricultural performance.

6. In India, the women-labour force participation is declining as against the worldwide trend. Examine the causes for this decline and suggest some steps to halt this decline. (150 words, 10 Marks)

According to NSSO data, India's Female labour force participation rate (FLFPR) has fallen to around 227, from over 331 a decade back. The malaise is much worse in urban areas.

Reasons behind FLFPR ↓ :-

(i) Social reasons :-

(a) Patriarchal attitude = not allowed to work.

(b) marriage = affects jobs, also pregnancy & related claims have impact.

(ii) rise in education qualification → delay in

joining workforce.

(iii) economic reasons -

(a) rising family income → disincentivizing women from working.

(b) gap between males & females → glass ceilings.

(c) declining agg employment.

(iv) workplace safety & security.

skill development schemes

focus on female intensive sectors

changing societal attitudes

improving
FLFR

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Government policies & incentives

investment in education

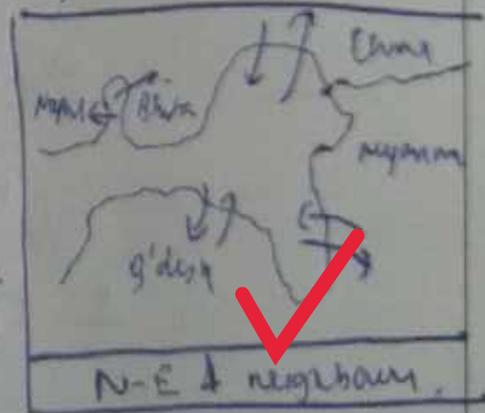
flexibility & concessions in labor laws

Q7. Transnational linkages have remained a crucial force multiplier for the insurgents in north-east India. Examine. (150 words, 10 Marks)

Approach:

- Briefly introduce the topic by explaining transnational linkage.
- Then explain facilitation of transnational linkages through various nations like China, Bangladesh, Myanmar, Bhutan etc.
- Conclude by mentioning multi-level efforts required by India to tame effects of transnational linkages of insurgency in the north east.

Linkages between different nations over & across borders are called transnational linkages. Despite benefitting P2P connect, trade, tourism etc, they have also been a menace for spreading insurgency, especially along NE India.



Transnational linkages in north east:-

- ① Safe passages = porous borders in Tripura, Mizoram, Nagaland & Assam.

(ii) Maintaining of facilities = eg:- NSCN-IM has facilities & warehouses in Myanmar.

(iii) Cross borders supply of weapons, arms & narcotics to fund insurgency.

(iv) transnational nature of insurgency organisations
eg:- NPLF has are comprising NE & Myanmar.

(v) Neighbour governments sheltering & sustaining insurgency - eg:- China in NE.

A concentrated effort needs to be made by revitalising central agencies, state, Nakas, local govt & civil administration.

together with using international pressure & cooperation.

Q 8. Cyberspace as an independent theatre of war is about attacks that compromise the capability to use these facilities: they cannot be prevented by the security services in isolation. Discuss. (10 Marks)

Approach:

- Introduce the topic by explaining what is meant by cyberspace.
- Discuss the need for an integrated approach as against isolation policies to tackle cyberspace threat.
- Suggest some measures to securitize the spaces like cyber among other critical infrastructure installations.
- Write Way forward to have an integrated approach to tackle issues of cyber security.

Cyberspace refers to the construction & inter-
relation of computer system over global network.

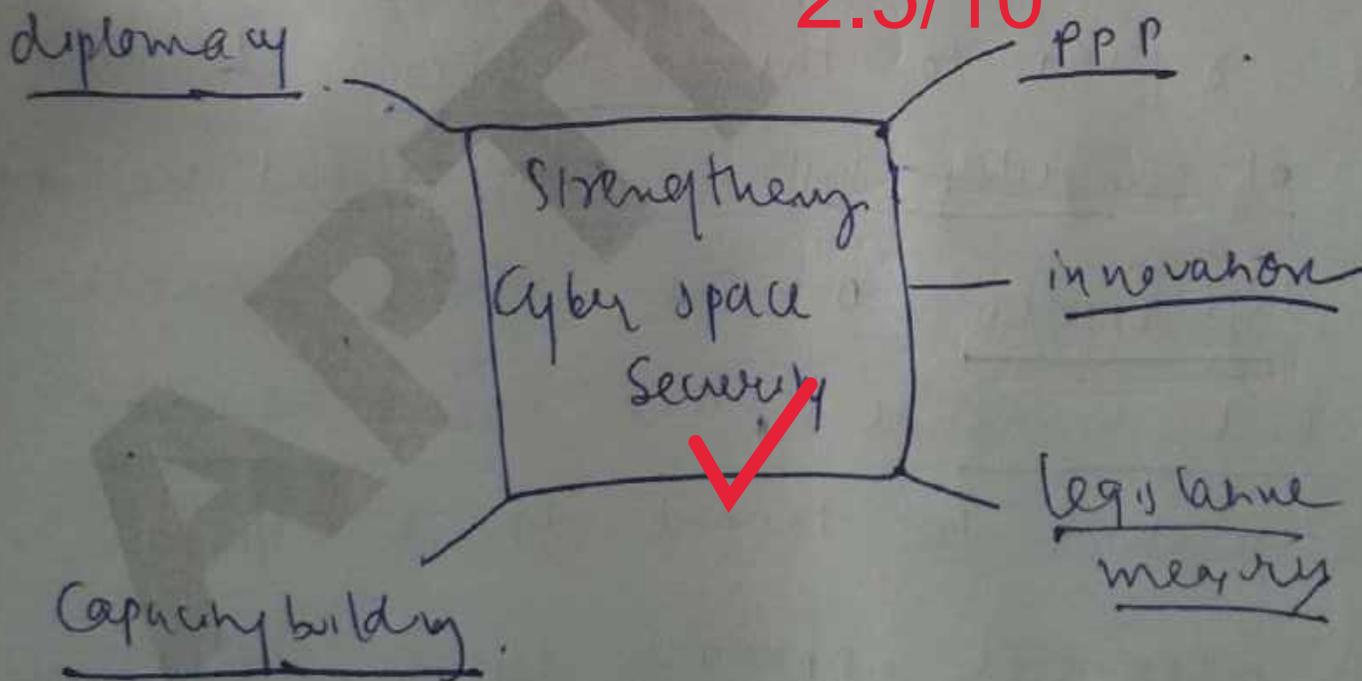
Today Cyberspace is the latest frontier
of global warfare, and needs multi-
sectoral cooperation to thwart for & against.

Need for integrated approach against standalone
policy:

(1) need forging partnerships between agencies
& organisations at central & state level.

- (ii) involving organisations like banks, industries, services in cyber security mandat
- (iii) Cross country cooperation at international level.
- (iv) cooperation in network & structure design
- (v) integrating secure technologies like AI, blockchain.

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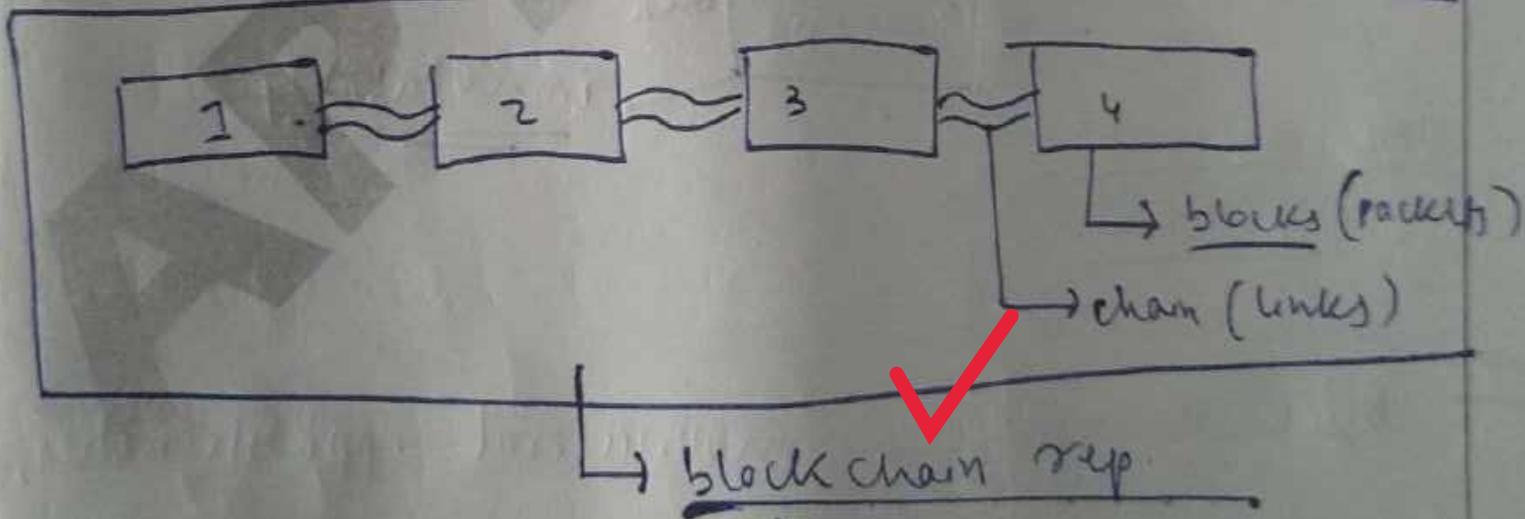


Q9. What do you understand by block chain technology? Discuss the applications of the technology in various fields. (150 words, 10 Marks)

Approach:

- Introduce with the defining the block chain technology
- Mention the advantages and challenges associated with it
- Write a way forward

Block chain is an integrated command of digital packets over a decentralised database.



→ Applications of block chain technology :-

- ① Financial infrastructure loans, currency.

financial assets, etc. (bitcoin)

② Socio-economic applications = digitised land records, public health data etc.

③ Governance = minimise leakage, corruption, ^{loss}

④ Energy sector = data analysis, smart grids, trading of certificates etc.

⑤ Other applications = national security under critical infrastructure, e-voting etc.

prone to cyber attack

privacy

Concerns

immutability

poor legal-mstit-
transparency

3.5/10

Block chains offers multifaceted opportunities, but requires strong addressing of concerns. A regulatory framework would be a starting step.

Q 10. "Unemployment is the lesser of India's problems, instead, it is severe underemployment." Evaluate. Also, suggest remedial measures. (150 words, 10 Marks)

APPROACH:

- With the help of data present the status of underemployment in India.
- Enumerate major factors behind underemployment in India.
- Suggest few remedial measures under way forward.

→ Unemployment is a scenario wherein a person searching for job is unable to find one.

Underemployment is a situation wherein there is a mismatch between the skills demanded and skills acquired by a person.

NITI Aayog is a "Draft paper on the job scenario" called Underemployment a "malaise beyond pay".

→ Factor behind underemployment :-

① Prime reason - recession + cyclic unemployment

(ii) issues with education - rote based, skills mismatching, no vocational learning.

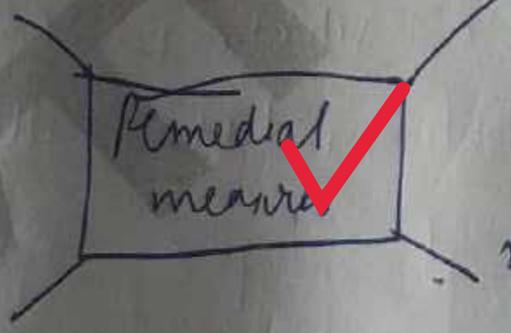
(iii) Societal pressure - picking whatever is on offer.

(iv) Substitution via technology.

(v) Competition - 3 million ^{fresh} graduates competing for under 0.7 million new jobs annually.

manufacturing & export led development

skills based learning



strengthening MSMEs

revamping education

3.5/10

- Singapore, China, Taiwan & others have shown that interventions aimed at improving job creation has spillover benefits, and needs adoption by India.

Q.11 Irrigation in the Indian agricultural sector though being a national challenge, however, requires a 'region-specific spatially differentiated' approach. Stating the relevance of the 'four water concept' examines the issue with suitable examples. (15 Marks, 250 words)

Approach:

- Introduce by writing the share of rain-fed farming in Indian agriculture and stagnating productivity in the absence of irrigation.
- Write a region specific approach to irrigation and farming with recent examples of initiatives taken by states.
- Write what the 'four water concept' and how it is relevant in recent times.
- Conclude by writing the importance of irrigation in light of changing rainfall patterns.

Irrigation is the provision of water for agriculture. India is a country largely rainfall dependent (68%), with only 32% of the area having irrigation facilities.

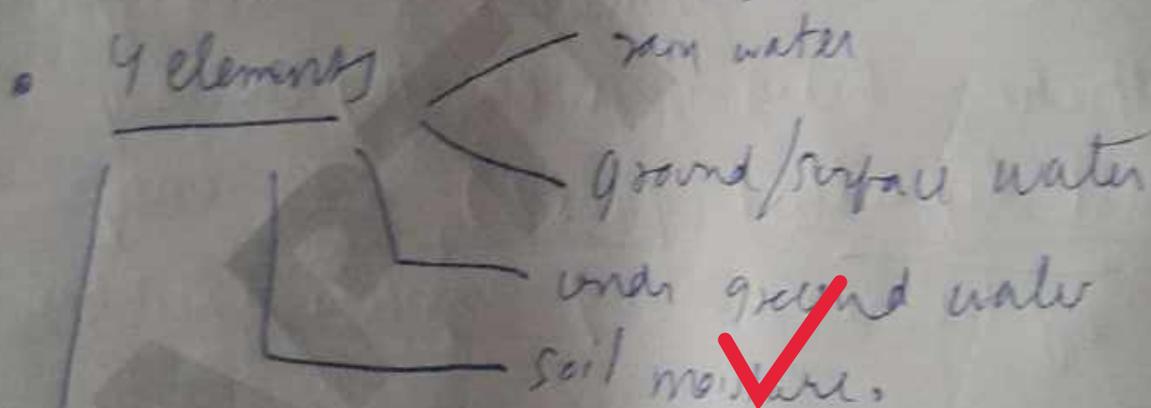
Irrigation as national challenge:-

- (i) productivity lower for un-irrigated lands vs irrigated lands.
- (ii) fertilizer utilization also show a similar trend.

(iii) in absence of proper irrigation, thousands of acres of land lost annually to desertification.

(iv) reduced productivity → implications to food security.

4 water concept - integrates 4 elements of water to ensure water sufficiency.



→ basis of projects like Tal Bachao (Bihar), Jamni (Gujarat) etc.

Benefits :-

① crucial for drought prone areas.

(ii) low cost & easy to adapt/implement

(iii) Community participation = treating as community resource.

(iv) Gram Suvarajya by creation of water villages.

(v) Reduced sedimentation, erosion etc.

— As world moves towards changing climatic conditions characterised by ever-reducing availability of water, it is important that innovative methods like

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4 water concept be implemented in various mod.

Q.12. Agricultural Storage Facilities Development is a panacea for distress sale of farmers and food inflation for consumers. In this context Discuss the Scope and constraints of agriculture Storage sector in India (250 words) 15 marks

Approach:

- Introduction: Mention the current issue
- Explain why storage facilities can be a panacea for distress
- Mention the constraints and the scope of agriculture storage
- Write a way forward

Agriculture is one of the most stressed sectors of Indian economy as noted by its poor statistics

	% of GDP	1. employed	Growth
1991	447	727	37
2018	161	487	1.57

— Poor storage facilities is a panacea for these problems the sector faces.

Reasons:-

- (i) @ farm level - poor storage - decay in quality + damage ✓ by post & animals
- (ii) lack of cold storage - high logistics cost
(Ind = 147, ✓ 1 = 81)
- (iii) uneven distribution - mostly in NW India
like PS, HX, West UP etc.
- (iv) Poor connectivity & transportation
- (v) Poor utility supply ✓ eg 24 hr water, electricity etc

Valid points.

Score for creating storage facilities

- (i) Agri warehouse under PSL by RBI
- (ii) e-Negotiable warehouse receipts (e-NWR) for easy trading of agri commodities ✓
- (iii) Subsidies for warehousing & transportation
- (iv) Operation green ✓ = focus on food processing

(v) Other govt schemes

- PM Sadak Yojna
- PM SAMPHADA Yojna
- Mega food park
- Private sector participation in creating

facilities -

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→ Storage facilities is crucial as recommended by Shankar Kumar Committee to prevent wastage via timely & adequate storage facilities @ nominal cost — Key to doubling farmer's income.

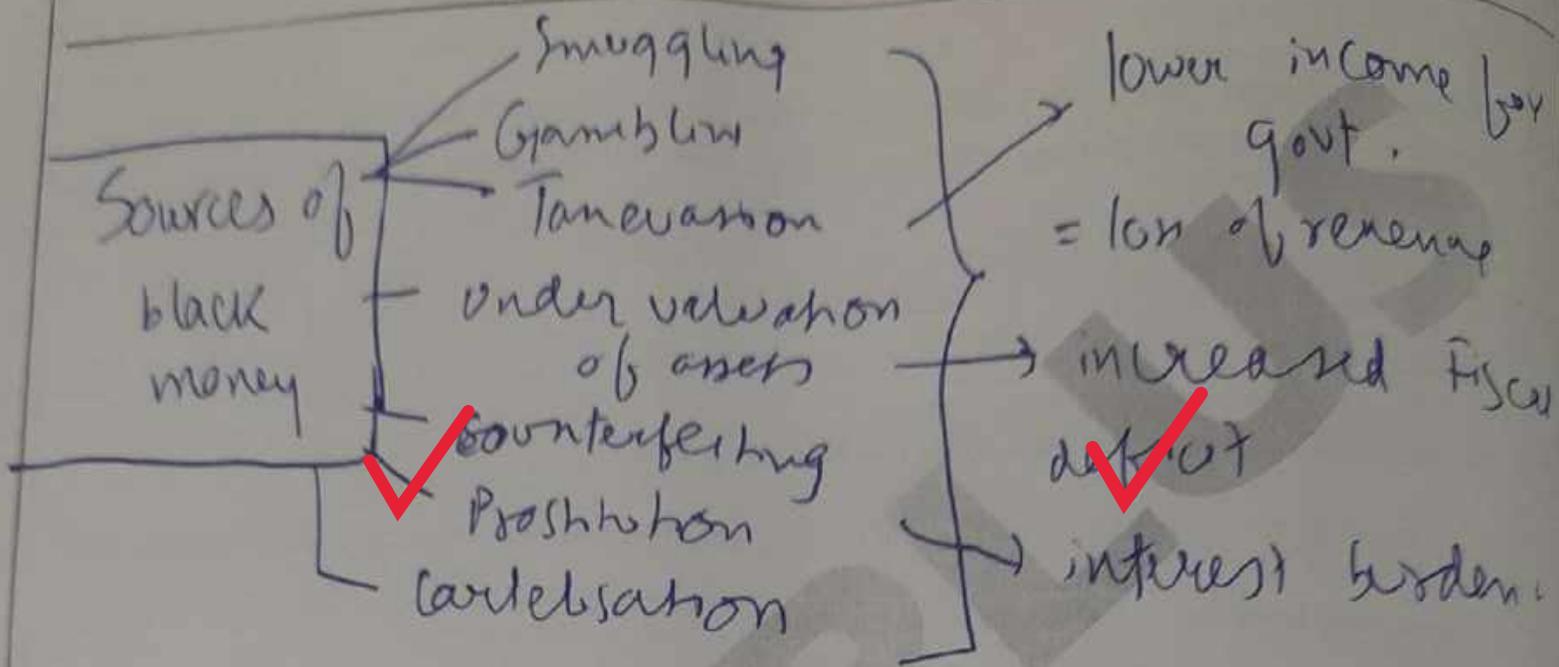
Q.13 Despite the sincere efforts of the government, the ghost of Black Money is not going to disappear from the Indian Economy soon. Critically analyze the statement in context of Pandora Papers Leaks. (250 words) (15 marks)

Approach:

- Introduction: What is black money
- Mention the various Efforts made by the Government:
- Mention why the ghost of Black Money is not going to disappear from the Indian Economy soon
- Write a way forward

Black money is any unaccounted for money ~~that~~ in a system that has in its end goals a nefarious design.

The recently leaked Pandora Papers has reignited the black money debate in India.



Efforts by Govt to curb black money

(i) Political funding = electoral bonds, anonymous
 Cash limit of 1000/-

(ii) demonetisation = made black money as cash
 & redundant.

(iii) Voluntary disclosure of black money schemes

(iv) Benami properties Act & REKA

(i) Promoting cashless economy = growth in e-banking, UPI, etc.

(ii) Black Money Act 2015 & FEO Act = against black money stashed abroad.

(iii) Automatic Exchange of Info (AEOI) with 80+ countries as well as cooperation with IOC.

— Ghost of black money won't disappear soon

(i) Black money a systemic problem = needs overhaul from top to bottom 6/15

(ii) archaic rules, complex tax laws & delayed judgement = loopholes

(iii) non-cooperation with: Tax havens like Cayman Is. etc.

(iv) Demonsitration, etc. not successful.

Q14. Discuss arguments in favor and against of crypto currencies as legal tender of Economy. Also give your opinion regarding Future role that crypto currency could play in Economy. (15 Marks 250 words)

Approach:

- Introduce by defining/explaining the crypto currency
- Mention the arguments for and against the Crypto currency
- Mention the Future role that it could play in the economy
- Conclude suitably

Crypto currency is a form of payment operating on block chain technology

and is used to pay securely on online medium.

Recently El Salvador became 1st country to use bitcoin as legal tender.

- Arguments in favour of Crypto currency as legal tender :-

① Checks corruption - via decentralized

tracking of money flow.

(i) Time effective = low latency, real time fund transfer.

(ii) reduces intermediary cost = negligible compared to high costs (~4%) charged by banks, FIs etc.

(iii) Easy real time transfer.

(iv) anonymity of transaction

→ Arguments against :-

(i) Highly volatile = due to speculative nature.

(ii) Risky = if user loses private key, he loses access to crypto

(iii) Malware prone = eg - hacking attacks on coin exchangers.

(iv) Prone to misuse = money laundering, terror financing

(v) bypasses regulatory bodies = rendering monetary policy ineffective.

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→ India has the potential to become a leader in global crypto domain, but care should be taken to ensure our country's financial security isn't threatened.

Q.15. Usage of Chemical Pesticides has been proven a double edged sword For Agriculture in the country due to its role in raising Productivity and Toxicity. In this context critically examine the utility of Chemical Pesticides in Agriculture economy and briefly discuss salient provisions Draft Pesticide Management Bill, 2020 (250 words) 15 marks

Synopsis

- Introduce by citing the importance of pesticides on agriculture
- Mention the utility of the pesticides
- Write the harmful/toxic effects of usage of the pesticides.
- Mention the salient provisions Draft Pesticide Management Bill, 2020
- Conclude suitably

Chemical Pesticides have been used in various farms in agriculture to boost productivity. India's average per capita usage stands almost 1.8 times the global average.

Utility of Chemical pesticides :-

(1) boosting agri productivity = key to green revolution in India in 1960s & 70s.

(i) Reducing crop / yield losses = by almost 40-45% by their usage.

(iii) disease control = in plants

(iv) controls, microbial growth & prevents yield loss due to harmful agents,

→ Toxic affects :-

(i) Potential risk to humans & fauna species

(ii) Harmful effect on farmers due to prolonged exposure.

(iii) Harmful effect on consumers due to bioaccumulation & biomagnification.

(iv) Long term decline in soil, water & crop quality.

Promoting organic pesticides

Compulsory registration

Salient provisions of
Draft Pesticide Mgmt.
Bill 2020

data on pesticides
to farmers

data digital &
in local language

regulating advertisements
of pesticides

Compensation for low
quality pesticides via
central fund

The current legislation would go a long way in ensuring safety of pesticides in the country while aligning environment & development goals.

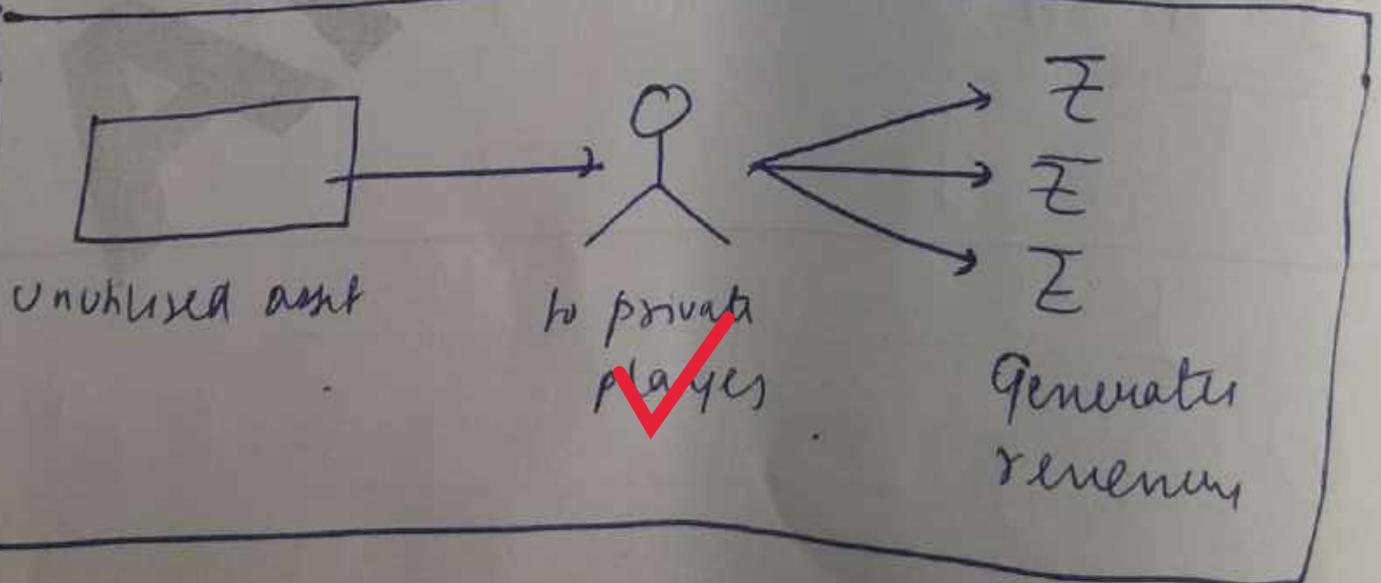
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Q 16. Asset Monetization can quickly move India from Low income country to High Income Country. In this context discuss the significance and challenges ahead in implementation of National Monetization Pipeline. (250 words) 15 marks

Approach:

- Define what asset monetization is.
- Explain the potential of asset monetization to boost the economy
- Mention the significance and challenges posed by the NMP
- Conclude suitably

Asset monetization refers to the process of generating returns out of an asset which is unutilized. It unlocks the value of un/under utilized public asset.



Significance of National Monetization Pipeline:

- (i) Generate capital = for government via the private player route.
- (ii) Building capacity = technical & human, by private players - demographic dividend chuzed.
- (iii) Low fiscal burden = helps clear dead assets/liabilities of government books.
- (iv) Price discovery
- (v) no transfer of ownership.

Challenges to NMP :-

- (1) less attractive to private sector = revenue sharing + no ownership transfer.
↳ many projects unbidded.

(ii) absence of regulatory framework

(iii) Structural issues = litigation, encroachment, co-lending as mortgage etc.

(iv) delay bureaucratic delay → clearance, land acquisition, policy paralysis, etc.

6.5/15

— Land Monetisation, a visionary, yet misunderstood step, needs to be rid of its lacunas to ensure it reap the benefits to Indian Financial System as envisioned.

Q.17 What is the Silver Economy? Discuss its Significance, Challenges and Government steps in promotion of such Economy (250 words) 15 marks

Approach:

- Define what is silver economy
- Mention the significance and challenges of such economy
- Write the government steps taken by the Government to promote silver economy
- Conclude by giving some suggestions

Silver economy refers to the production, consumption & utilisation of goods & services aimed at the old & ageing population demography.

	2011	2036	2050
Share of elderly	8.57	12.57	19.57

Significance of Silver economy:-

- ① Caters to a significant chunk of population - generates demand.

(i) Benefits a consumption driven economy like India.

(ii) Reduces "baby sitting" or "demographic burden" of 60+ age group → proper allocation of resources
→ on care economy

Challenges to Silver Economy

(i) Old age is a psychological pain in India - much word from west.

(ii) Limited avenues of reemployment already unemployed youths. → Skill mismatch

(iii) Lack of dedicated policy towards the aged

(iv) Changing family structure — brings isolation.

(v) High cost burden - living, health care; Grand etc.

• Draft National Policy for senior citizens

Govt steps towards Silver economy

• Natl. Commission for old age persons

• SACRED portal

• benefits in Jandhan, PMSBY

• re-skilling & reabsorption into labour force.

→ As demography changes, it is imperative to bring people at bridges to a certain level of security - socio-economic.
Answering senior citizens could be 2 by step towards it - 6.5/15

Q.18. The trade deficit has always remained a cause of worry for the Indian Economy. In this context, discuss the factors responsible for wide Trade deficit and long term measures required to resolve it. (250 words) 15 marks

Approach:

- Introduction: Define the concept of Trade deficit
- Mention the points for why widening deficit is a cause of worry
- Write down the factors responsible for Trade deficit
- Mention the measures required to resolve the issue
- Conclude suitably.

Trade deficit is a situation when imports are more than exports, the balance of trade is negative.

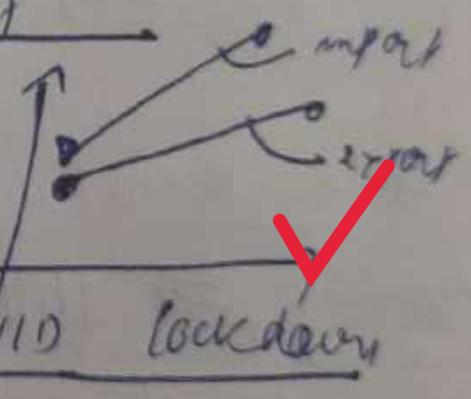
- India since independent years has witnessed sustained trade deficit, due to import dependence of mineral oils, precious & semi precious stones etc.

Reason for worry :-

- (i) internal demand not met → leads to external dependence via imports.
- (ii) cycle of weak currency continues → due to need of printing more currency to finance trade deficit.
- (iii) makes India an unfavourable destination for FDI & investment.

Factors responsible for trade deficit

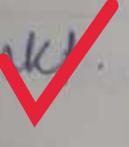
- (i) Imports outpacing exports
- (ii) Increased demand — post COVID lockdown
- (iii) Global factors = protectionism by west, aggressive rise of China etc.
- (iv) Oil heating up = from \$39 barrel to \$109 barrel



Steps to be taken to resolve defect ::

(i) Trade agreements =  concurrent favourable TOA

(ii) upgrading export infra

 quality
mkt. support etc.

Good answer.

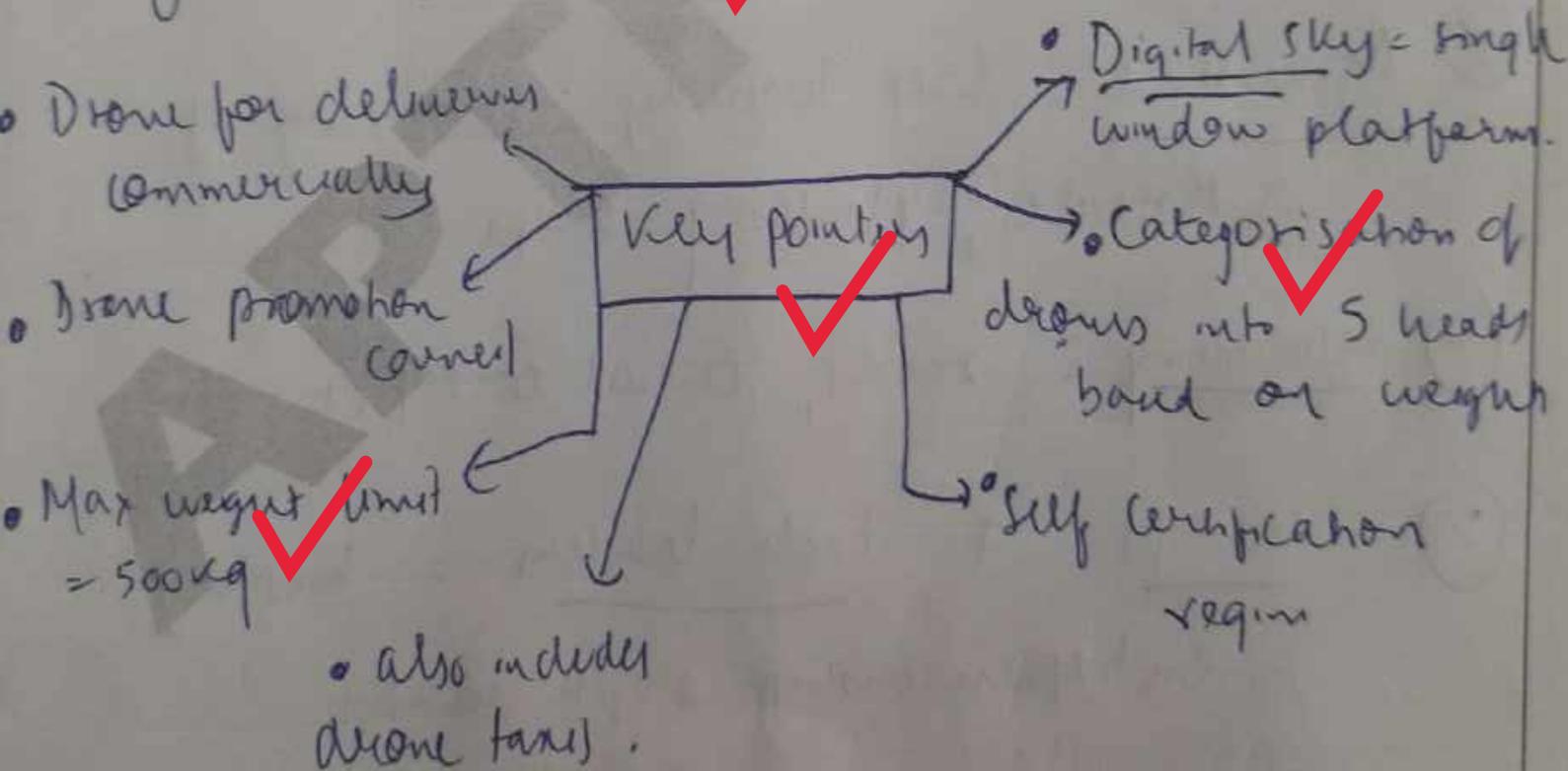
(iii) cutting oil consumption =  renewables
diversifying oil baskets

(iv) Atmanirbhar Bharat = Import substitution to
give oong to Make in India

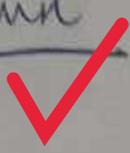
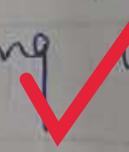
India wants completely opened up to global
economy, ~~the~~ still has significant global trade
footprint - needs domestic policy support

Q.19. "The new Drone Rules will help leverage India's strengths in innovation, technology & engineering to make India a drone hub". In this context describe the advantages that India perceives from drone technology. (250 words, 15 marks)

The new Drone rules 2021 as notified by the Ministry of Civil Aviation are a hallmark change in the direction of operation, usage & regularisation of drones in India.



Advantages accrued from Drones:

- (i) Defence 
 - Sword = for attack 
 - Shield = for defence (AM weapon)
- (ii) Land mapping = SWA MITVA scheme 
- (iii) Delivery = Pizza (dominos), Amazon.
- (iv) Agriculture = Crop surveying, Spraying of pesticides, plucking crops etc. 
- (v) monitoring = roads, crowd control etc.
- (vi) startups & tech leaders = boosting entrepreneurship & job creation 
- (vii) India as Drone hub = attracts FDI. 

→ The new drone rules are landmark in
leveraging the potential - untapped &
increased. The policy needs government
handholding, private sector participation
& citizen entrepreneurship.

5.5/15

Q.20. The unviabe use of wetland resources is a combined result of information, market and policy intervention failures. Comment. Also, explain how this is pushing us towards an unnoticed ecological crisis. (15 Marks, 250 Words)

Approach:

- Briefly introduce the ecological importance of wetlands.
- Discuss how information, market and policy intervention failures are responsible for unsustainable use of wetlands.
- Explain how wetland degradation will lead to ecological crisis.
- Conclude by discussing the way forward.

A wetland is an area saturated with water either temporarily or permanently, creating a distinct ecosystem.

India has 17 wetlands, of which 2 are accorded special protection under Montreaux records.

Issues leading to unsustainably wetland

Usage:-

(i) Information failures:

(a) inadequate baseline information - on
bio physical & socio-cultural-environmental factors

(b) low technological awareness:

(c) low level of skilled human intervention

- w.r.t. planning, construction & management.

(d) disconnect between scientific & cultural belief

(ii) Market & Policy intervention failures

(a) Development vs protection conflict

(b) Unsustainable land use policy =

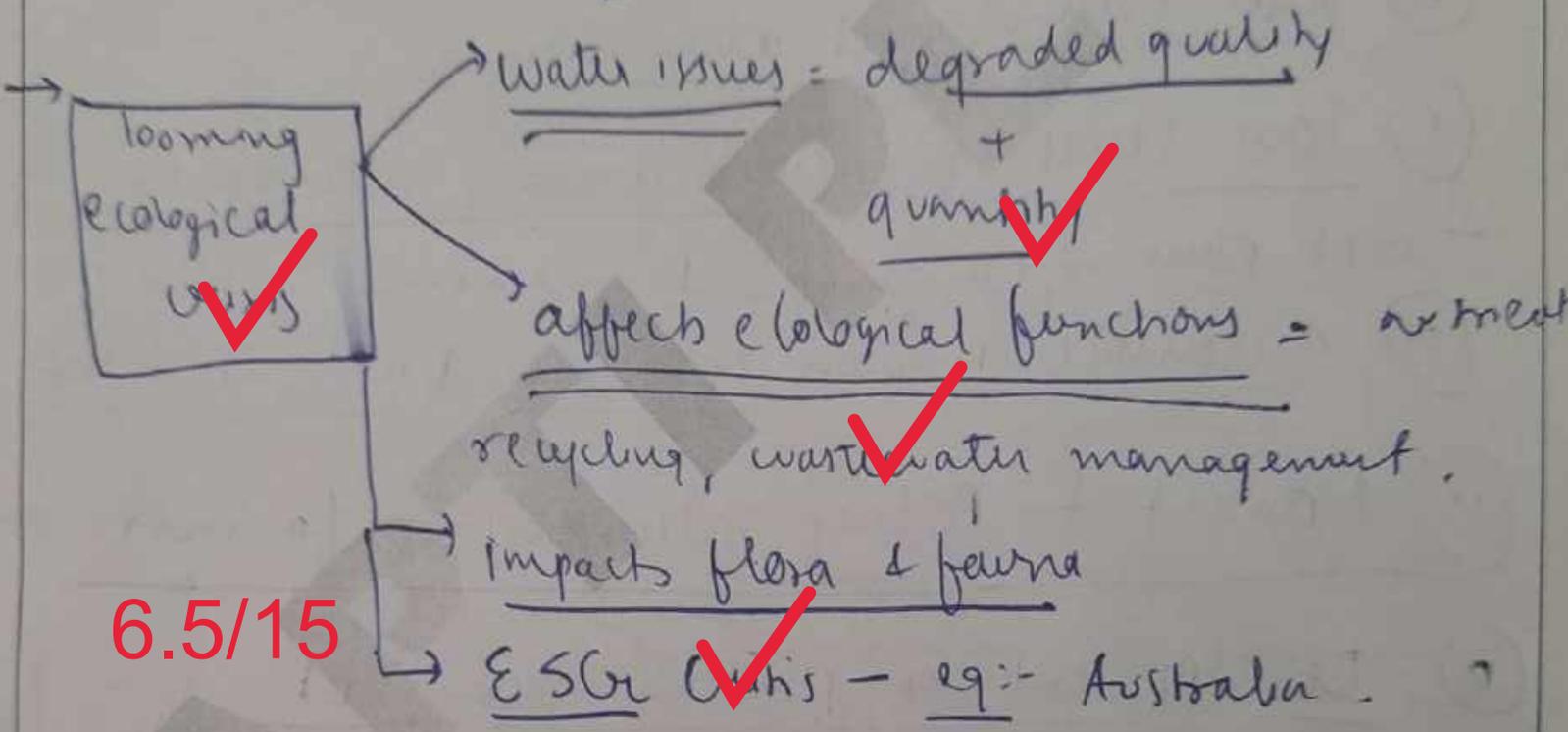
pollute & pay ~~pay~~ & pollute.

(c) low awareness of benefits accorded by
wetland services - lack of green accounting.

(d) recent changes = new EIA notification

threatens wetland.

(e) Absence of new Urban policy + MSW
management policy.



6.5/15

— Wetland Conservation has acquired newer vigour in recent years + such a campaign must be sustained.