

Q

Discuss the potential of Biosolids in revolutionising Indian agriculture with suitable illustration.  
(150 W, 10 M).

Biosolids are remained solid material of sewage treatment by municipalities. Biosolids contain rich organic minerals & heavy materials (can be stabilised by adding lime) further benefitting India agriculture as follows -

- ① Decrease dependence of fertilizers on Imports as biosolids contain potassium, Calcium, Magnesium etc.
- ② Enrichment of soil nutrients provided with high yield. Practices already taking place in country like USA.
- ③ Sustainable agriculture practices provided low chemicals and organic fertilizers.
- ④ Promotes Circular Economy as the process involve Recycle and re-use further promoting sustainable practices.

⑤ Some suitable examples of Biosolids include → 1) Ligomonte  
↳ 2) loop  
↳ 3) TOGER  
etc.

As agriculture in India struggling with WTO restrictions, fertilizers dependence and increasing demand of organic & fertilizers less food, Biofuels can revolutionize the agriculture providing yield and can also help doubling the farmer's income.



Q What are the key factors driving electricity demand in India. Also examine the ways to meet its rising power demand in India. (250 W, 15 M).  
As per Central Electricity Authority (CEA), electricity demand in India estimated around 9% of CAGR between 2022-2030. Reports also estimates overshooting.

Key factors -

- ① Increasing Population Growth resulting naturally increase in demand.
- ② Urbanisation - Acc. to Census 2011, 31.2% population live in urban areas demanding better educational, health and many services further driving energy consumption.
- ③ Smart-Home Appliances prevalence and need of daily household also counts for energy.
- ④ Digital Initiatives promotion like E-hospital, E-governance, UPI etc.
- ⑤ Promotion of Digital & Smart Education in school or households.

also heavily depend upon electricity as electricity is backbone of all the initiatives.

→ ⑥ Promotion of Electric Vehicles and Charging Infrastructure are other component.

→ ⑦ Increased Standard of living further depends mainly on electricity.

- ⑧ Climate Change constituent for major reasons on increased consumption. Several states have already noticed & warning about Severe Heat strokes.

Ex - ~~Blog~~ Bangalore person tweeted last year about severe climate & AC-installation.

Above state factors provides for demand driving in electricity consumption resulting an urgent need to intervene and take suitable steps to meet its demands are as follows -



- ① Increase in Capabilities of Renewable Energy which includes → Solar Energy, Wind energy & Hydro Energy.
- ② Incentivise Dis-com to meet its demands.
- ③ Emphasis of Rooftop Solar plant scheme installation.
- ④ Smart Grid & Grid Modernization, where energy from diff. resources can be stored & used in effective manner.
- ⑤ Promotion of Bio-fuels, Bio-energy to decrease dependence on energy.
- ⑥ Awareness & Support among citizens for efficient use.

etc. are the various intervention which can prove helpful in managing increasing demand. However Government of India has taken many initiatives like 500 GW by 2030, International solar Alliance, Rooftop solar plant scheme subsidising the cost ~~for~~ to ensures demand of electricity.

Q Analyze the potential opportunities and challenges for Indian industries arising from the ongoing trade <sup>war</sup> b/w U.S. & China. (250 W, 15 M)

Trade war is an economic condition where countries put tariffs and duties on each others product making it costly.

Since February, Donald US president Trump imposed 20% tariff on Chinese product and in retaliation, China impose 15% tariff on US products including agricultural product.

And with growing differences b/w these country, Indian industries can tap the opportunity.

### Potential opportunity

① Can provide alternative <sup>to the</sup> ~~for~~ MNCs for manufacturing bases outside China.

② Diversify its trade ~~by~~ with countries amid U.S. sanctions.

↳ ex - Diversify its trade with Mexico, Canada, etc.



- ③ Providing China's replacement through India's trade and producing into U.S.
- ④ It can make the Indian Industries <sup>flourish</sup> by providing R&D, the hub for Investment.
- ⑤ Also Textile, IT sector, Pharmaceutical etc. can achieve global recognition by boosting Sector-specific impact.
- ⑥ India can also provide for stable Supply chain providing its cheap labour and to manufacturers base in India.
- ⑦ By schemes like 'Make in India', India can boost their Manufacturing & processing unit, further expanding the markets.

Ex - Dairy products, fruits & Vegetables (perishable product) as India is largest producer.

Are the various opportunities ahead of India. However these are coupled with no. of challenges, as follows -

- ① Limited Trade market or diversification in global market.



- 2) Low product diversification.
- 3) Trade & tariff barriers on Indian products by Economies.
  - ↳ ex → Sanitary phytosanitary tariffs by WHO.
  - ↳ ban on certain products as per EU.
  - etc.
- 4) Lenient Regulatory measures resulting Compromised Quality of product.
  - ↳ Cough Syrup
  - ex → MDH Masala
- 5) Low processing Capacity resulting agricultural & perishable item wastage losing huge food items & revenue.
- 6) Insignificant Research & Development (R&D) -
  - India invest only 0.2% of GDP in its R&D, which is much lower to big economies.

Despite all the challenges and opportunities, Indian government enhancing its export with various scheme and incentives like ~~Also~~ Policies like Act East Policy further strengthening India's tie with South-east Asia economy. Recent CEPA with Mauritius, UAE etc providing boost to India's diversification resulting new Highest Exports in recent years.