

UPSCprep Free Daily Answer Writing Initiative

Subject: GS 1

Syllabus: Geography

Questions

Q1. A mineral resource poor country like India cannot sustain the current cost of fertilizer imports. Discuss. Suggest measures to reduce the burden of fertilizers on the Indian economy. (250 words) 15

Q2. Enumerate the factors contributing to the industry's location in an area. Also, analyse the changing dynamics of industrial sites influenced by footloose industries, which are no longer constrained by traditional factors. (150 words) 10

Model Structures

Q1. A mineral resource poor country like India cannot sustain the current cost of fertilizer imports. Discuss. Suggest measures to reduce the burden of fertilizers on the Indian economy. (250 Words, 15 Marks)

Introduction:

- No country has as much area under farming as India. At 169.3 million hectares (mh) in 2019, its land used for crop cultivation was higher than that of the US (160.4 mh), China (135.7 mh), Russia (123.4 mh) or Brazil (63.5 mh). With its perennial Himalayan rivers and average annual rainfall of nearly 1,200 mm India has no dearth of land, water and sunshine to sustain vibrant agriculture. Which it has for 3,000 years and more.
- But there's one resource in which the country is short and heavily import-dependent — mineral fertilizers. In 2021-22, India imported 10.16 million tonnes (mt) of urea, 5.86 mt

of di-ammonium phosphate (DAP) and 2.91 mt of muriate of potash (MOP). In value terms, imports of all fertilizers touched an all-time high of \$12.77 billion last fiscal.

- The intermediates or raw materials for the manufacture of these fertilizers were substantially imported
- **Reasons for high costs of fertilizers:**
 - Subsidy burden: Fertilizers are not only imported, but Indian farmers also pay below what it costs to import or manufacture using imported inputs. The difference is paid as a subsidy by the government.
 - **Costlier raw material:** Rock phosphate is the key raw material for DAP (diammonium phosphate) and NPK fertilisers and India is 90 percent dependent on imports for them.
 - **Lack of natural resources:** In the case of urea, the primary feedstock is natural gas which is not enough available in the country.
 - **Increase in the price of oil in the international market also** adversely impacts the fertilizer costs. Also fluctuations.
 - Russia-Ukraine war: rising prices due to trade disruptions.
 - Misuse and overuse of fertilizers
- **The following ways can reduce the burden of fertilizers on the Indian economy:**
 - **To cap or reduce consumption of high-analysis fertilizers:** particularly urea, DAP and MOP (Muriate of potash). For this, incorporate urease and nitrification inhibition compounds in urea. By this, more nitrogen is made available to the crop, enabling farmers to harvest the crop with a lesser number of urea bags.
 - **Promote use of liquid “nano urea”:** Their ultra-small particle size is favourable to easier absorption by the plants than with bulk fertilizers, translating into higher nitrogen use efficiency. Ex: neem coated urea.
 - Soil health card: used to restrict overuse of fertilizers.
 - Popularize **high nutrient use-efficient water-soluble fertilizers** (potassium nitrate, potassium sulphate, calcium nitrate, etc) and encourage alternative indigenous sources like potash derived from seaweed extract etc.
 - Promote sales of Single Super Phosphate (SSP) (containing 16 per cent P and 11 per cent S) and complex fertilizers such as “20:20:0:13” and “10:26:26”.

- Promote zero-based farming and organic farming practices.

Conclusion:

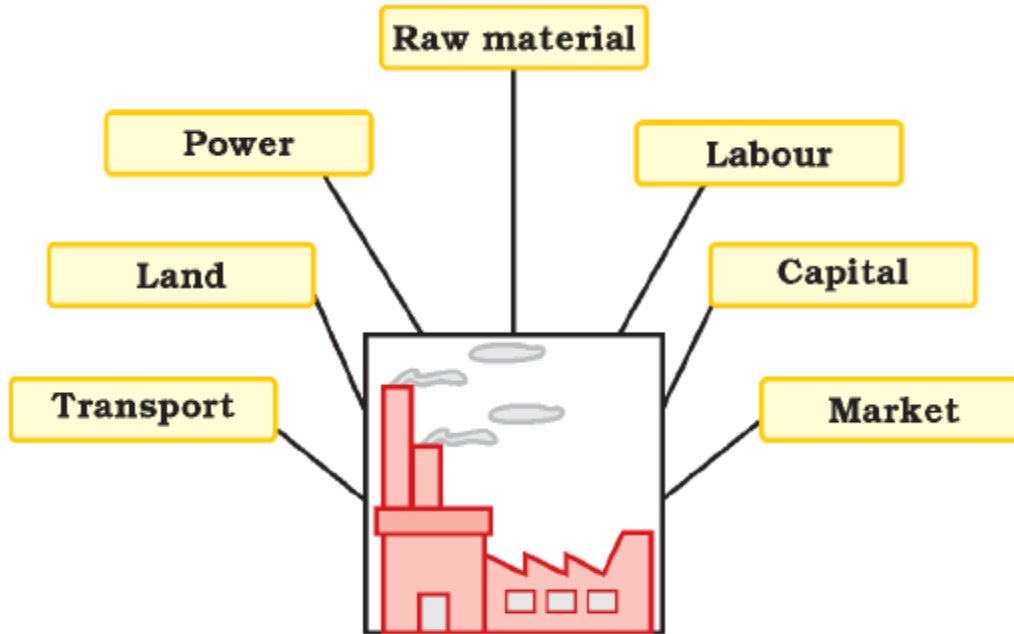
- India should pay attention to improving fertilizer efficiency through need-based use and increase investment in new fertilizer plants.
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Q2. Enumerate the factors contributing to the industry's location in an area. Also, analyse the changing dynamics of industrial sites influenced by footloose industries, which are no longer constrained by traditional factors. (150 words, 10 marks)

- **Introduction (1):** A footloose industry is not tied to any particular location or country and can relocate to another place without effect from factors of production such as resources, land, labour, and capital. For e.g Diamonds, the computer chips manufacturing industry. They don't need a large place for manufacturing and have a low-weight output.
or
- **Introduction(2):** These are called footloose as these types of industries are prone to relocation. Some prominent examples of the footloose industry are watch-making, diamond cutting, precision electronics etc. These industries often have spatially fixed costs, i.e., the costs of the products do not change despite where the product is assembled.

Main Body:

- **Factors affecting the location of industries:** (Question asks to enumerate - so just mention the factors - no need to explain them)



Locational factors for industries

Advantages of Footloose industries over traditional industries:

- **Raw material:** These are less dependent on specific raw materials, most of the raw materials are small and light and can be transported easily.
- **Market:** the output is lightweight and can be easily transported to the markets. Most of the footloose industries produce low-volume and high-value outputs.
- **Government regulations:** These are environment-friendly industries as the process involved in these industries has a negligible carbon footprint, so are least affected by government regulations.
- **Energy:** these are not very energy-intensive industries. They are powered by electricity which can be found anywhere.
- **Port facilities:** They are not very heavy industries which require port facilities for their transportation. Thus, they have advantages for those areas which lack port facilities.

Conclusion:

- These industries are crucial for the development of areas which lack locational advantages concerning heavy and small industries like port facilities, availability of raw materials, etc.

OR

- Good development of the footloose industry can provide high-value employment opportunities and a competitive advantage in world trade.

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